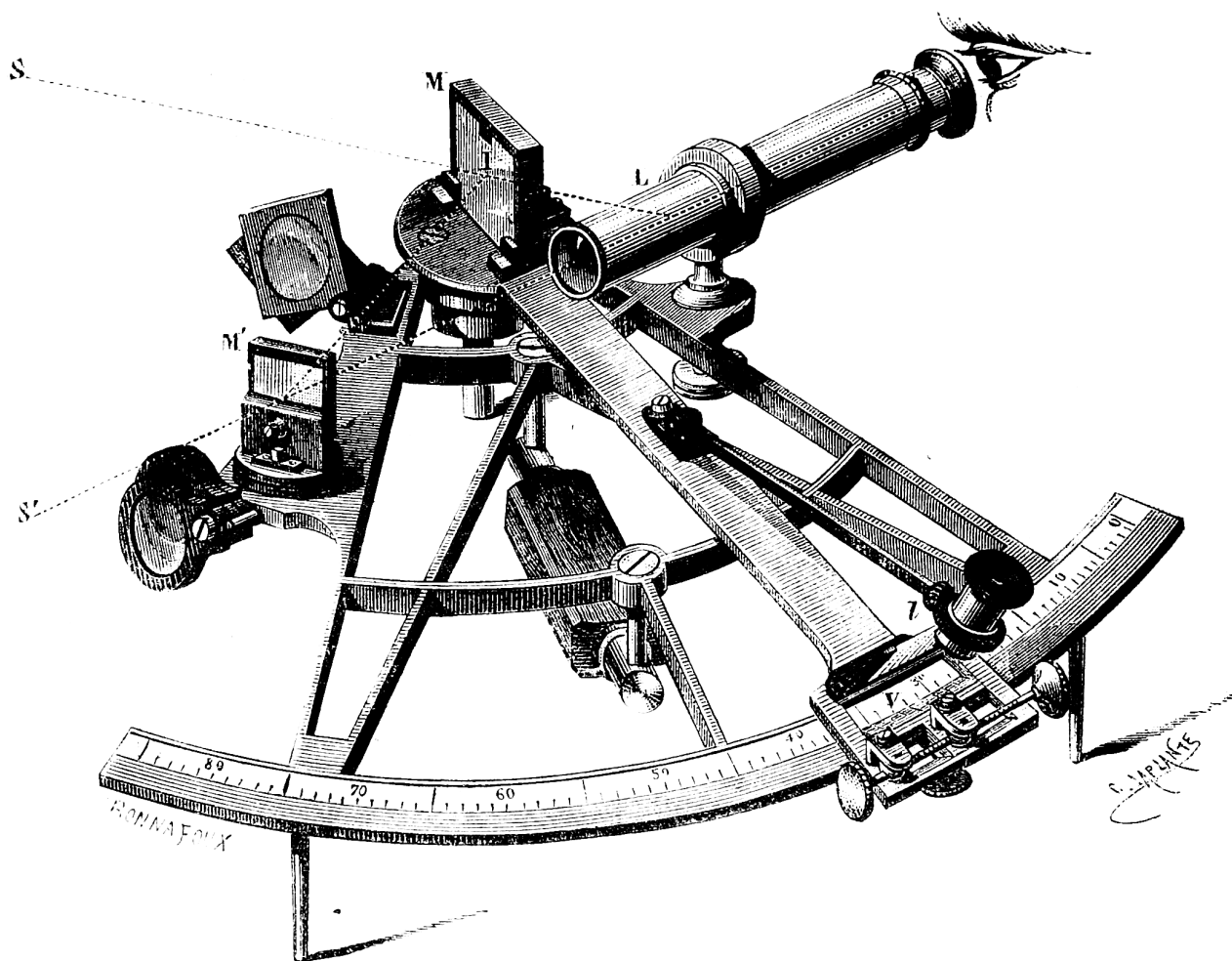




# ALMANAQUE NÁUTICO PERSEIS 2004

## ALMANAQUE NÁUTICO PERSEIS 2004

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<http://www.xente.mundo-r.com/perseis/>

Imagen de portada: Ilustración perteneciente al libro *El mundo físico*. A. Guillemin - Ed. Montaner y Simón. Barcelona, 1882. Fondo Antiguo de la Biblioteca de la Universidad de Sevilla. This image is licensed under the Creative Commons Attribution 2.0 Generic license.

## Introducción

El Almanaque Náutico Perseis es un libro de validez anual que proporciona datos, efemérides astronómicas y tablas para la práctica de la navegación astronómica. La información se presentan en un formato similar al del Almanaque Náutico editado por el Real Observatorio de la Armada.

Su objetivo es didáctico; proporcionar información para la resolución de problemas y ejercicios de navegación astronómica así como familiarizarse con el uso del Almanaque Náutico del R.O.A.

El Almanaque está generado usando métodos matemáticos rigurosos y datos fiables, por lo que es de esperar que ofrezca una exactitud comparable a la de los almanaques oficiales.

Esta edición del Almanaque Náutico Perseis incluye páginas diarias con las efemérides tabuladas cada hora del punto Aries, el Sol, la Luna y de los cuatro planetas visibles a simple vista y útiles para la navegación astronómica: Venus, Marte, Júpiter y Saturno; además de datos útiles para la planificación de las observaciones. Incluye tablas anuales de la posición de 99 estrellas, tabuladas para el día 15 de cada mes; la hora de paso por el meridiano de Greenwich, para el día 1 de cada mes, de 50 estrellas seleccionadas; tabla anual para el cálculo de la latitud por observación de la altura de la estrella Polar; tabla del azimut de la estrella Polar y tablas de correcciones cuyos valores dependen de la fecha. Excepcionalmente se incluye una tabla de corrección por retardo y longitud, que es invariante con el año, con el único fin de mantener la numeración de las páginas como en el Almanaque Náutico del R.O.A.

Se mantiene el orden y numeración de páginas idéntico al Almanaque Náutico del R.O.A. porque, a veces, en la literatura didáctica española sobre navegación astronómica, se hace referencia a la tabla de una determinada página del Almanaque. Se recomienda la adquisición, al menos una vez, del Almanaque Náutico del Real Observatorio de la Armada, que incluye más tablas que pueden aplicarse para cualquier año, una extensa explicación de su uso, otros datos interesantes, tiene un precio asequible y además es el único permitido en los exámenes oficiales.

**Advertencia:** Este Almanaque se distribuye con la intención de que sea exacto y útil, pero sin ninguna garantía, por lo que no debe utilizarse en situaciones de navegación real o que pongan en riesgo vidas o bienes. Se declina cualquier responsabilidad por daños causados por el uso de este Almanaque.

| UT | SOL                                                |      |     |      | LUNA                                                                                                                                                                              |                     |     |                     | Latitud | Principio del crepúsculo |    | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |
|----|----------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------|--------------------------|----|---------------|----------------|----|----------------|----|----|
|    | SD: 16:3<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 3 |      |     |      | Edad: 8 <sup>d</sup> 6 PHE {<br>SD: 14:9<br>PMG: 19 <sup>h</sup> 38 <sup>m</sup> R°: 42 <sup>m</sup><br>4 <sup>h</sup> : 54:6<br>12 <sup>h</sup> : 54:4<br>20 <sup>h</sup> : 54:3 |                     |     |                     |         |                          |    |               |                |    |                |    |    |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                                              |                     | Dif |                     |         |                          |    |               |                |    |                |    |    |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                 | '                   | °   | '                   | °       | h                        | m  | h             | m              | h  | m              | h  | m  |
| 0  | 179                                                | 14.0 | -23 | 04.3 | 73                                                                                                                                                                                | 46.4                | +8  | 47.6                | 60 N    | 7                        | 09 | 8             | 06             | 9  | 03             | 12 | 04 |
| 1  | 194                                                | 13.7 |     | 04.1 | 88                                                                                                                                                                                | 21.5 <sup>161</sup> | +9  | 00.6 <sup>130</sup> | 58      | 7                        | 02 | 7             | 54             | 8  | 46             | 11 | 6  |
| 2  | 209                                                | 13.4 |     | 03.9 | 102                                                                                                                                                                               | 56.5 <sup>160</sup> |     | 13.6 <sup>130</sup> | 56      | 6                        | 56 | 44            | 31             | 17 | 9              | 2  | 03 |
| 3  | 224                                                | 13.2 |     | 03.7 | 117                                                                                                                                                                               | 31.6 <sup>161</sup> |     | 26.5 <sup>129</sup> | 54      | 50                       | 36 | 19            | 22             | 11 | 1              | 59 | 7  |
| 4  | 239                                                | 12.9 |     | 03.5 | 132                                                                                                                                                                               | 06.6 <sup>160</sup> |     | 39.4 <sup>129</sup> | 52      | 44                       | 28 | 8             | 08             | 26 | 14             | 55 | 72 |
| 5  | 254                                                | 12.6 | -23 | 03.3 | 146                                                                                                                                                                               | 41.6 <sup>160</sup> | +9  | 52.2 <sup>128</sup> | 50      | 6                        | 39 | 7             | 20             | 7  | 59             | 12 | 31 |
| 6  | 269                                                | 12.3 | -23 | 03.1 | 161                                                                                                                                                                               | 16.6 <sup>160</sup> | +10 | 05.0 <sup>128</sup> | 45      | 6                        | 28 | 7             | 05             | 7  | 38             | 12 | 40 |
| 7  | 284                                                | 12.0 |     | 03.0 | 175                                                                                                                                                                               | 51.6 <sup>160</sup> |     | 17.7 <sup>127</sup> | 40      | 17                       | 6  | 51            | 22             | 47 | 25             | 38 | 61 |
| 8  | 299                                                | 11.7 |     | 02.8 | 190                                                                                                                                                                               | 26.5 <sup>159</sup> |     | 30.4 <sup>127</sup> | 35      | 08                       | 40 | 7             | 08             | 12 | 54             | 27 | 33 |
| 9  | 314                                                | 11.4 |     | 02.6 | 205                                                                                                                                                                               | 01.5 <sup>160</sup> |     | 43.0 <sup>126</sup> | 30      | 6                        | 00 | 29            | 6              | 56 | 13             | 00 | 30 |
| 10 | 329                                                | 11.1 |     | 02.4 | 219                                                                                                                                                                               | 36.4 <sup>159</sup> | +10 | 55.6 <sup>126</sup> | 20      | 5                        | 44 | 6             | 11             | 35 | 10             | 35 | 20 |
| 11 | 344                                                | 10.8 | -23 | 02.2 | 234                                                                                                                                                                               | 11.2 <sup>158</sup> | +11 | 08.2 <sup>126</sup> | 10 N    | 5                        | 28 | 5             | 54             | 6  | 17             | 13 | 19 |
| 12 | 359                                                | 10.5 | -23 | 02.0 | 248                                                                                                                                                                               | 46.1 <sup>159</sup> | +11 | 20.7 <sup>125</sup> | 0       | 5                        | 11 | 5             | 37             | 6  | 00             | 13 | 28 |
| 13 | 14                                                 | 10.2 |     | 01.8 | 263                                                                                                                                                                               | 20.9 <sup>158</sup> |     | 33.2 <sup>125</sup> | 10 S    | 4                        | 52 | 5             | 19             | 5  | 42             | 36 | 46 |
| 14 | 29                                                 | 09.9 |     | 01.6 | 277                                                                                                                                                                               | 55.7 <sup>158</sup> |     | 45.6 <sup>124</sup> | 20      | 30                       | 4  | 59            | 24             | 46 | 50             | 0  | 53 |
| 15 | 44                                                 | 09.6 |     | 01.4 | 292                                                                                                                                                                               | 30.4 <sup>157</sup> | +11 | 57.9 <sup>123</sup> | 30      | 4                        | 01 | 35            | 5              | 02 | 13             | 56 | 55 |
| 16 | 59                                                 | 09.3 |     | 01.2 | 307                                                                                                                                                                               | 05.2 <sup>158</sup> | +12 | 10.2 <sup>123</sup> | 35      | 3                        | 43 | 20            | 4              | 49 | 14             | 02 | 58 |
| 17 | 74                                                 | 09.0 | -23 | 01.0 | 321                                                                                                                                                                               | 39.9 <sup>157</sup> | +12 | 22.5 <sup>123</sup> | 40      | 3                        | 20 | 4             | 02             | 4  | 34             | 14 | 09 |
| 18 | 89                                                 | 08.7 | -23 | 00.8 | 336                                                                                                                                                                               | 14.5 <sup>156</sup> | +12 | 34.7 <sup>122</sup> | 45      | 2                        | 50 | 3             | 40             | 4  | 17             | 14 | 18 |
| 19 | 104                                                | 08.4 |     | 00.6 | 350                                                                                                                                                                               | 49.2 <sup>157</sup> |     | 46.9 <sup>122</sup> | 50      | 2                        | 06 | 3             | 10             | 3  | 55             | 28 | 69 |
| 20 | 119                                                | 08.1 |     | 00.4 | 5                                                                                                                                                                                 | 23.8 <sup>156</sup> | +12 | 59.0 <sup>121</sup> | 52      | 1                        | 40 | 2             | 56             | 44 | 32             | 72 | 19 |
| 21 | 134                                                | 07.8 | -23 | 00.1 | 19                                                                                                                                                                                | 58.3 <sup>155</sup> | +13 | 11.0 <sup>120</sup> | 54      | 0                        | 59 | 38            | 32             | 37 | 74             | 15 | 11 |
| 22 | 149                                                | 07.5 | -22 | 59.9 | 34                                                                                                                                                                                | 32.9 <sup>156</sup> |     | 23.0 <sup>120</sup> | 56      | ** ** *                  | 2  | 17            | 18             | 43 | 77             | 11 | 8  |
| 23 | 164                                                | 07.2 |     | 59.7 | 49                                                                                                                                                                                | 07.3 <sup>154</sup> |     | 34.9 <sup>119</sup> | 58      | ** ** *                  | 1  | 49            | 3              | 02 | 49             | 81 | 07 |
| 24 | 179                                                | 06.9 | -22 | 59.5 | 63                                                                                                                                                                                | 41.8 <sup>155</sup> | +13 | 46.8 <sup>119</sup> | 60 S    | ** ** *                  | 1  | 04            | 2              | 42 | 14             | 57 | 84 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG<br>17 <sup>h</sup> 17 <sup>m</sup> 2 |      | Mag: -3.9<br>PMG: 14 <sup>h</sup> 26 <sup>m</sup> |      | Mag: +0.2<br>PMG: 17 <sup>h</sup> 52 <sup>m</sup> |      | Mag: -2.3<br>PMG: 4 <sup>h</sup> 40 <sup>m</sup> |      | Mag: -0.5<br>PMG: 0 <sup>h</sup> 02 <sup>m</sup> |      |
|     | hG ♈                                     |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                             |      | hG ♄                                             |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                | '    |
| 0   | 99                                       | 59.7 | 143                                               | 45.9 | -18                                               | 36.1 | 289                                              | 44.0 | +5                                               | 30.5 |
| 1   | 115                                      | 02.2 | 158                                               | 45.3 |                                                   | 35.2 | 304                                              | 46.5 |                                                  | 30.5 |
| 2   | 130                                      | 04.7 | 173                                               | 44.6 |                                                   | 34.3 | 319                                              | 48.9 |                                                  | 30.5 |
| 3   | 145                                      | 07.1 | 188                                               | 44.0 |                                                   | 33.4 | 334                                              | 51.4 |                                                  | 30.5 |
| 4   | 160                                      | 09.6 | 203                                               | 43.4 |                                                   | 32.5 | 349                                              | 53.8 |                                                  | 30.5 |
| 5   | 175                                      | 12.1 | 218                                               | 42.7 | -18                                               | 31.6 | 4                                                | 56.2 | +5                                               | 30.5 |
| 6   | 190                                      | 14.5 | 233                                               | 42.1 | -18                                               | 30.7 | 19                                               | 58.7 | +5                                               | 30.5 |
| 7   | 205                                      | 17.0 | 248                                               | 41.5 |                                                   | 29.8 | 35                                               | 01.1 |                                                  | 30.5 |
| 8   | 220                                      | 19.4 | 263                                               | 40.8 |                                                   | 28.9 | 50                                               | 03.6 |                                                  | 30.5 |
| 9   | 235                                      | 21.9 | 278                                               | 40.2 |                                                   | 28.0 | 65                                               | 06.0 |                                                  | 30.5 |
| 10  | 250                                      | 24.4 | 293                                               | 39.6 |                                                   | 27.1 | 80                                               | 08.4 |                                                  | 30.5 |
| 11  | 265                                      | 26.8 | 308                                               | 38.9 | -18                                               | 26.2 | 95                                               | 10.9 | +5                                               | 30.5 |
| 12  | 280                                      | 29.3 | 323                                               | 38.3 | -18                                               | 25.3 | 110                                              | 13.3 | +5                                               | 30.5 |
| 13  | 295                                      | 31.8 | 338                                               | 37.7 |                                                   | 24.4 | 125                                              | 15.8 |                                                  | 30.5 |
| 14  | 310                                      | 34.2 | 353                                               | 37.1 |                                                   | 23.5 | 140                                              | 18.2 |                                                  | 30.5 |
| 15  | 325                                      | 36.7 | 8                                                 | 36.4 |                                                   | 22.6 | 155                                              | 20.6 |                                                  | 30.5 |
| 16  | 340                                      | 39.2 | 23                                                | 35.8 |                                                   | 21.7 | 170                                              | 23.1 |                                                  | 30.5 |
| 17  | 355                                      | 41.6 | 38                                                | 35.2 | -18                                               | 20.8 | 185                                              | 25.5 | +5                                               | 30.5 |
| 18  | 10                                       | 44.1 | 53                                                | 34.6 | -18                                               | 19.8 | 200                                              | 28.0 | +5                                               | 30.6 |
| 19  | 25                                       | 46.5 | 68                                                | 33.9 |                                                   | 18.9 | 215                                              | 30.4 |                                                  | 30.6 |
| 20  | 40                                       | 49.0 | 83                                                | 33.3 |                                                   | 18.0 | 230                                              | 32.9 |                                                  | 30.6 |
| 21  | 55                                       | 51.5 | 98                                                | 32.7 |                                                   | 17.1 | 245                                              | 35.3 |                                                  | 30.6 |
| 22  | 70                                       | 53.9 | 113                                               | 32.1 |                                                   | 16.2 | 260                                              | 37.7 |                                                  | 30.6 |
| 23  | 85                                       | 56.4 | 128                                               | 31.5 |                                                   | 15.3 | 275                                              | 40.2 |                                                  | 30.6 |
| 24  | 100                                      | 58.9 | 143                                               | 30.8 | -18                                               | 14.4 | 290                                              | 42.6 | +5                                               | 30.6 |
| Dif | —                                        |      | -6                                                |      | +9                                                |      | +11                                              |      | +7                                               |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      |                                                  |      |

| UT  | SOL                                    |      |                                                   | LUNA                   |                     |                                                                           | Latitud  | Puesta de Sol | Final del crepúsculo                             |          | Salida de Luna                       |                                                   | Puesta de Luna      |       |
|-----|----------------------------------------|------|---------------------------------------------------|------------------------|---------------------|---------------------------------------------------------------------------|----------|---------------|--------------------------------------------------|----------|--------------------------------------|---------------------------------------------------|---------------------|-------|
|     | SD: 16'3                               |      |                                                   | Edad: 9 <sup>d</sup> 6 | PHE {               | 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'1 |          |               |                                                  |          |                                      |                                                   |                     |       |
|     | PMG: 12 <sup>h</sup> 03 <sup>m</sup> 8 |      |                                                   |                        |                     |                                                                           |          |               | SD: 14'8                                         |          | PMG: 20 <sup>h</sup> 20 <sup>m</sup> |                                                   | R°: 45 <sup>m</sup> |       |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                   | Dif                 | Dec                                                                       | Dif      |               | Civil                                            | Náutico  | Hora                                 | R°                                                | Hora                | R°    |
| h   | °                                      | '    | °                                                 | °                      | '                   | °                                                                         | '        | °             | h m                                              | h m      | h m                                  | h m m                                             | h m m               | h m m |
| 0   | 179                                    | 06.9 | -22 59.5                                          | 63                     | 41.8                | +13 46.8                                                                  | 118      | 60 N          | 15 06                                            | 16 02    | 16 59                                | 12 07 4                                           | 3 37 85             |       |
| 1   | 194                                    | 06.6 | 59.3                                              | 78                     | 16.2 <sup>154</sup> | +13 58.6 <sup>118</sup>                                                   | 58       | 58            | 22                                               | 14       | 17 06                                | 17 9                                              | 28 81               |       |
| 2   | 209                                    | 06.4 | 59.1                                              | 92                     | 50.6 <sup>154</sup> | +14 10.4 <sup>118</sup>                                                   | 56       | 56            | 37                                               | 23       | 12                                   | 26 12                                             | 20 77               |       |
| 3   | 224                                    | 06.1 | 58.9                                              | 107                    | 24.9 <sup>153</sup> | 22.1 <sup>117</sup>                                                       | 54       | 54            | 15 49                                            | 32       | 18                                   | 33 15                                             | 13 74               |       |
| 4   | 239                                    | 05.8 | 58.7                                              | 121                    | 59.2 <sup>153</sup> | 33.7 <sup>116</sup>                                                       | 52       | 52            | 16 00                                            | 40       | 24                                   | 40 18                                             | 07 71               |       |
| 5   | 254                                    | 05.5 | -22 58.5                                          | 136                    | 33.5 <sup>153</sup> | +14 45.3 <sup>116</sup>                                                   | 50       | 50            | 16 09                                            | 16 47    | 17 29                                | 12 47 19                                          | 3 01 69             |       |
| 6   | 269                                    | 05.2 | -22 58.3                                          | 151                    | 07.7 <sup>152</sup> | +14 56.8 <sup>115</sup>                                                   | 45       | 45            | 16 29                                            | 17 03    | 17 40                                | 13 00 24                                          | 2 49 64             |       |
| 7   | 284                                    | 04.9 | 58.0                                              | 165                    | 41.9 <sup>152</sup> | +15 08.3 <sup>115</sup>                                                   | 40       | 40            | 16 46                                            | 16       | 50                                   | 12 27                                             | 39 61               |       |
| 8   | 299                                    | 04.6 | 57.8                                              | 180                    | 16.0 <sup>151</sup> | 19.7 <sup>114</sup>                                                       | 35       | 35            | 17 00                                            | 28       | 17 59                                | 21 31                                             | 30 58               |       |
| 9   | 314                                    | 04.3 | 57.6                                              | 194                    | 50.1 <sup>151</sup> | 31.1 <sup>114</sup>                                                       | 30       | 30            | 12                                               | 38       | 18 08                                | 30 33                                             | 23 55               |       |
| 10  | 329                                    | 04.0 | 57.4                                              | 209                    | 24.1 <sup>150</sup> | 42.3 <sup>112</sup>                                                       | 20       | 20            | 32                                               | 17 56    | 24                                   | 45 37                                             | 2 10 50             |       |
| 11  | 344                                    | 03.7 | -22 57.2                                          | 223                    | 58.1 <sup>150</sup> | +15 53.5 <sup>112</sup>                                                   | 10 N     | 10 N          | 17 50                                            | 18 13    | 18 39                                | 13 58 41                                          | 1 58 47             |       |
| 12  | 359                                    | 03.4 | -22 57.0                                          | 238                    | 32.0 <sup>149</sup> | +16 04.7 <sup>112</sup>                                                   | 0        | 0             | 18 08                                            | 18 30    | 18 56                                | 14 10 44                                          | 1 48 43             |       |
| 13  | 14                                     | 03.1 | 56.7                                              | 253                    | 05.9 <sup>149</sup> | 15.8 <sup>111</sup>                                                       | 10 S     | 10 S          | 25                                               | 18 48    | 19 15                                | 22 48                                             | 37 40               |       |
| 14  | 29                                     | 02.8 | 56.5                                              | 267                    | 39.8 <sup>149</sup> | 26.8 <sup>110</sup>                                                       | 20       | 20            | 18 43                                            | 19 08    | 19 37                                | 36 51                                             | 26 36               |       |
| 15  | 44                                     | 02.5 | 56.3                                              | 282                    | 13.6 <sup>148</sup> | 37.7 <sup>109</sup>                                                       | 30       | 30            | 19 05                                            | 32       | 20 05                                | 14 51 56                                          | 14 31               |       |
| 16  | 59                                     | 02.3 | 56.1                                              | 296                    | 47.3 <sup>147</sup> | 48.6 <sup>109</sup>                                                       | 35       | 35            | 17                                               | 19 47    | 23                                   | 15 00 58                                          | 1 06 29             |       |
| 17  | 74                                     | 02.0 | -22 55.9                                          | 311                    | 21.0 <sup>147</sup> | +16 59.4 <sup>108</sup>                                                   | 40       | 40            | 19 32                                            | 20 05    | 20 46                                | 15 10 61                                          | 0 58 26             |       |
| 18  | 89                                     | 01.7 | -22 55.6                                          | 325                    | 54.6 <sup>146</sup> | +17 10.2 <sup>108</sup>                                                   | 45       | 45            | 19 50                                            | 20 27    | 21 16                                | 15 22 65                                          | 0 49 22             |       |
| 19  | 104                                    | 01.4 | 55.4                                              | 340                    | 28.2 <sup>146</sup> | 20.8 <sup>106</sup>                                                       | 50       | 50            | 20 12                                            | 20 55    | 21 59                                | 37 69                                             | 37 18               |       |
| 20  | 119                                    | 01.1 | 55.2                                              | 355                    | 01.8 <sup>146</sup> | 31.5 <sup>107</sup>                                                       | 52       | 52            | 22                                               | 21 10    | 22 25                                | 44 72                                             | 32 15               |       |
| 21  | 134                                    | 00.8 | 55.0                                              | 9                      | 35.3 <sup>145</sup> | 42.0 <sup>105</sup>                                                       | 54       | 54            | 34                                               | 27       | 23 04                                | 15 51 75                                          | 26 13               |       |
| 22  | 149                                    | 00.5 | 54.7                                              | 24                     | 08.7 <sup>144</sup> | +17 52.4 <sup>104</sup>                                                   | 56       | 56            | 20 48                                            | 21 48    | ** **                                | 16 00 78                                          | 19 11               |       |
| 23  | 164                                    | 00.2 | 54.5                                              | 38                     | 42.1 <sup>144</sup> | +18 02.8 <sup>104</sup>                                                   | 58       | 58            | 21 04                                            | 22 16    | ** **                                | 10 81                                             | 12 7                |       |
| 24  | 178                                    | 59.9 | -22 54.3                                          | 53                     | 15.4 <sup>143</sup> | +18 13.1 <sup>103</sup>                                                   | 60 S     | 60 S          | 21 23                                            | 22 58    | ** **                                | 16 21 87                                          | 0 04 3              |       |
| UT  | ARIES                                  |      | VENUS                                             |                        |                     | MARTE                                                                     |          |               | JÚPITER                                          |          |                                      | SATURNO                                           |                     |       |
|     | PMG 17 <sup>h</sup> 13 <sup>m</sup> 2  |      | Mag: -3.9<br>PMG: 14 <sup>h</sup> 27 <sup>m</sup> |                        |                     | Mag: +0.2<br>PMG: 17 <sup>h</sup> 51 <sup>m</sup>                         |          |               | Mag: -2.3<br>PMG: 4 <sup>h</sup> 36 <sup>m</sup> |          |                                      | Mag: -0.5<br>PMG: 23 <sup>h</sup> 54 <sup>m</sup> |                     |       |
|     | hG ♈                                   |      | hG ♀                                              | Dec                    |                     | hG ♂                                                                      | Dec      |               | hG ♃                                             | Dec      |                                      | hG ♄                                              | Dec                 |       |
| h   | °                                      | '    | °                                                 | '                      | °                   | '                                                                         | °        | '             | °                                                | '        | °                                    | '                                                 | °                   | '     |
| 0   | 100                                    | 58.9 | 143 30.8                                          | -18 14.4               | 92 02.0             | +3 56.9                                                                   | 290 42.6 | +5 30.6       | 0 30.8                                           | +22 25.2 |                                      |                                                   |                     |       |
| 1   | 116                                    | 01.3 | 158 30.2                                          | 13.4                   | 107 03.1            | 57.6                                                                      | 305 45.1 | 30.6          | 15 33.5                                          | 25.3     |                                      |                                                   |                     |       |
| 2   | 131                                    | 03.8 | 173 29.6                                          | 12.5                   | 122 04.2            | 58.2                                                                      | 320 47.5 | 30.6          | 30 36.2                                          | 25.3     |                                      |                                                   |                     |       |
| 3   | 146                                    | 06.3 | 188 29.0                                          | 11.6                   | 137 05.3            | 58.9                                                                      | 335 50.0 | 30.6          | 45 38.9                                          | 25.3     |                                      |                                                   |                     |       |
| 4   | 161                                    | 08.7 | 203 28.4                                          | 10.7                   | 152 06.3            | +3 59.5                                                                   | 350 52.4 | 30.6          | 60 41.5                                          | 25.3     |                                      |                                                   |                     |       |
| 5   | 176                                    | 11.2 | 218 27.8                                          | -18 09.8               | 167 07.4            | +4 00.2                                                                   | 5 54.9   | +5 30.6       | 75 44.2                                          | +22 25.3 |                                      |                                                   |                     |       |
| 6   | 191                                    | 13.7 | 233 27.1                                          | -18 08.8               | 182 08.5            | +4 00.8                                                                   | 20 57.3  | +5 30.6       | 90 46.9                                          | +22 25.4 |                                      |                                                   |                     |       |
| 7   | 206                                    | 16.1 | 248 26.5                                          | 07.9                   | 197 09.6            | 01.5                                                                      | 35 59.8  | 30.6          | 105 49.6                                         | 25.4     |                                      |                                                   |                     |       |
| 8   | 221                                    | 18.6 | 263 25.9                                          | 07.0                   | 212 10.7            | 02.1                                                                      | 51 02.2  | 30.6          | 120 52.3                                         | 25.4     |                                      |                                                   |                     |       |
| 9   | 236                                    | 21.0 | 278 25.3                                          | 06.1                   | 227 11.8            | 02.8                                                                      | 66 04.6  | 30.6          | 135 55.0                                         | 25.4     |                                      |                                                   |                     |       |
| 10  | 251                                    | 23.5 | 293 24.7                                          | 05.1                   | 242 12.8            | 03.4                                                                      | 81 07.1  | 30.6          | 150 57.7                                         | 25.4     |                                      |                                                   |                     |       |
| 11  | 266                                    | 26.0 | 308 24.1                                          | -18 04.2               | 257 13.9            | +4 04.1                                                                   | 96 09.5  | +5 30.6       | 166 00.3                                         | +22 25.5 |                                      |                                                   |                     |       |
| 12  | 281                                    | 28.4 | 323 23.5                                          | -18 03.3               | 272 15.0            | +4 04.7                                                                   | 111 12.0 | +5 30.6       | 181 03.0                                         | +22 25.5 |                                      |                                                   |                     |       |
| 13  | 296                                    | 30.9 | 338 22.8                                          | 02.4                   | 287 16.1            | 05.4                                                                      | 126 14.4 | 30.6          | 196 05.7                                         | 25.5     |                                      |                                                   |                     |       |
| 14  | 311                                    | 33.4 | 353 22.2                                          | 01.4                   | 302 17.2            | 06.0                                                                      | 141 16.9 | 30.7          | 211 08.4                                         | 25.5     |                                      |                                                   |                     |       |
| 15  | 326                                    | 35.8 | 8 21.6                                            | -18 00.5               | 317 18.3            | 06.7                                                                      | 156 19.3 | 30.7          | 226 11.1                                         | 25.5     |                                      |                                                   |                     |       |
| 16  | 341                                    | 38.3 | 23 21.0                                           | -17 59.6               | 332 19.3            | 07.3                                                                      | 171 21.8 | 30.7          | 241 13.8                                         | 25.6     |                                      |                                                   |                     |       |
| 17  | 356                                    | 40.8 | 38 20.4                                           | -17 58.6               | 347 20.4            | +4 08.0                                                                   | 186 24.2 | +5 30.7       | 256 16.5                                         | +22 25.6 |                                      |                                                   |                     |       |
| 18  | 11                                     | 43.2 | 53 19.8                                           | -17 57.7               | 2 21.5              | +4 08.6                                                                   | 201 26.7 | +5 30.7       | 271 19.2                                         | +22 25.6 |                                      |                                                   |                     |       |
| 19  | 26                                     | 45.7 | 68 19.2                                           | 56.8                   | 17 22.6             | 09.3                                                                      | 216 29.1 | 30.7          | 286 21.8                                         | 25.6     |                                      |                                                   |                     |       |
| 20  | 41                                     | 48.2 | 83 18.6                                           | 55.8                   | 32 23.7             | 09.9                                                                      | 231 31.6 | 30.7          | 301 24.5                                         | 25.6     |                                      |                                                   |                     |       |
| 21  | 56                                     | 50.6 | 98 18.0                                           | 54.9                   | 47 24.8             | 10.6                                                                      | 246 34.0 | 30.7          | 316 27.2                                         | 25.7     |                                      |                                                   |                     |       |
| 22  | 71                                     | 53.1 | 113 17.4                                          | 54.0                   | 62 25.8             | 11.2                                                                      | 261 36.5 | 30.7          | 331 29.9                                         | 25.7     |                                      |                                                   |                     |       |
| 23  | 86                                     | 55.5 | 128 16.8                                          | 53.0                   | 77 26.9             | 11.9                                                                      | 276 38.9 | 30.7          | 346 32.6                                         | 25.7     |                                      |                                                   |                     |       |
| 24  | 101                                    | 58.0 | 143 16.2                                          | -17 52.1               | 92 28.0             | +4 12.5                                                                   | 291 41.4 | +5 30.7       | 1 35.3                                           | +22 25.7 |                                      |                                                   |                     |       |
| Dif | —                                      |      | -6                                                |                        | +9                  |                                                                           | +11      |               | +7                                               |          | +24                                  |                                                   | 0                   |       |
|     |                                        |      |                                                   |                        |                     |                                                                           |          |               |                                                  |          |                                      |                                                   |                     |       |

| UT | SOL                                                |      |     |      | LUNA                                                                                                                                                                               |                     |     |                     | Latitud | Principio del crepúsculo |    | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |
|----|----------------------------------------------------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------|--------------------------|----|---------------|----------------|----|----------------|----|----|
|    | SD: 16'3<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 2 |      |     |      | Edad: 10 <sup>d</sup> 6 PHE {<br>SD: 14'7<br>PMG: 21 <sup>h</sup> 05 <sup>m</sup> R°: 48 <sup>m</sup><br>4 <sup>h</sup> : 54'1<br>12 <sup>h</sup> : 54'1<br>20 <sup>h</sup> : 54'0 |                     |     |                     |         |                          |    |               |                |    |                |    |    |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                                               |                     | Dif |                     |         | Náutico                  |    |               | Civil          |    | Hora           |    | R° |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                  | '                   | °   | '                   | °       | h                        | m  | h             | m              | h  | m              | h  | m  |
| 0  | 178                                                | 59.9 | -22 | 54.3 | 53                                                                                                                                                                                 | 15.4                | +18 | 13.1                | 60 N    | 7                        | 09 | 8             | 05             | 9  | 02             | 12 | 11 |
| 1  | 193                                                | 59.6 |     | 54.1 | 67                                                                                                                                                                                 | 48.7 <sup>143</sup> |     | 23.4 <sup>103</sup> | 58      | 7                        | 02 | 7             | 54             | 8  | 45             | 26 | 13 |
| 2  | 208                                                | 59.3 |     | 53.8 | 82                                                                                                                                                                                 | 21.9 <sup>142</sup> |     | 33.5 <sup>101</sup> | 56      | 6                        | 55 | 44            | 31             | 38 | 17             | 37 | 78 |
| 3  | 223                                                | 59.1 |     | 53.6 | 96                                                                                                                                                                                 | 55.0 <sup>141</sup> |     | 43.6 <sup>101</sup> | 54      |                          | 50 | 35            | 19             | 48 | 21             | 27 | 74 |
| 4  | 238                                                | 58.8 |     | 53.4 | 111                                                                                                                                                                                | 28.2 <sup>142</sup> | +18 | 53.6 <sup>100</sup> | 52      |                          | 44 | 28            | 8              | 08 | 12             | 58 | 23 |
| 5  | 253                                                | 58.5 | -22 | 53.1 | 126                                                                                                                                                                                | 01.2 <sup>140</sup> | +19 | 03.6 <sup>100</sup> | 50      | 6                        | 39 | 7             | 20             | 7  | 58             | 13 | 06 |
| 6  | 268                                                | 58.2 | -22 | 52.9 | 140                                                                                                                                                                                | 34.2 <sup>140</sup> | +19 | 13.4 <sup>98</sup>  | 45      | 6                        | 28 | 7             | 05             | 7  | 38             | 13 | 24 |
| 7  | 283                                                | 57.9 |     | 52.7 | 155                                                                                                                                                                                | 07.1 <sup>139</sup> |     | 23.2 <sup>98</sup>  | 40      |                          | 18 | 6             | 52             | 22 | 39             | 33 | 40 |
| 8  | 298                                                | 57.6 |     | 52.4 | 169                                                                                                                                                                                | 40.0 <sup>139</sup> |     | 32.9 <sup>97</sup>  | 35      |                          | 09 | 40            | 7              | 08 | 13             | 52 | 35 |
| 9  | 313                                                | 57.3 |     | 52.2 | 184                                                                                                                                                                                | 12.8 <sup>138</sup> |     | 42.5 <sup>96</sup>  | 30      | 6                        | 00 | 30            | 6              | 56 | 14             | 03 | 37 |
| 10 | 328                                                | 57.0 |     | 52.0 | 198                                                                                                                                                                                | 45.6 <sup>138</sup> | +19 | 52.0 <sup>95</sup>  | 20      | 5                        | 44 | 6             | 12             | 36 | 22             | 41 | 3  |
| 11 | 343                                                | 56.7 | -22 | 51.7 | 213                                                                                                                                                                                | 18.2 <sup>136</sup> | +20 | 01.5 <sup>95</sup>  | 10 N    | 5                        | 29 | 5             | 55             | 6  | 18             | 14 | 39 |
| 12 | 358                                                | 56.4 | -22 | 51.5 | 227                                                                                                                                                                                | 50.9 <sup>137</sup> | +20 | 10.9 <sup>94</sup>  | 0       | 5                        | 12 | 5             | 38             | 6  | 01             | 14 | 54 |
| 13 | 13                                                 | 56.2 |     | 51.3 | 242                                                                                                                                                                                | 23.5 <sup>136</sup> |     | 20.1 <sup>92</sup>  | 10 S    | 4                        | 53 | 20            | 5              | 43 | 15             | 10 | 50 |
| 14 | 28                                                 | 55.9 |     | 51.0 | 256                                                                                                                                                                                | 56.0 <sup>135</sup> |     | 29.3 <sup>92</sup>  | 20      |                          | 31 | 5             | 00             | 25 | 27             | 53 | 2  |
| 15 | 43                                                 | 55.6 |     | 50.8 | 271                                                                                                                                                                                | 28.4 <sup>134</sup> |     | 38.4 <sup>91</sup>  | 30      | 4                        | 03 | 4             | 36             | 5  | 03             | 47 | 56 |
| 16 | 58                                                 | 55.3 |     | 50.5 | 286                                                                                                                                                                                | 00.8 <sup>134</sup> |     | 47.5 <sup>91</sup>  | 35      | 3                        | 45 | 21            | 4              | 51 | 15             | 58 | 59 |
| 17 | 73                                                 | 55.0 | -22 | 50.3 | 300                                                                                                                                                                                | 33.1 <sup>133</sup> | +20 | 56.4 <sup>89</sup>  | 40      | 3                        | 22 | 4             | 03             | 4  | 36             | 16 | 11 |
| 18 | 88                                                 | 54.7 | -22 | 50.1 | 315                                                                                                                                                                                | 05.4 <sup>133</sup> | +21 | 05.3 <sup>89</sup>  | 45      | 2                        | 53 | 3             | 42             | 4  | 19             | 16 | 27 |
| 19 | 103                                                | 54.4 |     | 49.8 | 329                                                                                                                                                                                | 37.6 <sup>132</sup> |     | 14.0 <sup>87</sup>  | 50      | 2                        | 09 | 3             | 13             | 3  | 57             | 46 | 69 |
| 20 | 118                                                | 54.1 |     | 49.6 | 344                                                                                                                                                                                | 09.8 <sup>132</sup> |     | 22.7 <sup>87</sup>  | 52      | 1                        | 44 | 2             | 58             | 46 | 16             | 56 | 70 |
| 21 | 133                                                | 53.9 |     | 49.3 | 358                                                                                                                                                                                | 41.8 <sup>130</sup> |     | 31.3 <sup>86</sup>  | 54      | 1                        | 04 | 41            | 34             | 17 | 06             | 73 | 39 |
| 22 | 148                                                | 53.6 |     | 49.1 | 13                                                                                                                                                                                 | 13.9 <sup>131</sup> |     | 39.8 <sup>85</sup>  | 56      | ** ** *                  | 2  | 20            | 21             | 18 | 77             | 30 | 14 |
| 23 | 163                                                | 53.3 |     | 48.8 | 27                                                                                                                                                                                 | 45.8 <sup>129</sup> |     | 48.2 <sup>84</sup>  | 58      | ** ** *                  | 1  | 53            | 3              | 05 | 31             | 82 | 19 |
| 24 | 178                                                | 53.0 | -22 | 48.6 | 42                                                                                                                                                                                 | 17.7 <sup>129</sup> | +21 | 56.5 <sup>83</sup>  | 60 S    | ** ** *                  | 1  | 10            | 2              | 45 | 17             | 48 | 87 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG<br>17 <sup>h</sup> 09 <sup>m</sup> 3 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 27 <sup>m</sup> |      | Mag: +0.3<br>PMG: 17 <sup>h</sup> 49 <sup>m</sup> |      | Mag: -2.3<br>PMG: 4 <sup>h</sup> 32 <sup>m</sup> |      | Mag: -0.4<br>PMG: 23 <sup>h</sup> 49 <sup>m</sup> |      |
|     | hG ♈                                     |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                             |      | hG ♄                                              |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 101                                      | 58.0 | 143                                               | 16.2 | -17                                               | 52.1 | 92                                               | 28.0 | +4                                                | 12.5 |
| 1   | 117                                      | 00.5 | 158                                               | 15.6 |                                                   | 51.2 | 107                                              | 29.1 |                                                   | 13.2 |
| 2   | 132                                      | 02.9 | 173                                               | 15.0 |                                                   | 50.2 | 122                                              | 30.2 |                                                   | 13.8 |
| 3   | 147                                      | 05.4 | 188                                               | 14.4 |                                                   | 49.3 | 137                                              | 31.2 |                                                   | 14.5 |
| 4   | 162                                      | 07.9 | 203                                               | 13.8 |                                                   | 48.3 | 152                                              | 32.3 |                                                   | 15.1 |
| 5   | 177                                      | 10.3 | 218                                               | 13.2 | -17                                               | 47.4 | 167                                              | 33.4 | +4                                                | 15.8 |
| 6   | 192                                      | 12.8 | 233                                               | 12.6 | -17                                               | 46.4 | 182                                              | 34.5 | +4                                                | 16.4 |
| 7   | 207                                      | 15.3 | 248                                               | 12.0 |                                                   | 45.5 | 197                                              | 35.6 |                                                   | 17.1 |
| 8   | 222                                      | 17.7 | 263                                               | 11.4 |                                                   | 44.6 | 212                                              | 36.6 |                                                   | 17.7 |
| 9   | 237                                      | 20.2 | 278                                               | 10.8 |                                                   | 43.6 | 227                                              | 37.7 |                                                   | 18.4 |
| 10  | 252                                      | 22.6 | 293                                               | 10.2 |                                                   | 42.7 | 242                                              | 38.8 |                                                   | 19.0 |
| 11  | 267                                      | 25.1 | 308                                               | 09.6 | -17                                               | 41.7 | 257                                              | 39.9 | +4                                                | 19.7 |
| 12  | 282                                      | 27.6 | 323                                               | 09.0 | -17                                               | 40.8 | 272                                              | 41.0 | +4                                                | 20.3 |
| 13  | 297                                      | 30.0 | 338                                               | 08.4 |                                                   | 39.8 | 287                                              | 42.0 |                                                   | 21.0 |
| 14  | 312                                      | 32.5 | 353                                               | 07.8 |                                                   | 38.9 | 302                                              | 43.1 |                                                   | 21.6 |
| 15  | 327                                      | 35.0 | 8                                                 | 07.2 |                                                   | 37.9 | 317                                              | 44.2 |                                                   | 22.3 |
| 16  | 342                                      | 37.4 | 23                                                | 06.6 |                                                   | 37.0 | 332                                              | 45.3 |                                                   | 22.9 |
| 17  | 357                                      | 39.9 | 38                                                | 06.0 | -17                                               | 36.0 | 347                                              | 46.4 | +4                                                | 23.6 |
| 18  | 12                                       | 42.4 | 53                                                | 05.4 | -17                                               | 35.1 | 2                                                | 47.4 | +4                                                | 24.2 |
| 19  | 27                                       | 44.8 | 68                                                | 04.8 |                                                   | 34.1 | 17                                               | 48.5 |                                                   | 24.9 |
| 20  | 42                                       | 47.3 | 83                                                | 04.2 |                                                   | 33.2 | 32                                               | 49.6 |                                                   | 25.5 |
| 21  | 57                                       | 49.8 | 98                                                | 03.6 |                                                   | 32.2 | 47                                               | 50.7 |                                                   | 26.2 |
| 22  | 72                                       | 52.2 | 113                                               | 03.0 |                                                   | 31.3 | 62                                               | 51.8 |                                                   | 26.8 |
| 23  | 87                                       | 54.7 | 128                                               | 02.4 |                                                   | 30.3 | 77                                               | 52.8 |                                                   | 27.5 |
| 24  | 102                                      | 57.1 | 143                                               | 01.9 | -17                                               | 29.3 | 92                                               | 53.9 | +4                                                | 28.1 |
| Dif | —                                        |      | -6                                                |      | +9                                                |      | +11                                              |      | +6                                                |      |

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 0  | 7  | 8  | 9  | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 7  | 09 | 05 | 02 | 00 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 | 13 |
| 8  | 05 | 02 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 9  | 02 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 12 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 13 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 14 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 15 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 16 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 17 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 18 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 19 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 20 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 21 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 22 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 23 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |
| 24 | 00 | 00 | 00 | 00 | 01 | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 | 10 | 11 | 12 |

| UT  | SOL                                    |      |                                                   | LUNA                    |                                                                                    |                                                   |     | Latitud | Puesta de Sol                                    | Final del crepúsculo |                      |                                                   | Salida de Luna |      |                | Puesta de Luna |         |  |
|-----|----------------------------------------|------|---------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|---------------------------------------------------|-----|---------|--------------------------------------------------|----------------------|----------------------|---------------------------------------------------|----------------|------|----------------|----------------|---------|--|
|     | SD: 16:3                               |      |                                                   | Edad: 11 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 54:1<br>12 <sup>h</sup> : 54:1<br>20 <sup>h</sup> : 54:1 | SD: 14:7                                          |     |         |                                                  | Puesta de Sol        | Final del crepúsculo |                                                   | Salida de Luna |      | Puesta de Luna |                |         |  |
|     | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 7 |      |                                                   |                         |                                                                                    | PMG: 21 <sup>h</sup> 53 <sup>m</sup>              |     |         |                                                  |                      | Rº: 50 <sup>m</sup>  |                                                   | Civil          |      | Náutico        |                | Hora Rº |  |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                    | Dif                                                                                | Dec                                               | Dif |         |                                                  | Civil                | Náutico              | Hora                                              | Rº             | Hora | Rº             |                |         |  |
| h   | °                                      | '    | °                                                 | °                       | '                                                                                  | °                                                 | '   | °       | h m                                              | h m                  | h m                  | h m                                               | m              | h m  | m              |                |         |  |
| 0   | 178                                    | 53.0 | -22 48.6                                          | 42                      | 17.7                                                                               | +21 56.5                                          | 82  | 60 N    | 15 09                                            | 16 05                | 17 01                | 12 20                                             | 16             | 6 29 | 85             |                |         |  |
| 1   | 193                                    | 52.7 | 48.4                                              | 56                      | 49.5 <sup>128</sup>                                                                | +22 04.7                                          | 81  | 58      | 25                                               | 16                   | 08                   | 39                                                | 22             | 6 10 | 79             |                |         |  |
| 2   | 208                                    | 52.4 | 48.1                                              | 71                      | 21.3 <sup>128</sup>                                                                | 12.8                                              | 80  | 56      | 39                                               | 26                   | 14                   | 12 55                                             | 26             | 5 55 | 74             |                |         |  |
| 3   | 223                                    | 52.1 | 47.9                                              | 85                      | 53.0 <sup>127</sup>                                                                | 20.8                                              | 79  | 54      | 15 51                                            | 34                   | 20                   | 13 09                                             | 28             | 41   | 72             |                |         |  |
| 4   | 238                                    | 51.9 | 47.6                                              | 100                     | 24.6 <sup>126</sup>                                                                | 28.7                                              | 79  | 52      | 16 02                                            | 42                   | 26                   | 21 31                                             | 31             | 30   | 69             |                |         |  |
| 5   | 253                                    | 51.6 | -22 47.4                                          | 114                     | 56.2 <sup>126</sup>                                                                | +22 36.6                                          | 79  | 50      | 16 11                                            | 16 49                | 17 31                | 13 31                                             | 33             | 5 19 | 68             |                |         |  |
| 6   | 268                                    | 51.3 | -22 47.1                                          | 129                     | 27.7 <sup>125</sup>                                                                | +22 44.3                                          | 77  | 45      | 16 31                                            | 17 05                | 17 42                | 13 54                                             | 36             | 4 58 | 63             |                |         |  |
| 7   | 283                                    | 51.0 | 46.9                                              | 143                     | 59.2 <sup>125</sup>                                                                | 51.9                                              | 76  | 40      | 16 47                                            | 18                   | 17 52                | 14 12                                             | 39             | 41   | 60             |                |         |  |
| 8   | 298                                    | 50.7 | 46.6                                              | 158                     | 30.6 <sup>124</sup>                                                                | +22 59.5                                          | 76  | 35      | 17 01                                            | 29                   | 18 01                | 27 41                                             |                | 26   | 58             |                |         |  |
| 9   | 313                                    | 50.4 | 46.4                                              | 173                     | 01.9 <sup>123</sup>                                                                | +23 06.9                                          | 74  | 30      | 13                                               | 39                   | 09                   | 14 40                                             | 43             | 4 14 | 56             |                |         |  |
| 10  | 328                                    | 50.1 | 46.1                                              | 187                     | 33.2 <sup>123</sup>                                                                | 14.2                                              | 73  | 20      | 34                                               | 17 57                | 25                   | 15 03                                             | 45             | 3 52 | 54             |                |         |  |
| 11  | 343                                    | 49.9 | -22 45.8                                          | 202                     | 04.3 <sup>121</sup>                                                                | +23 21.4                                          | 72  | 10 N    | 17 52                                            | 18 14                | 18 40                | 15 23                                             | 47             | 3 34 | 50             |                |         |  |
| 12  | 358                                    | 49.6 | -22 45.6                                          | 216                     | 35.5 <sup>122</sup>                                                                | +23 28.6                                          | 72  | 0       | 18 08                                            | 18 31                | 18 57                | 15 41                                             | 50             | 3 17 | 48             |                |         |  |
| 13  | 13                                     | 49.3 | 45.3                                              | 231                     | 06.6 <sup>121</sup>                                                                | 35.6                                              | 70  | 10 S    | 25                                               | 18 48                | 19 15                | 16 00                                             | 51             | 2 59 | 46             |                |         |  |
| 14  | 28                                     | 49.0 | 45.1                                              | 245                     | 37.6 <sup>120</sup>                                                                | 42.5                                              | 69  | 20      | 18 44                                            | 19 08                | 19 37                | 20 53                                             |                | 41   | 43             |                |         |  |
| 15  | 43                                     | 48.7 | 44.8                                              | 260                     | 08.5 <sup>119</sup>                                                                | 49.3                                              | 68  | 30      | 19 05                                            | 32                   | 20 05                | 43 56                                             |                | 20   | 40             |                |         |  |
| 16  | 58                                     | 48.4 | 44.6                                              | 274                     | 39.4 <sup>119</sup>                                                                | +23 56.0                                          | 67  | 35      | 18                                               | 19 47                | 23                   | 16 57                                             | 57             | 2 08 | 38             |                |         |  |
| 17  | 73                                     | 48.2 | -22 44.3                                          | 289                     | 10.2 <sup>118</sup>                                                                | +24 02.6                                          | 66  | 40      | 19 32                                            | 20 05                | 20 46                | 17 12                                             | 60             | 1 54 | 35             |                |         |  |
| 18  | 88                                     | 47.9 | -22 44.0                                          | 303                     | 41.0 <sup>118</sup>                                                                | +24 09.1                                          | 65  | 45      | 19 50                                            | 20 26                | 21 15                | 17 31                                             | 62             | 1 37 | 33             |                |         |  |
| 19  | 103                                    | 47.6 | 43.8                                              | 318                     | 11.7 <sup>117</sup>                                                                | 15.5                                              | 64  | 50      | 20 11                                            | 20 55                | 21 58                | 17 55                                             | 65             | 17   | 28             |                |         |  |
| 20  | 118                                    | 47.3 | 43.5                                              | 332                     | 42.3 <sup>116</sup>                                                                | 21.8                                              | 63  | 52      | 22                                               | 21 09                | 22 23                | 18 06                                             | 67             | 1 07 | 26             |                |         |  |
| 21  | 133                                    | 47.0 | 43.3                                              | 347                     | 12.9 <sup>116</sup>                                                                | 28.0                                              | 62  | 54      | 33                                               | 26                   | 22 59                | 19 69                                             |                | 0 56 | 24             |                |         |  |
| 22  | 148                                    | 46.7 | 43.0                                              | 1                       | 43.4 <sup>115</sup>                                                                | 34.0                                              | 60  | 56      | 20 47                                            | 21 47                | ** ** *              | 35 71                                             |                | 44   | 21             |                |         |  |
| 23  | 163                                    | 46.5 | 42.7                                              | 16                      | 13.9 <sup>115</sup>                                                                | 40.0                                              | 60  | 58      | 21 03                                            | 22 13                | ** ** *              | 18 53                                             | 75             | 30   | 16             |                |         |  |
| 24  | 178                                    | 46.2 | -22 42.5                                          | 30                      | 44.3 <sup>114</sup>                                                                | +24 45.8                                          | 58  | 60 S    | 21 22                                            | 22 53                | ** ** *              | 19 15                                             | 81             | 0 13 | 11             |                |         |  |
| UT  | ARIES                                  |      | VENUS                                             |                         |                                                                                    | MARTE                                             |     |         | JÚPITER                                          |                      |                      | SATURNO                                           |                |      |                |                |         |  |
|     | PMG: 17 <sup>h</sup> 05 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 28 <sup>m</sup> |                         |                                                                                    | Mag: +0.3<br>PMG: 17 <sup>h</sup> 47 <sup>m</sup> |     |         | Mag: -2.3<br>PMG: 4 <sup>h</sup> 29 <sup>m</sup> |                      |                      | Mag: -0.4<br>PMG: 23 <sup>h</sup> 45 <sup>m</sup> |                |      |                |                |         |  |
|     | hG ♈                                   |      | hG ♀                                              | Dec                     |                                                                                    | hG ♂                                              | Dec |         | hG ♃                                             | Dec                  |                      | hG ♄                                              | Dec            |      |                |                |         |  |
| h   | °                                      | '    | °                                                 | '                       | °                                                                                  | '                                                 | °   | '       | °                                                | '                    | °                    | '                                                 | °              | '    | °              |                |         |  |
| 0   | 102                                    | 57.1 | 143 01.9                                          | -17 29.3                | 92 53.9                                                                            | +4 28.1                                           | 292 | 40.3    | +5 30.9                                          | 2 39.7               | +22 26.2             |                                                   |                |      |                |                |         |  |
| 1   | 117                                    | 59.6 | 158 01.3                                          | 28.4                    | 107 55.0                                                                           | 28.8                                              | 307 | 42.8    | 31.0                                             | 17 42.4              | 26.2                 |                                                   |                |      |                |                |         |  |
| 2   | 133                                    | 02.1 | 173 00.7                                          | 27.4                    | 122 56.1                                                                           | 29.4                                              | 322 | 45.3    | 31.0                                             | 32 45.1              | 26.2                 |                                                   |                |      |                |                |         |  |
| 3   | 148                                    | 04.5 | 188 00.1                                          | 26.5                    | 137 57.1                                                                           | 30.1                                              | 337 | 47.7    | 31.0                                             | 47 47.8              | 26.2                 |                                                   |                |      |                |                |         |  |
| 4   | 163                                    | 07.0 | 202 59.5                                          | 25.5                    | 152 58.2                                                                           | 30.7                                              | 352 | 50.2    | 31.0                                             | 62 50.5              | 26.3                 |                                                   |                |      |                |                |         |  |
| 5   | 178                                    | 09.5 | 217 58.9                                          | -17 24.5                | 167 59.3                                                                           | +4 31.4                                           | 7   | 52.6    | +5 31.0                                          | 77 53.2              | +22 26.3             |                                                   |                |      |                |                |         |  |
| 6   | 193                                    | 11.9 | 232 58.3                                          | -17 23.6                | 183 00.4                                                                           | +4 32.0                                           | 22  | 55.1    | +5 31.0                                          | 92 55.8              | +22 26.3             |                                                   |                |      |                |                |         |  |
| 7   | 208                                    | 14.4 | 247 57.8                                          | 22.6                    | 198 01.4                                                                           | 32.7                                              | 37  | 57.6    | 31.0                                             | 107 58.5             | 26.3                 |                                                   |                |      |                |                |         |  |
| 8   | 223                                    | 16.9 | 262 57.2                                          | 21.7                    | 213 02.5                                                                           | 33.3                                              | 53  | 00.0    | 31.0                                             | 123 01.2             | 26.3                 |                                                   |                |      |                |                |         |  |
| 9   | 238                                    | 19.3 | 277 56.6                                          | 20.7                    | 228 03.6                                                                           | 34.0                                              | 68  | 02.5    | 31.0                                             | 138 03.9             | 26.3                 |                                                   |                |      |                |                |         |  |
| 10  | 253                                    | 21.8 | 292 56.0                                          | 19.7                    | 243 04.7                                                                           | 34.6                                              | 83  | 04.9    | 31.1                                             | 153 06.6             | 26.4                 |                                                   |                |      |                |                |         |  |
| 11  | 268                                    | 24.3 | 307 55.4                                          | -17 18.8                | 258 05.7                                                                           | +4 35.3                                           | 98  | 07.4    | +5 31.1                                          | 168 09.3             | +22 26.4             |                                                   |                |      |                |                |         |  |
| 12  | 283                                    | 26.7 | 322 54.8                                          | -17 17.8                | 273 06.8                                                                           | +4 35.9                                           | 113 | 09.9    | +5 31.1                                          | 183 12.0             | +22 26.4             |                                                   |                |      |                |                |         |  |
| 13  | 298                                    | 29.2 | 337 54.3                                          | 16.8                    | 288 07.9                                                                           | 36.6                                              | 128 | 12.3    | 31.1                                             | 198 14.6             | 26.4                 |                                                   |                |      |                |                |         |  |
| 14  | 313                                    | 31.6 | 352 53.7                                          | 15.9                    | 303 09.0                                                                           | 37.2                                              | 143 | 14.8    | 31.1                                             | 213 17.3             | 26.4                 |                                                   |                |      |                |                |         |  |
| 15  | 328                                    | 34.1 | 7 53.1                                            | 14.9                    | 318 10.0                                                                           | 37.9                                              | 158 | 17.3    | 31.1                                             | 228 20.0             | 26.5                 |                                                   |                |      |                |                |         |  |
| 16  | 343                                    | 36.6 | 22 52.5                                           | 13.9                    | 333 11.1                                                                           | 38.5                                              | 173 | 19.7    | 31.1                                             | 243 22.7             | 26.5                 |                                                   |                |      |                |                |         |  |
| 17  | 358                                    | 39.0 | 37 51.9                                           | -17 13.0                | 348 12.2                                                                           | +4 39.2                                           | 188 | 22.2    | +5 31.1                                          | 258 25.4             | +22 26.5             |                                                   |                |      |                |                |         |  |
| 18  | 13                                     | 41.5 | 52 51.4                                           | -17 12.0                | 3 13.3                                                                             | +4 39.8                                           | 203 | 24.7    | +5 31.2                                          | 273 28.1             | +22 26.5             |                                                   |                |      |                |                |         |  |
| 19  | 28                                     | 44.0 | 67 50.8                                           | 11.0                    | 18 14.3                                                                            | 40.5                                              | 218 | 27.1    | 31.2                                             | 288 30.8             | 26.5                 |                                                   |                |      |                |                |         |  |
| 20  | 43                                     | 46.4 | 82 50.2                                           | 10.0                    | 33 15.4                                                                            | 41.1                                              | 233 | 29.6    | 31.2                                             | 303 33.4             | 26.6                 |                                                   |                |      |                |                |         |  |
| 21  | 58                                     | 48.9 | 97 49.6                                           | 09.1                    | 48 16.5                                                                            | 41.8                                              | 248 | 32.1    | 31.2                                             | 318 36.1             | 26.6                 |                                                   |                |      |                |                |         |  |
| 22  | 73                                     | 51.4 | 112 49.1                                          | 08.1                    | 63 17.6                                                                            | 42.4                                              | 263 | 34.5    | 31.2                                             | 333 38.8             | 26.6                 |                                                   |                |      |                |                |         |  |
| 23  | 88                                     | 53.8 | 127 48.5                                          | 07.1                    | 78 18.6                                                                            | 43.1                                              | 278 | 37.0    | 31.2                                             | 348 41.5             | 26.6                 |                                                   |                |      |                |                |         |  |
| 24  | 103                                    | 56.3 | 142 47.9                                          | -17 06.1                | 93 19.7                                                                            | +4 43.7                                           | 293 | 39.5    | +5 31.2                                          | 3 44.2               | +22 26.6             |                                                   |                |      |                |                |         |  |
| Dif | —                                      |      | -6                                                | +10                     | +11                                                                                | +6                                                | +25 | 0       | +27                                              |                      |                      | 0                                                 |                |      |                |                |         |  |

| UT | SOL                                                |      |     | LUNA                                                                        |                                                                                                                        |      | Latitud            | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |         | Puesta de Luna |      |      |      |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|------|--------------------|--------------------------|---------|---------------|----------------|---------|----------------|------|------|------|----|
|    | SD: 16'3<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 1 |      |     | Edad: 12 <sup>d</sup> 6<br>SD: 14'7<br>PMG: 22 <sup>h</sup> 43 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 54'1<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'3<br>R <sup>o</sup> : 52 <sup>m</sup> |      |                    |                          |         |               |                |         |                |      |      |      |    |
|    | hG ☉                                               | Dec  |     |                                                                             |                                                                                                                        | hG ☾ |                    | Dif                      | Dec     |               | Dif            | Náutico | Civil          | Hora | R°   | Hora | R° |
| h  | °                                                  | '    | °   | °                                                                           | '                                                                                                                      | °    | °                  | h                        | m       | h             | m              | h       | m              | m    | h    | m    | m  |
| 0  | 178                                                | 46.2 | -22 | 30                                                                          | 44.3                                                                                                                   | +24  | 45.8               | 60 N                     | 7 08    | 8 04          | 9 00           | 12 36   | 32             |      | 7 54 | 74   |    |
| 1  | 193                                                | 45.9 |     | 45                                                                          | 14.6 <sup>113</sup>                                                                                                    |      | 51.5 <sup>57</sup> | 58                       | 7 01    | 7 53          | 8 44           | 13 01   | 36             |      | 29   | 69   |    |
| 2  | 208                                                | 45.6 |     | 59                                                                          | 44.9 <sup>113</sup>                                                                                                    | +24  | 57.1               | 56                       | 6 55    | 44            | 30             | 21      | 39             |      | 7 09 | 67   |    |
| 3  | 223                                                | 45.3 |     | 74                                                                          | 15.1 <sup>112</sup>                                                                                                    | +25  | 02.6 <sup>55</sup> | 54                       | 49      | 35            | 18             | 37      | 41             |      | 6 53 | 66   |    |
| 4  | 238                                                | 45.0 |     | 88                                                                          | 45.3 <sup>112</sup>                                                                                                    |      | 08.0 <sup>54</sup> | 52                       | 44      | 27            | 8 07           | 13 52   | 42             |      | 39   | 63   |    |
| 5  | 253                                                | 44.8 | -22 | 103                                                                         | 15.4 <sup>111</sup>                                                                                                    | +25  | 13.3 <sup>53</sup> | 50                       | 6 39    | 7 20          | 7 58           | 14 04   | 44             |      | 6 27 | 61   |    |
| 6  | 268                                                | 44.5 | -22 | 117                                                                         | 45.5 <sup>111</sup>                                                                                                    | +25  | 18.4 <sup>51</sup> | 45                       | 6 28    | 7 05          | 7 38           | 14 30   | 45             |      | 6 01 | 60   |    |
| 7  | 283                                                | 44.2 |     | 132                                                                         | 15.5 <sup>110</sup>                                                                                                    |      | 23.4 <sup>50</sup> | 40                       | 18      | 6 52          | 22             | 14 51   | 46             |      | 5 41 | 58   |    |
| 8  | 298                                                | 43.9 |     | 146                                                                         | 45.4 <sup>109</sup>                                                                                                    |      | 28.4 <sup>50</sup> | 35                       | 09      | 41            | 7 09           | 15 08   | 48             |      | 24   | 57   |    |
| 9  | 313                                                | 43.6 |     | 161                                                                         | 15.3 <sup>109</sup>                                                                                                    |      | 33.2 <sup>48</sup> | 30                       | 6 01    | 30            | 6 57           | 23      | 48             |      | 5 10 | 55   |    |
| 10 | 328                                                | 43.4 |     | 175                                                                         | 45.1 <sup>108</sup>                                                                                                    |      | 37.8 <sup>46</sup> | 20                       | 5 45    | 6 12          | 36             | 15 48   | 50             |      | 4 46 | 53   |    |
| 11 | 343                                                | 43.1 | -22 | 190                                                                         | 14.9 <sup>108</sup>                                                                                                    | +25  | 42.4 <sup>46</sup> | 10 N                     | 5 29    | 5 56          | 6 18           | 16 10   | 51             |      | 4 24 | 52   |    |
| 12 | 358                                                | 42.8 | -22 | 204                                                                         | 44.6 <sup>107</sup>                                                                                                    | +25  | 46.8 <sup>44</sup> | 0                        | 5 13    | 5 39          | 6 01           | 16 31   | 51             |      | 4 05 | 50   |    |
| 13 | 13                                                 | 42.5 |     | 219                                                                         | 14.3 <sup>107</sup>                                                                                                    |      | 51.1 <sup>43</sup> | 10 S                     | 4 55    | 22            | 5 44           | 16 51   | 52             |      | 3 45 | 49   |    |
| 14 | 28                                                 | 42.2 |     | 233                                                                         | 43.9 <sup>106</sup>                                                                                                    |      | 55.3 <sup>42</sup> | 20                       | 33      | 5 02          | 26             | 17 13   | 53             |      | 24   | 48   |    |
| 15 | 43                                                 | 42.0 |     | 248                                                                         | 13.5 <sup>106</sup>                                                                                                    | +25  | 59.4 <sup>41</sup> | 30                       | 4 05    | 4 38          | 5 05           | 39      | 54             |      | 3 00 | 45   |    |
| 16 | 58                                                 | 41.7 |     | 262                                                                         | 43.0 <sup>105</sup>                                                                                                    | +26  | 03.3 <sup>39</sup> | 35                       | 3 47    | 23            | 4 52           | 17 54   | 55             |      | 2 46 | 44   |    |
| 17 | 73                                                 | 41.4 | -22 | 277                                                                         | 12.5 <sup>105</sup>                                                                                                    | +26  | 07.2 <sup>39</sup> | 40                       | 3 24    | 4 05          | 4 38           | 18 12   | 55             |      | 2 29 | 43   |    |
| 18 | 88                                                 | 41.1 | -22 | 291                                                                         | 42.0 <sup>105</sup>                                                                                                    | +26  | 10.9 <sup>37</sup> | 45                       | 2 55    | 3 44          | 4 20           | 18 33   | 56             |      | 2 10 | 40   |    |
| 19 | 103                                                | 40.8 |     | 306                                                                         | 11.3 <sup>103</sup>                                                                                                    |      | 14.4 <sup>35</sup> | 50                       | 2 13    | 15            | 3 59           | 19 00   | 58             |      | 1 45 | 38   |    |
| 20 | 118                                                | 40.6 |     | 320                                                                         | 40.7 <sup>104</sup>                                                                                                    |      | 17.9 <sup>35</sup> | 52                       | 1 48    | 3 01          | 49             | 13      | 58             |      | 33   | 37   |    |
| 21 | 133                                                | 40.3 |     | 335                                                                         | 10.0 <sup>103</sup>                                                                                                    |      | 21.2 <sup>33</sup> | 54                       | 1 11    | 2 44          | 37             | 28      | 59             |      | 20   | 34   |    |
| 22 | 148                                                | 40.0 |     | 349                                                                         | 39.2 <sup>102</sup>                                                                                                    |      | 24.4 <sup>32</sup> | 56                       | ** ** * | 2 24          | 23             | 19 46   | 60             |      | 1 05 | 31   |    |
| 23 | 163                                                | 39.7 |     | 4                                                                           | 08.4 <sup>102</sup>                                                                                                    |      | 27.5 <sup>31</sup> | 58                       | ** ** * | 1 57          | 3 08           | 20 08   | 62             |      | 0 46 | 28   |    |
| 24 | 178                                                | 39.4 | -22 | 18                                                                          | 37.6 <sup>102</sup>                                                                                                    | +26  | 30.4 <sup>29</sup> | 60 S                     | ** ** * | 1 17          | 2 49           | 20 36   | 65             |      | 0 24 | 22   |    |

| UT  | ARIES                                    |      | VENUS                                             |      |     | MARTE                                             |     |      | JÚPITER                                          |      |     | SATURNO                                           |     |      |     |  |   |
|-----|------------------------------------------|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|-----|--|---|
|     | PMG<br>17 <sup>h</sup> 01 <sup>m</sup> 5 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 29 <sup>m</sup> |      |     | Mag: +0.3<br>PMG: 17 <sup>h</sup> 45 <sup>m</sup> |     |      | Mag: -2.3<br>PMG: 4 <sup>h</sup> 25 <sup>m</sup> |      |     | Mag: -0.4<br>PMG: 23 <sup>h</sup> 41 <sup>m</sup> |     |      |     |  |   |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                             | Dec  |     | hG ♄                                              | Dec |      |     |  |   |
| h   | °                                        | '    | °                                                 | °    | '   | °                                                 | °   | '    | °                                                | °    | '   | °                                                 | °   | '    |     |  |   |
| 0   | 103                                      | 56.3 | 142                                               | 47.9 | -17 | 06.1                                              | 93  | 19.7 | +4                                               | 43.7 | 293 | 39.5                                              | +5  | 31.2 |     |  |   |
| 1   | 118                                      | 58.8 | 157                                               | 47.3 |     | 05.2                                              | 108 | 20.8 |                                                  | 44.4 | 308 | 41.9                                              |     | 31.2 |     |  |   |
| 2   | 134                                      | 01.2 | 172                                               | 46.8 |     | 04.2                                              | 123 | 21.9 |                                                  | 45.0 | 323 | 44.4                                              |     | 31.3 |     |  |   |
| 3   | 149                                      | 03.7 | 187                                               | 46.2 |     | 03.2                                              | 138 | 22.9 |                                                  | 45.7 | 338 | 46.9                                              |     | 31.3 |     |  |   |
| 4   | 164                                      | 06.1 | 202                                               | 45.6 |     | 02.2                                              | 153 | 24.0 |                                                  | 46.3 | 353 | 49.3                                              |     | 31.3 |     |  |   |
| 5   | 179                                      | 08.6 | 217                                               | 45.1 | -17 | 01.2                                              | 168 | 25.1 | +4                                               | 47.0 | 8   | 51.8                                              | +5  | 31.3 |     |  |   |
| 6   | 194                                      | 11.1 | 232                                               | 44.5 | -17 | 00.3                                              | 183 | 26.1 | +4                                               | 47.6 | 23  | 54.3                                              | +5  | 31.3 |     |  |   |
| 7   | 209                                      | 13.5 | 247                                               | 43.9 | -16 | 59.3                                              | 198 | 27.2 |                                                  | 48.3 | 38  | 56.7                                              |     | 31.3 |     |  |   |
| 8   | 224                                      | 16.0 | 262                                               | 43.3 |     | 58.3                                              | 213 | 28.3 |                                                  | 48.9 | 53  | 59.2                                              |     | 31.4 |     |  |   |
| 9   | 239                                      | 18.5 | 277                                               | 42.8 |     | 57.3                                              | 228 | 29.4 |                                                  | 49.6 | 69  | 01.7                                              |     | 31.4 |     |  |   |
| 10  | 254                                      | 20.9 | 292                                               | 42.2 |     | 56.3                                              | 243 | 30.4 |                                                  | 50.2 | 84  | 04.1                                              |     | 31.4 |     |  |   |
| 11  | 269                                      | 23.4 | 307                                               | 41.6 | -16 | 55.3                                              | 258 | 31.5 | +4                                               | 50.8 | 99  | 06.6                                              | +5  | 31.4 |     |  |   |
| 12  | 284                                      | 25.9 | 322                                               | 41.1 | -16 | 54.4                                              | 273 | 32.6 | +4                                               | 51.5 | 114 | 09.1                                              | +5  | 31.4 |     |  |   |
| 13  | 299                                      | 28.3 | 337                                               | 40.5 |     | 53.4                                              | 288 | 33.6 |                                                  | 52.1 | 129 | 11.6                                              |     | 31.4 |     |  |   |
| 14  | 314                                      | 30.8 | 352                                               | 39.9 |     | 52.4                                              | 303 | 34.7 |                                                  | 52.8 | 144 | 14.0                                              |     | 31.4 |     |  |   |
| 15  | 329                                      | 33.3 | 7                                                 | 39.4 |     | 51.4                                              | 318 | 35.8 |                                                  | 53.4 | 159 | 16.5                                              |     | 31.5 |     |  |   |
| 16  | 344                                      | 35.7 | 22                                                | 38.8 |     | 50.4                                              | 333 | 36.9 |                                                  | 54.1 | 174 | 19.0                                              |     | 31.5 |     |  |   |
| 17  | 359                                      | 38.2 | 37                                                | 38.3 | -16 | 49.4                                              | 348 | 37.9 | +4                                               | 54.7 | 189 | 21.4                                              | +5  | 31.5 |     |  |   |
| 18  | 14                                       | 40.6 | 52                                                | 37.7 | -16 | 48.4                                              | 3   | 39.0 | +4                                               | 55.4 | 204 | 23.9                                              | +5  | 31.5 |     |  |   |
| 19  | 29                                       | 43.1 | 67                                                | 37.1 |     | 47.4                                              | 18  | 40.1 |                                                  | 56.0 | 219 | 26.4                                              |     | 31.5 |     |  |   |
| 20  | 44                                       | 45.6 | 82                                                | 36.6 |     | 46.4                                              | 33  | 41.1 |                                                  | 56.7 | 234 | 28.9                                              |     | 31.5 |     |  |   |
| 21  | 59                                       | 48.0 | 97                                                | 36.0 |     | 45.4                                              | 48  | 42.2 |                                                  | 57.3 | 249 | 31.3                                              |     | 31.6 |     |  |   |
| 22  | 74                                       | 50.5 | 112                                               | 35.4 |     | 44.5                                              | 63  | 43.3 |                                                  | 58.0 | 264 | 33.8                                              |     | 31.6 |     |  |   |
| 23  | 89                                       | 53.0 | 127                                               | 34.9 |     | 43.5                                              | 78  | 44.3 |                                                  | 58.6 | 279 | 36.3                                              |     | 31.6 |     |  |   |
| 24  | 104                                      | 55.4 | 142                                               | 34.3 | -16 | 42.5                                              | 93  | 45.4 | +4                                               | 59.3 | 294 | 38.8                                              | +5  | 31.6 |     |  |   |
| Dif | —                                        |      | -6                                                |      | +10 |                                                   | +11 |      | +6                                               |      | +25 |                                                   | 0   |      | +27 |  | 0 |



| UT  | SOL                                                |      |                                                   | ☉ LUNA                                                                                                                            |     |                                                   | Latitud     | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                   | Puesta de Luna |      |      |   |   |  |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|-------------|---------------|--------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|------|------|---|---|--|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 6 |      |                                                   | Edad: 13 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 54:3<br>12 <sup>h</sup> : 54:4<br>20 <sup>h</sup> : 54:5<br>Rº: 52 <sup>m</sup> |     |                                                   |             |               |                                                  |       |                |                                                   |                |      |      |   |   |  |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                              | Dif | Dec                                               |             |               | Dif                                              | Civil | Náutico        | Hora                                              | Rº             | Hora | Rº   |   |   |  |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                 | °   | '                                                 | °           | h m           | h m                                              | h m   | h m            | h m                                               | m              | h m  | m    |   |   |  |
| 0   | 178                                                | 39.4 | -22                                               | 35.9                                                                                                                              | 18  | 37.6                                              | +26 30.4    | 60 N          | 15 12                                            | 16 08 | 17 04          | 13 08                                             | 56             | 9 08 | 52   |   |   |  |
| 1   | 193                                                | 39.2 |                                                   | 35.6                                                                                                                              | 33  | 06.7 <sup>101</sup>                               | 33.2 28     | 58            | 28                                               | 19    | 10             | 13 37                                             | 56             | 8 38 | 53   |   |   |  |
| 2   | 208                                                | 38.9 |                                                   | 35.3                                                                                                                              | 47  | 35.8 <sup>101</sup>                               | 35.9 27     | 56            | 42                                               | 28    | 17             | 14 00                                             | 55             | 8 16 | 52   |   |   |  |
| 3   | 223                                                | 38.6 |                                                   | 35.0                                                                                                                              | 62  | 04.8 <sup>100</sup>                               | 38.5 26     | 54            | 15 54                                            | 37    | 22             | 18 56                                             |                | 7 57 | 53   |   |   |  |
| 4   | 238                                                | 38.3 |                                                   | 34.7                                                                                                                              | 76  | 33.9 <sup>101</sup>                               | 40.9 24     | 52            | 16 04                                            | 45    | 28             | 34 55                                             |                | 42   | 53   |   |   |  |
| 5   | 253                                                | 38.1 | -22                                               | 34.4                                                                                                                              | 91  | 02.8 <sup>99</sup>                                | +26 43.2 23 | 50            | 16 14                                            | 16 52 | 17 33          | 14 48                                             | 54             | 7 28 | 53   |   |   |  |
| 6   | 268                                                | 37.8 | -22                                               | 34.2                                                                                                                              | 105 | 31.8 <sup>100</sup>                               | +26 45.3 21 | 45            | 16 33                                            | 17 07 | 17 44          | 15 15                                             | 55             | 7 01 | 52   |   |   |  |
| 7   | 283                                                | 37.5 |                                                   | 33.9                                                                                                                              | 120 | 00.7 <sup>99</sup>                                | 47.4 21     | 40            | 16 49                                            | 20    | 17 53          | 37 54                                             |                | 6 39 | 53   |   |   |  |
| 8   | 298                                                | 37.2 |                                                   | 33.6                                                                                                                              | 134 | 29.5 <sup>98</sup>                                | 49.3 19     | 35            | 17 03                                            | 31    | 18 02          | 15 56                                             | 53             | 21   | 52   |   |   |  |
| 9   | 313                                                | 37.0 |                                                   | 33.3                                                                                                                              | 148 | 58.3 <sup>98</sup>                                | 51.0 17     | 30            | 15                                               | 41    | 10             | 16 11                                             | 54             | 6 05 | 53   |   |   |  |
| 10  | 328                                                | 36.7 |                                                   | 33.0                                                                                                                              | 163 | 27.1 <sup>98</sup>                                | 52.7 17     | 20            | 35                                               | 17 59 | 26             | 16 38                                             | 53             | 5 39 | 52   |   |   |  |
| 11  | 343                                                | 36.4 | -22                                               | 32.7                                                                                                                              | 177 | 55.9 <sup>98</sup>                                | +26 54.2 15 | 10 N          | 17 53                                            | 18 15 | 18 41          | 17 01                                             | 52             | 5 16 | 53   |   |   |  |
| 12  | 358                                                | 36.1 | -22                                               | 32.4                                                                                                                              | 192 | 24.7 <sup>98</sup>                                | +26 55.6 14 | 0             | 18 09                                            | 18 32 | 18 58          | 17 22                                             | 52             | 4 55 | 52   |   |   |  |
| 13  | 13                                                 | 35.9 |                                                   | 32.1                                                                                                                              | 206 | 53.4 <sup>97</sup>                                | 56.8 12     | 10 S          | 26                                               | 18 49 | 19 16          | 17 43                                             | 52             | 34   | 52   |   |   |  |
| 14  | 28                                                 | 35.6 |                                                   | 31.8                                                                                                                              | 221 | 22.1 <sup>97</sup>                                | 57.9 11     | 20            | 18 44                                            | 19 09 | 19 38          | 18 06                                             | 52             | 4 12 | 51   |   |   |  |
| 15  | 43                                                 | 35.3 |                                                   | 31.5                                                                                                                              | 235 | 50.7 <sup>96</sup>                                | 58.9 10     | 30            | 19 05                                            | 33    | 20 05          | 33 51                                             |                | 3 45 | 51   |   |   |  |
| 16  | 58                                                 | 35.0 |                                                   | 31.2                                                                                                                              | 250 | 19.4 <sup>97</sup>                                | +26 59.7 8  | 35            | 18                                               | 19 47 | 23             | 18 49                                             | 50             | 30   | 51   |   |   |  |
| 17  | 73                                                 | 34.8 | -22                                               | 30.9                                                                                                                              | 264 | 48.0 <sup>96</sup>                                | +27 00.4 7  | 40            | 19 32                                            | 20 04 | 20 45          | 19 07                                             | 50             | 3 12 | 50   |   |   |  |
| 18  | 88                                                 | 34.5 | -22                                               | 30.6                                                                                                                              | 279 | 16.6 <sup>96</sup>                                | +27 01.0 6  | 45            | 19 49                                            | 20 26 | 21 14          | 19 29                                             | 49             | 2 50 | 50   |   |   |  |
| 19  | 103                                                | 34.2 |                                                   | 30.3                                                                                                                              | 293 | 45.1 <sup>95</sup>                                | 01.4 4      | 50            | 20 11                                            | 20 54 | 21 56          | 19 58                                             | 47             | 23   | 49   |   |   |  |
| 20  | 118                                                | 33.9 |                                                   | 30.0                                                                                                                              | 308 | 13.7 <sup>96</sup>                                | 01.7 3      | 52            | 21                                               | 21 08 | 22 20          | 20 11                                             | 47             | 2 10 | 48   |   |   |  |
| 21  | 133                                                | 33.7 |                                                   | 29.7                                                                                                                              | 322 | 42.2 <sup>95</sup>                                | 01.9 2      | 54            | 32                                               | 24    | 22 55          | 27 47                                             |                | 1 54 | 48   |   |   |  |
| 22  | 148                                                | 33.4 |                                                   | 29.4                                                                                                                              | 337 | 10.7 <sup>95</sup>                                | 01.9 0      | 56            | 20 46                                            | 21 45 | ** ** *        | 20 46                                             | 45             | 36   | 47   |   |   |  |
| 23  | 163                                                | 33.1 |                                                   | 29.1                                                                                                                              | 351 | 39.2 <sup>95</sup>                                | 01.8 1      | 58            | 21 01                                            | 22 10 | ** ** *        | 21 10                                             | 43             | 1 14 | 46   |   |   |  |
| 24  | 178                                                | 32.8 | -22                                               | 28.8                                                                                                                              | 6   | 07.7 <sup>95</sup>                                | +27 01.5 3  | 60 S          | 21 20                                            | 22 48 | ** ** *        | 21 41                                             | 39             | 0 46 | 43   |   |   |  |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                   |     | MARTE                                             |             |               | JÚPITER                                          |       |                | SATURNO                                           |                |      |      |   |   |  |
|     | PMG: 16 <sup>h</sup> 57 <sup>m</sup> 5             |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 30 <sup>m</sup> |                                                                                                                                   |     | Mag: +0.3<br>PMG: 17 <sup>h</sup> 44 <sup>m</sup> |             |               | Mag: -2.3<br>PMG: 4 <sup>h</sup> 21 <sup>m</sup> |       |                | Mag: -0.4<br>PMG: 23 <sup>h</sup> 37 <sup>m</sup> |                |      |      |   |   |  |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                               |     | hG ♂                                              | Dec         |               | hG ♃                                             | Dec   |                | hG ♄                                              | Dec            |      |      |   |   |  |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                 | °   | '                                                 | °           | '             | °                                                | '     | °              | '                                                 | °              | '    | °    | ' |   |  |
| 0   | 104                                                | 55.4 | 142                                               | 34.3                                                                                                                              | -16 | 42.5                                              | 93 45.4     | +4 59.3       | 294                                              | 38.8  | +5 31.6        | 4                                                 | 48.6           | +22  | 27.1 |   |   |  |
| 1   | 119                                                | 57.9 | 157                                               | 33.8                                                                                                                              |     | 41.5                                              | 108 46.5    | +4 59.9       | 309                                              | 41.2  | 31.6           | 19                                                | 51.3           |      | 27.1 |   |   |  |
| 2   | 135                                                | 00.4 | 172                                               | 33.2                                                                                                                              |     | 40.5                                              | 123 47.6    | +5 00.6       | 324                                              | 43.7  | 31.6           | 34                                                | 54.0           |      | 27.1 |   |   |  |
| 3   | 150                                                | 02.8 | 187                                               | 32.7                                                                                                                              |     | 39.5                                              | 138 48.6    | 01.2          | 339                                              | 46.2  | 31.7           | 49                                                | 56.7           |      | 27.1 |   |   |  |
| 4   | 165                                                | 05.3 | 202                                               | 32.1                                                                                                                              |     | 38.5                                              | 153 49.7    | 01.9          | 354                                              | 48.7  | 31.7           | 64                                                | 59.4           |      | 27.2 |   |   |  |
| 5   | 180                                                | 07.8 | 217                                               | 31.5                                                                                                                              | -16 | 37.5                                              | 168 50.8    | +5 02.5       | 9                                                | 51.1  | +5 31.7        | 80                                                | 02.1           | +22  | 27.2 |   |   |  |
| 6   | 195                                                | 10.2 | 232                                               | 31.0                                                                                                                              | -16 | 36.5                                              | 183 51.8    | +5 03.2       | 24                                               | 53.6  | +5 31.7        | 95                                                | 04.7           | +22  | 27.2 |   |   |  |
| 7   | 210                                                | 12.7 | 247                                               | 30.4                                                                                                                              |     | 35.5                                              | 198 52.9    | 03.8          | 39                                               | 56.1  | 31.7           | 110                                               | 07.4           |      | 27.2 |   |   |  |
| 8   | 225                                                | 15.1 | 262                                               | 29.9                                                                                                                              |     | 34.5                                              | 213 54.0    | 04.5          | 54                                               | 58.6  | 31.7           | 125                                               | 10.1           |      | 27.2 |   |   |  |
| 9   | 240                                                | 17.6 | 277                                               | 29.3                                                                                                                              |     | 33.5                                              | 228 55.0    | 05.1          | 70                                               | 01.0  | 31.8           | 140                                               | 12.8           |      | 27.3 |   |   |  |
| 10  | 255                                                | 20.1 | 292                                               | 28.8                                                                                                                              |     | 32.5                                              | 243 56.1    | 05.7          | 85                                               | 03.5  | 31.8           | 155                                               | 15.5           |      | 27.3 |   |   |  |
| 11  | 270                                                | 22.5 | 307                                               | 28.2                                                                                                                              | -16 | 31.5                                              | 258 57.2    | +5 06.4       | 100                                              | 06.0  | +5 31.8        | 170                                               | 18.2           | +22  | 27.3 |   |   |  |
| 12  | 285                                                | 25.0 | 322                                               | 27.7                                                                                                                              | -16 | 30.5                                              | 273 58.2    | +5 07.0       | 115                                              | 08.5  | +5 31.8        | 185                                               | 20.8           | +22  | 27.3 |   |   |  |
| 13  | 300                                                | 27.5 | 337                                               | 27.1                                                                                                                              |     | 29.5                                              | 288 59.3    | 07.7          | 130                                              | 10.9  | 31.8           | 200                                               | 23.5           |      | 27.3 |   |   |  |
| 14  | 315                                                | 29.9 | 352                                               | 26.6                                                                                                                              |     | 28.5                                              | 304 00.4    | 08.3          | 145                                              | 13.4  | 31.9           | 215                                               | 26.2           |      | 27.4 |   |   |  |
| 15  | 330                                                | 32.4 | 7                                                 | 26.0                                                                                                                              |     | 27.4                                              | 319 01.4    | 09.0          | 160                                              | 15.9  | 31.9           | 230                                               | 28.9           |      | 27.4 |   |   |  |
| 16  | 345                                                | 34.9 | 22                                                | 25.5                                                                                                                              |     | 26.4                                              | 334 02.5    | 09.6          | 175                                              | 18.4  | 31.9           | 245                                               | 31.6           |      | 27.4 |   |   |  |
| 17  | 0                                                  | 37.3 | 37                                                | 24.9                                                                                                                              | -16 | 25.4                                              | 349 03.6    | +5 10.3       | 190                                              | 20.9  | +5 31.9        | 260                                               | 34.3           | +22  | 27.4 |   |   |  |
| 18  | 15                                                 | 39.8 | 52                                                | 24.4                                                                                                                              | -16 | 24.4                                              | 4 04.6      | +5 10.9       | 205                                              | 23.3  | +5 31.9        | 275                                               | 37.0           | +22  | 27.4 |   |   |  |
| 19  | 30                                                 | 42.2 | 67                                                | 23.8                                                                                                                              |     | 23.4                                              | 19 05.7     | 11.6          | 220                                              | 25.8  | 32.0           | 290                                               | 39.6           |      | 27.5 |   |   |  |
| 20  | 45                                                 | 44.7 | 82                                                | 23.3                                                                                                                              |     | 22.4                                              | 34 06.8     | 12.2          | 235                                              | 28.3  | 32.0           | 305                                               | 42.3           |      | 27.5 |   |   |  |
| 21  | 60                                                 | 47.2 | 97                                                | 22.7                                                                                                                              |     | 21.4                                              | 49 07.8     | 12.9          | 250                                              | 30.8  | 32.0           | 320                                               | 45.0           |      | 27.5 |   |   |  |
| 22  | 75                                                 | 49.6 | 112                                               | 22.2                                                                                                                              |     | 20.4                                              | 64 08.9     | 13.5          | 265                                              | 33.3  | 32.0           | 335                                               | 47.7           |      | 27.5 |   |   |  |
| 23  | 90                                                 | 52.1 | 127                                               | 21.7                                                                                                                              |     | 19.4                                              | 79 10.0     | 14.2          | 280                                              | 35.7  | 32.0           | 350                                               | 50.4           |      | 27.5 |   |   |  |
| 24  | 105                                                | 54.6 | 142                                               | 21.1                                                                                                                              | -16 | 18.4                                              | 94 11.0     | +5 14.8       | 295                                              | 38.2  | +5 32.1        | 5                                                 | 53.1           | +22  | 27.5 |   |   |  |
| Dif | —                                                  |      | -6                                                |                                                                                                                                   | +10 |                                                   | +11         |               | +6                                               |       | +25            |                                                   | 0              |      | +27  |   | 0 |  |

| UT | SOL                                    |      |          | LUNA                                                                                                                                                      |      |          |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |    |
|----|----------------------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|-----|------|---------|--------------------------|-------|---------------|----------------|-------|----------------|----|
|    | SD: 16 <sup>h</sup> 3                  |      |          | Edad: 14 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 6<br>12 <sup>h</sup> : 54 <sup>m</sup> 7<br>20 <sup>h</sup> : 54 <sup>m</sup> 8<br>R°: *** |      |          |     |      |         |                          |       |               |                |       |                |    |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 0 |      |          | SD: 14 <sup>d</sup> 9 PMG: *** **m                                                                                                                        |      |          |     |      |         |                          |       |               |                |       |                |    |
|    | hG ☉                                   |      | Dec      | hG ☾                                                                                                                                                      |      | Dif      | Dec | Dif  |         | Náutico                  | Civil |               | Hora           | R°    | Hora           | R° |
| h  | °                                      | '    | °        | °                                                                                                                                                         | '    | °        | °   | '    | °       | h                        | m     | h             | m              | h     | m              | m  |
| 0  | 178                                    | 32.8 | -22 28.8 | 6                                                                                                                                                         | 07.7 | +27 01.5 | 4   | 60 N | 7 08    | 8 03                     | 8 58  | 14 04         | 79             | 10 00 | 29             |    |
| 1  | 193                                    | 32.6 | 28.5     | 20                                                                                                                                                        | 36.2 | 01.1     | 5   | 58   | 7 01    | 7 52                     | 42    | 33            | 74             | 9 31  | 34             |    |
| 2  | 208                                    | 32.3 | 28.2     | 35                                                                                                                                                        | 04.6 | +27 00.6 | 5   | 56   | 6 54    | 43                       | 29    | 14 55         | 71             | 9 08  | 38             |    |
| 3  | 223                                    | 32.0 | 27.9     | 49                                                                                                                                                        | 33.1 | +26 59.9 | 7   | 54   | 49      | 34                       | 17    | 15 14         | 68             | 8 50  | 40             |    |
| 4  | 238                                    | 31.7 | 27.6     | 64                                                                                                                                                        | 01.5 | 59.1     | 8   | 52   | 44      | 27                       | 8 07  | 29            | 66             | 35    | 41             |    |
| 5  | 253                                    | 31.5 | -22 27.3 | 78                                                                                                                                                        | 30.0 | +26 58.2 | 9   | 50   | 6 39    | 7 20                     | 7 57  | 15 42         | 65             | 8 21  | 42             |    |
| 6  | 268                                    | 31.2 | -22 27.0 | 92                                                                                                                                                        | 58.4 | +26 57.1 | 11  | 45   | 6 28    | 7 05                     | 7 38  | 16 10         | 62             | 7 53  | 45             |    |
| 7  | 283                                    | 30.9 | 26.7     | 107                                                                                                                                                       | 26.8 | 55.9     | 12  | 40   | 18      | 6 52                     | 22    | 31            | 61             | 32    | 46             |    |
| 8  | 298                                    | 30.7 | 26.4     | 121                                                                                                                                                       | 55.2 | 54.6     | 13  | 35   | 09      | 41                       | 7 09  | 16 49         | 59             | 7 13  | 48             |    |
| 9  | 313                                    | 30.4 | 26.1     | 136                                                                                                                                                       | 23.6 | 53.1     | 15  | 30   | 6 01    | 31                       | 6 57  | 17 05         | 57             | 6 58  | 48             |    |
| 10 | 328                                    | 30.1 | 25.8     | 150                                                                                                                                                       | 52.1 | 51.5     | 16  | 20   | 5 45    | 6 13                     | 37    | 31            | 55             | 31    | 50             |    |
| 11 | 343                                    | 29.8 | -22 25.5 | 165                                                                                                                                                       | 20.5 | +26 49.7 | 18  | 10 N | 5 30    | 5 56                     | 6 19  | 17 53         | 54             | 6 09  | 51             |    |
| 12 | 358                                    | 29.6 | -22 25.2 | 179                                                                                                                                                       | 48.9 | +26 47.8 | 19  | 0    | 5 14    | 5 40                     | 6 02  | 18 14         | 52             | 5 47  | 52             |    |
| 13 | 13                                     | 29.3 | 24.8     | 194                                                                                                                                                       | 17.3 | 45.8     | 20  | 10 S | 4 56    | 23                       | 5 46  | 35            | 50             | 26    | 53             |    |
| 14 | 28                                     | 29.0 | 24.5     | 208                                                                                                                                                       | 45.7 | 43.6     | 22  | 20   | 34      | 5 03                     | 27    | 18 58         | 48             | 5 03  | 54             |    |
| 15 | 43                                     | 28.8 | 24.2     | 223                                                                                                                                                       | 14.2 | 41.3     | 23  | 30   | 4 06    | 4 39                     | 5 06  | 19 24         | 46             | 4 36  | 56             |    |
| 16 | 58                                     | 28.5 | 23.9     | 237                                                                                                                                                       | 42.6 | 38.9     | 24  | 35   | 3 49    | 25                       | 4 54  | 39            | 45             | 21    | 56             |    |
| 17 | 73                                     | 28.2 | -22 23.6 | 252                                                                                                                                                       | 11.0 | +26 36.3 | 26  | 40   | 3 27    | 4 07                     | 4 40  | 19 57         | 43             | 4 02  | 58             |    |
| 18 | 88                                     | 28.0 | -22 23.3 | 266                                                                                                                                                       | 39.5 | +26 33.6 | 27  | 45   | 2 58    | 3 46                     | 4 23  | 20 18         | 41             | 3 40  | 59             |    |
| 19 | 103                                    | 27.7 | 23.0     | 281                                                                                                                                                       | 07.9 | 30.7     | 29  | 50   | 2 16    | 18                       | 4 01  | 45            | 38             | 3 12  | 60             |    |
| 20 | 118                                    | 27.4 | 22.6     | 295                                                                                                                                                       | 36.4 | 27.7     | 30  | 52   | 1 52    | 3 04                     | 3 51  | 20 58         | 36             | 2 58  | 61             |    |
| 21 | 133                                    | 27.1 | 22.3     | 310                                                                                                                                                       | 04.9 | 24.6     | 31  | 54   | 1 17    | 2 47                     | 40    | 21 14         | 33             | 42    | 62             |    |
| 22 | 148                                    | 26.9 | 22.0     | 324                                                                                                                                                       | 33.4 | 21.4     | 32  | 56   | ** **   | 27                       | 26    | 31            | 31             | 23    | 64             |    |
| 23 | 163                                    | 26.6 | 21.7     | 339                                                                                                                                                       | 01.9 | 18.0     | 34  | 58   | ** **   | 2 01                     | 3 11  | 21 53         | 26             | 2 00  | 65             |    |
| 24 | 178                                    | 26.3 | -22 21.4 | 353                                                                                                                                                       | 30.4 | +26 14.4 | 36  | 60 S | ** **   | 1 24                     | 2 52  | 22 20         | 21             | 1 29  | 69             |    |

| UT  | ARIES                                 |      | VENUS                                          |      | MARTE                                          |     | JÚPITER                                       |         | SATURNO                                        |      |   |     |  |   |  |
|-----|---------------------------------------|------|------------------------------------------------|------|------------------------------------------------|-----|-----------------------------------------------|---------|------------------------------------------------|------|---|-----|--|---|--|
|     | PMG 16 <sup>h</sup> 53 <sup>m</sup> 6 |      | Mag: -4.0 PMG: 14 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +0.3 PMG: 17 <sup>h</sup> 42 <sup>m</sup> |     | Mag: -2.3 PMG: 4 <sup>h</sup> 17 <sup>m</sup> |         | Mag: -0.4 PMG: 23 <sup>h</sup> 32 <sup>m</sup> |      |   |     |  |   |  |
|     | hG ♈                                  |      | hG ♀                                           |      | hG ♂                                           |     | hG ♃                                          |         | hG ♄                                           |      |   |     |  |   |  |
| h   | °                                     | '    | °                                              | '    | °                                              | '   | °                                             | '       | °                                              | '    |   |     |  |   |  |
| 0   | 105                                   | 54.6 | 142                                            | 21.1 | -16 18.4                                       | 94  | 11.0                                          | +5 14.8 | 295                                            | 38.2 |   |     |  |   |  |
| 1   | 120                                   | 57.0 | 157                                            | 20.6 | 17.3                                           | 109 | 12.1                                          | 15.5    | 310                                            | 40.7 |   |     |  |   |  |
| 2   | 135                                   | 59.5 | 172                                            | 20.0 | 16.3                                           | 124 | 13.1                                          | 16.1    | 325                                            | 43.2 |   |     |  |   |  |
| 3   | 151                                   | 02.0 | 187                                            | 19.5 | 15.3                                           | 139 | 14.2                                          | 16.8    | 340                                            | 45.7 |   |     |  |   |  |
| 4   | 166                                   | 04.4 | 202                                            | 18.9 | 14.3                                           | 154 | 15.3                                          | 17.4    | 355                                            | 48.2 |   |     |  |   |  |
| 5   | 181                                   | 06.9 | 217                                            | 18.4 | -16 13.3                                       | 169 | 16.3                                          | +5 18.0 | 10                                             | 50.6 |   |     |  |   |  |
| 6   | 196                                   | 09.4 | 232                                            | 17.9 | -16 12.3                                       | 184 | 17.4                                          | +5 18.7 | 25                                             | 53.1 |   |     |  |   |  |
| 7   | 211                                   | 11.8 | 247                                            | 17.3 | 11.2                                           | 199 | 18.5                                          | 19.3    | 40                                             | 55.6 |   |     |  |   |  |
| 8   | 226                                   | 14.3 | 262                                            | 16.8 | 10.2                                           | 214 | 19.5                                          | 20.0    | 55                                             | 58.1 |   |     |  |   |  |
| 9   | 241                                   | 16.7 | 277                                            | 16.2 | 09.2                                           | 229 | 20.6                                          | 20.6    | 71                                             | 00.6 |   |     |  |   |  |
| 10  | 256                                   | 19.2 | 292                                            | 15.7 | 08.2                                           | 244 | 21.7                                          | 21.3    | 86                                             | 03.1 |   |     |  |   |  |
| 11  | 271                                   | 21.7 | 307                                            | 15.2 | -16 07.2                                       | 259 | 22.7                                          | +5 21.9 | 101                                            | 05.5 |   |     |  |   |  |
| 12  | 286                                   | 24.1 | 322                                            | 14.6 | -16 06.1                                       | 274 | 23.8                                          | +5 22.6 | 116                                            | 08.0 |   |     |  |   |  |
| 13  | 301                                   | 26.6 | 337                                            | 14.1 | 05.1                                           | 289 | 24.9                                          | 23.2    | 131                                            | 10.5 |   |     |  |   |  |
| 14  | 316                                   | 29.1 | 352                                            | 13.6 | 04.1                                           | 304 | 25.9                                          | 23.9    | 146                                            | 13.0 |   |     |  |   |  |
| 15  | 331                                   | 31.5 | 7                                              | 13.0 | 03.1                                           | 319 | 27.0                                          | 24.5    | 161                                            | 15.5 |   |     |  |   |  |
| 16  | 346                                   | 34.0 | 22                                             | 12.5 | 02.0                                           | 334 | 28.0                                          | 25.2    | 176                                            | 18.0 |   |     |  |   |  |
| 17  | 1                                     | 36.5 | 37                                             | 12.0 | -16 01.0                                       | 349 | 29.1                                          | +5 25.8 | 191                                            | 20.5 |   |     |  |   |  |
| 18  | 16                                    | 38.9 | 52                                             | 11.4 | -16 00.0                                       | 4   | 30.2                                          | +5 26.4 | 206                                            | 23.0 |   |     |  |   |  |
| 19  | 31                                    | 41.4 | 67                                             | 10.9 | -15 59.0                                       | 19  | 31.2                                          | 27.1    | 221                                            | 25.4 |   |     |  |   |  |
| 20  | 46                                    | 43.9 | 82                                             | 10.4 | 57.9                                           | 34  | 32.3                                          | 27.7    | 236                                            | 27.9 |   |     |  |   |  |
| 21  | 61                                    | 46.3 | 97                                             | 09.8 | 56.9                                           | 49  | 33.3                                          | 28.4    | 251                                            | 30.4 |   |     |  |   |  |
| 22  | 76                                    | 48.8 | 112                                            | 09.3 | 55.9                                           | 64  | 34.4                                          | 29.0    | 266                                            | 32.9 |   |     |  |   |  |
| 23  | 91                                    | 51.2 | 127                                            | 08.8 | 54.8                                           | 79  | 35.5                                          | 29.7    | 281                                            | 35.4 |   |     |  |   |  |
| 24  | 106                                   | 53.7 | 142                                            | 08.2 | -15 53.8                                       | 94  | 36.5                                          | +5 30.3 | 296                                            | 37.9 |   |     |  |   |  |
| Dif | —                                     |      | -5                                             |      | +10                                            | +11 |                                               | +6      | +25                                            |      | 0 | +27 |  | 0 |  |

| UT  | SOL                                                |      |                                                   | ☉ LUNA                                                                                                                                                                            |                                                   |      | Latitud                                          | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |             | Puesta de Luna |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|--------------------------------------------------|---------------|---------------------------------------------------|-------|----------------|-------------|----------------|----------|
|     | SD: 16'3<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |                                                   | Edad: 15 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 55'0<br>12 <sup>h</sup> : 55'1<br>20 <sup>h</sup> : 55'2<br>SD: 15'0<br>PMG: 0 <sup>h</sup> 27 <sup>m</sup> R°: 52 <sup>m</sup> |                                                   |      |                                                  |               |                                                   |       |                |             |                |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                              | Dif                                               | Dec  |                                                  |               | Dif                                               | Civil | Náutico        | Hora        | R°             | Hora     |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                 | °                                                 | '    | °                                                | '             | h m                                               | h m   | h m            | h m m       | h m m          | h m m    |
| 0   | 178                                                | 26.3 | -22                                               | 21.4                                                                                                                                                                              | 353                                               | 30.4 | +26                                              | 14.4          | 60 N                                              | 15 16 | 16 11          | 17 06       | 15 23 91       | 10 29 15 |
| 1   | 193                                                | 26.1 |                                                   | 21.0                                                                                                                                                                              | 7                                                 | 58.9 | 95                                               | 10.8          | 58                                                | 32    | 22             | 13          | 15 47 84       | 10 05 21 |
| 2   | 208                                                | 25.8 |                                                   | 20.7                                                                                                                                                                              | 22                                                | 27.5 | 96                                               | 07.0          | 56                                                | 45    | 31             | 19          | 16 06 80       | 9 46 25  |
| 3   | 223                                                | 25.5 |                                                   | 20.4                                                                                                                                                                              | 36                                                | 56.1 | 96                                               | +26           | 03.0                                              | 54    | 15 57          | 39 25       | 22 76          | 30 28    |
| 4   | 238                                                | 25.3 |                                                   | 20.1                                                                                                                                                                              | 51                                                | 24.7 | 96                                               | +25           | 59.0                                              | 52    | 16 07          | 47 30       | 35 74          | 16 30    |
| 5   | 253                                                | 25.0 | -22                                               | 19.7                                                                                                                                                                              | 65                                                | 53.3 | 96                                               | +25           | 54.8                                              | 50    | 16 16          | 16 54 17 35 | 16 47 72       | 9 03 33  |
| 6   | 268                                                | 24.7 | -22                                               | 19.4                                                                                                                                                                              | 80                                                | 21.9 | 96                                               | +25           | 50.4                                              | 45    | 16 35          | 17 09 17 46 | 17 12 67       | 8 38 37  |
| 7   | 283                                                | 24.5 |                                                   | 19.1                                                                                                                                                                              | 94                                                | 50.6 | 97                                               | 45.9          | 45                                                | 40    | 16 51          | 21 17 55    | 32 64          | 18 39    |
| 8   | 298                                                | 24.2 |                                                   | 18.8                                                                                                                                                                              | 109                                               | 19.3 | 97                                               | 41.3          | 46                                                | 35    | 17 04          | 32 18 04    | 17 48 62       | 8 01 42  |
| 9   | 313                                                | 23.9 |                                                   | 18.4                                                                                                                                                                              | 123                                               | 48.0 | 97                                               | 36.6          | 47                                                | 30    | 16             | 17 42 12    | 18 02 60       | 7 46 44  |
| 10  | 328                                                | 23.7 |                                                   | 18.1                                                                                                                                                                              | 138                                               | 16.8 | 98                                               | 31.7          | 49                                                | 20    | 36             | 18 00 27    | 26 56          | 21 47    |
| 11  | 343                                                | 23.4 | -22                                               | 17.8                                                                                                                                                                              | 152                                               | 45.5 | 97                                               | +25           | 26.7                                              | 10 N  | 17 54          | 18 16 18 42 | 18 47 53       | 7 00 49  |
| 12  | 358                                                | 23.1 | -22                                               | 17.5                                                                                                                                                                              | 167                                               | 14.3 | 98                                               | +25           | 21.6                                              | 0     | 18 10          | 18 33 18 59 | 19 06 51       | 6 39 52  |
| 13  | 13                                                 | 22.9 |                                                   | 17.1                                                                                                                                                                              | 181                                               | 43.2 | 99                                               | 16.3          | 53                                                | 10 S  | 27             | 18 50 19 16 | 25 48          | 6 19 54  |
| 14  | 28                                                 | 22.6 |                                                   | 16.8                                                                                                                                                                              | 196                                               | 12.0 | 98                                               | 10.9          | 54                                                | 20    | 18 45          | 19 09 19 38 | 19 46 45       | 5 57 56  |
| 15  | 43                                                 | 22.3 |                                                   | 16.5                                                                                                                                                                              | 210                                               | 40.9 | 99                                               | +25           | 05.4                                              | 30    | 19 06          | 33 20 05    | 20 10 41       | 32 59    |
| 16  | 58                                                 | 22.1 |                                                   | 16.1                                                                                                                                                                              | 225                                               | 09.9 | 100                                              | +24           | 59.8                                              | 35    | 18             | 19 47 23    | 24 39          | 17 60    |
| 17  | 73                                                 | 21.8 | -22                                               | 15.8                                                                                                                                                                              | 239                                               | 38.8 | 99                                               | +24           | 54.0                                              | 40    | 19 32          | 20 04 20 45 | 20 40 36       | 5 00 62  |
| 18  | 88                                                 | 21.6 | -22                                               | 15.5                                                                                                                                                                              | 254                                               | 07.8 | 100                                              | +24           | 48.1                                              | 45    | 19 49          | 20 25 21 13 | 20 59 33       | 4 39 65  |
| 19  | 103                                                | 21.3 |                                                   | 15.1                                                                                                                                                                              | 268                                               | 36.8 | 100                                              | 42.1          | 60                                                | 50    | 20 10          | 20 53 21 54 | 21 23 28       | 4 12 69  |
| 20  | 118                                                | 21.0 |                                                   | 14.8                                                                                                                                                                              | 283                                               | 05.9 | 101                                              | 35.9          | 62                                                | 52    | 20             | 21 07 22 17 | 34 26          | 3 59 71  |
| 21  | 133                                                | 20.8 |                                                   | 14.5                                                                                                                                                                              | 297                                               | 35.0 | 101                                              | 29.6          | 63                                                | 54    | 31             | 23 22 50    | 21 47 24       | 44 73    |
| 22  | 148                                                | 20.5 |                                                   | 14.1                                                                                                                                                                              | 312                                               | 04.1 | 101                                              | 23.2          | 64                                                | 56    | 44             | 21 42 ** ** | 22 02 20       | 27 76    |
| 23  | 163                                                | 20.2 |                                                   | 13.8                                                                                                                                                                              | 326                                               | 33.3 | 102                                              | 16.6          | 66                                                | 58    | 20 59          | 22 07 ** ** | 19 16          | 3 05 81  |
| 24  | 178                                                | 20.0 | -22                                               | 13.4                                                                                                                                                                              | 341                                               | 02.5 | 102                                              | +24           | 10.0                                              | 60 S  | 21 17          | 22 43 ** ** | 22 41 10       | 2 38 87  |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                   | MARTE                                             |      | JÚPITER                                          |               | SATURNO                                           |       |                |             |                |          |
|     | PMG: 16 <sup>h</sup> 49 <sup>m</sup> 7             |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 32 <sup>m</sup> |                                                                                                                                                                                   | Mag: +0.4<br>PMG: 17 <sup>h</sup> 40 <sup>m</sup> |      | Mag: -2.3<br>PMG: 4 <sup>h</sup> 13 <sup>m</sup> |               | Mag: -0.4<br>PMG: 23 <sup>h</sup> 28 <sup>m</sup> |       |                |             |                |          |
|     | hG ♈                                               |      | hG ♀                                              |                                                                                                                                                                                   | hG ♂                                              |      | hG ♃                                             |               | hG ♄                                              |       |                |             |                |          |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                 | °                                                 | '    | °                                                | '             | °                                                 | '     |                |             |                |          |
| 0   | 106                                                | 53.7 | 142                                               | 08.2                                                                                                                                                                              | -15                                               | 53.8 | 94                                               | 36.5          | +5                                                | 30.3  |                |             |                |          |
| 1   | 121                                                | 56.2 | 157                                               | 07.7                                                                                                                                                                              |                                                   | 52.8 | 109                                              | 37.6          |                                                   | 31.0  |                |             |                |          |
| 2   | 136                                                | 58.6 | 172                                               | 07.2                                                                                                                                                                              |                                                   | 51.7 | 124                                              | 38.7          |                                                   | 31.6  |                |             |                |          |
| 3   | 152                                                | 01.1 | 187                                               | 06.7                                                                                                                                                                              |                                                   | 50.7 | 139                                              | 39.7          |                                                   | 32.3  |                |             |                |          |
| 4   | 167                                                | 03.6 | 202                                               | 06.1                                                                                                                                                                              |                                                   | 49.7 | 154                                              | 40.8          |                                                   | 32.9  |                |             |                |          |
| 5   | 182                                                | 06.0 | 217                                               | 05.6                                                                                                                                                                              | -15                                               | 48.6 | 169                                              | 41.8          | +5                                                | 33.6  |                |             |                |          |
| 6   | 197                                                | 08.5 | 232                                               | 05.1                                                                                                                                                                              | -15                                               | 47.6 | 184                                              | 42.9          | +5                                                | 34.2  |                |             |                |          |
| 7   | 212                                                | 11.0 | 247                                               | 04.6                                                                                                                                                                              |                                                   | 46.6 | 199                                              | 44.0          |                                                   | 34.8  |                |             |                |          |
| 8   | 227                                                | 13.4 | 262                                               | 04.0                                                                                                                                                                              |                                                   | 45.5 | 214                                              | 45.0          |                                                   | 35.5  |                |             |                |          |
| 9   | 242                                                | 15.9 | 277                                               | 03.5                                                                                                                                                                              |                                                   | 44.5 | 229                                              | 46.1          |                                                   | 36.1  |                |             |                |          |
| 10  | 257                                                | 18.4 | 292                                               | 03.0                                                                                                                                                                              |                                                   | 43.5 | 244                                              | 47.1          |                                                   | 36.8  |                |             |                |          |
| 11  | 272                                                | 20.8 | 307                                               | 02.5                                                                                                                                                                              | -15                                               | 42.4 | 259                                              | 48.2          | +5                                                | 37.4  |                |             |                |          |
| 12  | 287                                                | 23.3 | 322                                               | 02.0                                                                                                                                                                              | -15                                               | 41.4 | 274                                              | 49.2          | +5                                                | 38.1  |                |             |                |          |
| 13  | 302                                                | 25.7 | 337                                               | 01.4                                                                                                                                                                              |                                                   | 40.3 | 289                                              | 50.3          |                                                   | 38.7  |                |             |                |          |
| 14  | 317                                                | 28.2 | 352                                               | 00.9                                                                                                                                                                              |                                                   | 39.3 | 304                                              | 51.4          |                                                   | 39.4  |                |             |                |          |
| 15  | 332                                                | 30.7 | 7                                                 | 00.4                                                                                                                                                                              |                                                   | 38.3 | 319                                              | 52.4          |                                                   | 40.0  |                |             |                |          |
| 16  | 347                                                | 33.1 | 21                                                | 59.9                                                                                                                                                                              |                                                   | 37.2 | 334                                              | 53.5          |                                                   | 40.7  |                |             |                |          |
| 17  | 2                                                  | 35.6 | 36                                                | 59.4                                                                                                                                                                              | -15                                               | 36.2 | 349                                              | 54.5          | +5                                                | 41.3  |                |             |                |          |
| 18  | 17                                                 | 38.1 | 51                                                | 58.8                                                                                                                                                                              | -15                                               | 35.1 | 4                                                | 55.6          | +5                                                | 41.9  |                |             |                |          |
| 19  | 32                                                 | 40.5 | 66                                                | 58.3                                                                                                                                                                              |                                                   | 34.1 | 19                                               | 56.7          |                                                   | 42.6  |                |             |                |          |
| 20  | 47                                                 | 43.0 | 81                                                | 57.8                                                                                                                                                                              |                                                   | 33.0 | 34                                               | 57.7          |                                                   | 43.2  |                |             |                |          |
| 21  | 62                                                 | 45.5 | 96                                                | 57.3                                                                                                                                                                              |                                                   | 32.0 | 49                                               | 58.8          |                                                   | 43.9  |                |             |                |          |
| 22  | 77                                                 | 47.9 | 111                                               | 56.8                                                                                                                                                                              |                                                   | 31.0 | 64                                               | 59.8          |                                                   | 44.5  |                |             |                |          |
| 23  | 92                                                 | 50.4 | 126                                               | 56.3                                                                                                                                                                              |                                                   | 29.9 | 80                                               | 00.9          |                                                   | 45.2  |                |             |                |          |
| 24  | 107                                                | 52.9 | 141                                               | 55.7                                                                                                                                                                              | -15                                               | 28.9 | 95                                               | 01.9          | +5                                                | 45.8  |                |             |                |          |
| Dif | —                                                  |      | -5                                                |                                                                                                                                                                                   | +10                                               |      | +11                                              |               | +6                                                |       |                |             |                |          |
|     |                                                    |      |                                                   |                                                                                                                                                                                   |                                                   |      |                                                  |               | +25                                               |       |                |             |                |          |
|     |                                                    |      |                                                   |                                                                                                                                                                                   |                                                   |      |                                                  |               | 0                                                 |       |                |             |                |          |
|     |                                                    |      |                                                   |                                                                                                                                                                                   |                                                   |      |                                                  |               | +27                                               |       |                |             |                |          |
|     |                                                    |      |                                                   |                                                                                                                                                                                   |                                                   |      |                                                  |               | 0                                                 |       |                |             |                |          |

| UT  | SOL                                                             |      |     |      | LUNA                                                                                                                                                                                                                               |                     |     |      |                                                   |      | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |       |                                                   | Puesta de Luna |      |      |   |
|-----|-----------------------------------------------------------------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|------|---------------------------------------------------|------|---------|--------------------------|--------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|----------------|------|------|---|
|     | SD: 16 <sup>h</sup> 3<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 9 |      |     |      | Edad: 16 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 55 <sup>m</sup> 4<br>12 <sup>h</sup> : 55 <sup>m</sup> 5<br>20 <sup>h</sup> : 55 <sup>m</sup> 6<br>SD: 15 <sup>d</sup> 1<br>PMG: 1 <sup>h</sup> 19 <sup>m</sup> R°: 49 <sup>m</sup> |                     |     |      |                                                   |      |         |                          |                                                  |               |                |       |                                                   |                |      |      |   |
|     | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                                               |                     | Dif |      | Dec                                               |      |         | Dif                      |                                                  |               | Náutico        | Civil | Hora                                              | R°             | Hora | R°   |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                                                  | '                   | °   | '    | °                                                 | '    | °       | '                        | h                                                | m             | h              | m     | h                                                 | m              | h    | m    | m |
| 0   | 178                                                             | 20.0 | -22 | 13.4 | 341                                                                                                                                                                                                                                | 02.5                | +24 | 10.0 | 68                                                | 58   | 60 N    | 7 06                     | 8 02                                             | 8 56          | 16 54          | 93    | 10 44                                             | 8              |      |      |   |
| 1   | 193                                                             | 19.7 |     | 13.1 | 355                                                                                                                                                                                                                                | 31.8 <sup>103</sup> | +24 | 03.2 | 69                                                | 58   |         | 7 00                     | 7 51                                             | 41            | 17 11          | 88    | 26                                                | 13             |      |      |   |
| 2   | 208                                                             | 19.4 |     | 12.8 | 10                                                                                                                                                                                                                                 | 01.1 <sup>103</sup> | +23 | 56.3 | 71                                                | 56   |         | 6 54                     | 42                                               | 28            | 26             | 83    | 10 11                                             | 17             |      |      |   |
| 3   | 223                                                             | 19.2 |     | 12.4 | 24                                                                                                                                                                                                                                 | 30.4 <sup>103</sup> |     | 49.2 | 71                                                | 54   |         | 48                       | 33                                               | 16            | 38             | 81    | 9 58                                              | 20             |      |      |   |
| 4   | 238                                                             | 18.9 |     | 12.1 | 38                                                                                                                                                                                                                                 | 59.8 <sup>104</sup> |     | 42.1 | 71                                                | 52   |         | 43                       | 26                                               | 8 06          | 49             | 78    | 46                                                | 23             |      |      |   |
| 5   | 253                                                             | 18.7 | -22 | 11.7 | 53                                                                                                                                                                                                                                 | 29.2 <sup>104</sup> | +23 | 34.8 | 73                                                | 50   |         | 6 38                     | 7 19                                             | 7 57          | 17 59          | 75    | 9 36                                              | 25             |      |      |   |
| 6   | 268                                                             | 18.4 | -22 | 11.4 | 67                                                                                                                                                                                                                                 | 58.7 <sup>105</sup> | +23 | 27.4 | 74                                                | 45   |         | 6 28                     | 7 04                                             | 7 37          | 18 19          | 70    | 9 15                                              | 30             |      |      |   |
| 7   | 283                                                             | 18.1 |     | 11.0 | 82                                                                                                                                                                                                                                 | 28.2 <sup>105</sup> |     | 19.9 | 75                                                | 40   |         | 18                       | 6 52                                             | 22            | 36             | 66    | 8 57                                              | 34             |      |      |   |
| 8   | 298                                                             | 17.9 |     | 10.7 | 96                                                                                                                                                                                                                                 | 57.7 <sup>105</sup> |     | 12.2 | 77                                                | 35   |         | 09                       | 41                                               | 7 09          | 18 50          | 63    | 43                                                | 36             |      |      |   |
| 9   | 313                                                             | 17.6 |     | 10.4 | 111                                                                                                                                                                                                                                | 27.3 <sup>106</sup> | +23 | 04.5 | 77                                                | 30   |         | 6 01                     | 31                                               | 6 57          | 19 02          | 60    | 30                                                | 38             |      |      |   |
| 10  | 328                                                             | 17.4 |     | 10.0 | 125                                                                                                                                                                                                                                | 57.0 <sup>107</sup> | +22 | 56.6 | 79                                                | 20   |         | 5 46                     | 6 13                                             | 37            | 22             | 56    | 8 08                                              | 43             |      |      |   |
| 11  | 343                                                             | 17.1 | -22 | 09.7 | 140                                                                                                                                                                                                                                | 26.6 <sup>106</sup> | +22 | 48.6 | 80                                                | 10 N |         | 5 31                     | 5 57                                             | 6 20          | 19 40          | 52    | 7 49                                              | 46             |      |      |   |
| 12  | 358                                                             | 16.8 | -22 | 09.3 | 154                                                                                                                                                                                                                                | 56.4 <sup>108</sup> | +22 | 40.5 | 81                                                | 0    |         | 5 15                     | 5 41                                             | 6 03          | 19 57          | 48    | 7 31                                              | 49             |      |      |   |
| 13  | 13                                                              | 16.6 |     | 09.0 | 169                                                                                                                                                                                                                                | 26.1 <sup>107</sup> |     | 32.3 | 82                                                | 10 S |         | 4 57                     | 24                                               | 5 47          | 20 13          | 45    | 7 13                                              | 52             |      |      |   |
| 14  | 28                                                              | 16.3 |     | 08.6 | 183                                                                                                                                                                                                                                | 56.0 <sup>109</sup> |     | 23.9 | 84                                                | 20   |         | 36                       | 5 04                                             | 29            | 31             | 41    | 6 53                                              | 56             |      |      |   |
| 15  | 43                                                              | 16.1 |     | 08.3 | 198                                                                                                                                                                                                                                | 25.8 <sup>108</sup> |     | 15.5 | 84                                                | 30   |         | 4 08                     | 4 41                                             | 5 08          | 20 51          | 36    | 31                                                | 60             |      |      |   |
| 16  | 58                                                              | 15.8 |     | 07.9 | 212                                                                                                                                                                                                                                | 55.7 <sup>109</sup> | +22 | 06.9 | 86                                                | 35   |         | 3 51                     | 27                                               | 4 56          | 21 03          | 34    | 17                                                | 63             |      |      |   |
| 17  | 73                                                              | 15.5 | -22 | 07.6 | 227                                                                                                                                                                                                                                | 25.7 <sup>110</sup> | +21 | 58.2 | 87                                                | 40   |         | 3 29                     | 4 09                                             | 4 42          | 21 16          | 31    | 6 02                                              | 66             |      |      |   |
| 18  | 88                                                              | 15.3 | -22 | 07.2 | 241                                                                                                                                                                                                                                | 55.7 <sup>110</sup> | +21 | 49.4 | 88                                                | 45   |         | 3 01                     | 3 48                                             | 4 25          | 21 32          | 27    | 5 44                                              | 69             |      |      |   |
| 19  | 103                                                             | 15.0 |     | 06.9 | 256                                                                                                                                                                                                                                | 25.8 <sup>111</sup> |     | 40.5 | 89                                                | 50   |         | 2 20                     | 21                                               | 4 04          | 21 51          | 23    | 21                                                | 74             |      |      |   |
| 20  | 118                                                             | 14.8 |     | 06.5 | 270                                                                                                                                                                                                                                | 55.9 <sup>111</sup> |     | 31.5 | 90                                                | 52   |         | 1 56                     | 3 07                                             | 3 54          | 22 00          | 20    | 5 10                                              | 76             |      |      |   |
| 21  | 133                                                             | 14.5 |     | 06.2 | 285                                                                                                                                                                                                                                | 26.0 <sup>111</sup> |     | 22.4 | 91                                                | 54   |         | 1 24                     | 2 51                                             | 43            | 11 17          |       | 4 57                                              | 79             |      |      |   |
| 22  | 148                                                             | 14.2 |     | 05.8 | 299                                                                                                                                                                                                                                | 56.2 <sup>112</sup> |     | 13.1 | 93                                                | 56   |         | ** ** *                  | 31                                               | 30            | 22 14          |       | 43                                                | 82             |      |      |   |
| 23  | 163                                                             | 14.0 |     | 05.4 | 314                                                                                                                                                                                                                                | 26.5 <sup>113</sup> | +21 | 03.8 | 93                                                | 58   |         | ** ** *                  | 2 06                                             | 3 14          | 35 11          |       | 26                                                | 87             |      |      |   |
| 24  | 178                                                             | 13.7 | -22 | 05.1 | 328                                                                                                                                                                                                                                | 56.8 <sup>113</sup> | +20 | 54.3 | 95                                                | 60 S |         | ** ** *                  | 1 31                                             | 2 56          | 22 51          | 5     | 4 05                                              | 93             |      |      |   |
| UT  | ARIES                                                           |      |     |      | VENUS                                                                                                                                                                                                                              |                     |     |      | MARTE                                             |      |         |                          | JÚPITER                                          |               |                |       | SATURNO                                           |                |      |      |   |
|     | PMG: 16 <sup>h</sup> 45 <sup>m</sup> 7                          |      |     |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 33 <sup>m</sup>                                                                                                                                                                                  |                     |     |      | Mag: +0.4<br>PMG: 17 <sup>h</sup> 39 <sup>m</sup> |      |         |                          | Mag: -2.3<br>PMG: 4 <sup>h</sup> 09 <sup>m</sup> |               |                |       | Mag: -0.4<br>PMG: 23 <sup>h</sup> 24 <sup>m</sup> |                |      |      |   |
|     | hG ♈                                                            |      | Dec |      | hG ♀                                                                                                                                                                                                                               |                     | Dec |      | hG ♂                                              |      | Dec     |                          | hG ♃                                             |               | Dec            |       | hG ♄                                              |                | Dec  |      |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                                                  | '                   | °   | '    | °                                                 | '    | °       | '                        | °                                                | '             | °              | '     | °                                                 | '              | °    | '    |   |
| 0   | 107                                                             | 52.9 |     |      | 141                                                                                                                                                                                                                                | 55.7                | -15 | 28.9 | 95                                                | 01.9 | +5      | 45.8                     | 297                                              | 37.7          | +5             | 33.2  | 8                                                 | 01.9           | +22  | 28.5 |   |
| 1   | 122                                                             | 55.3 |     |      | 156                                                                                                                                                                                                                                | 55.2                |     | 27.8 | 110                                               | 03.0 |         | 46.5                     | 312                                              | 40.2          |                | 33.2  | 23                                                | 04.5           |      | 28.5 |   |
| 2   | 137                                                             | 57.8 |     |      | 171                                                                                                                                                                                                                                | 54.7                |     | 26.8 | 125                                               | 04.1 |         | 47.1                     | 327                                              | 42.7          |                | 33.2  | 38                                                | 07.2           |      | 28.5 |   |
| 3   | 153                                                             | 00.2 |     |      | 186                                                                                                                                                                                                                                | 54.2                |     | 25.7 | 140                                               | 05.1 |         | 47.8                     | 342                                              | 45.2          |                | 33.2  | 53                                                | 09.9           |      | 28.5 |   |
| 4   | 168                                                             | 02.7 |     |      | 201                                                                                                                                                                                                                                | 53.7                |     | 24.7 | 155                                               | 06.2 |         | 48.4                     | 357                                              | 47.7          |                | 33.3  | 68                                                | 12.6           |      | 28.5 |   |
| 5   | 183                                                             | 05.2 |     |      | 216                                                                                                                                                                                                                                | 53.2                | -15 | 23.6 | 170                                               | 07.2 | +5      | 49.0                     | 12                                               | 50.2          | +5             | 33.3  | 83                                                | 15.3           | +22  | 28.5 |   |
| 6   | 198                                                             | 07.6 |     |      | 231                                                                                                                                                                                                                                | 52.7                | -15 | 22.6 | 185                                               | 08.3 | +5      | 49.7                     | 27                                               | 52.7          | +5             | 33.3  | 98                                                | 18.0           | +22  | 28.6 |   |
| 7   | 213                                                             | 10.1 |     |      | 246                                                                                                                                                                                                                                | 52.2                |     | 21.5 | 200                                               | 09.3 |         | 50.3                     | 42                                               | 55.2          |                | 33.4  | 113                                               | 20.6           |      | 28.6 |   |
| 8   | 228                                                             | 12.6 |     |      | 261                                                                                                                                                                                                                                | 51.7                |     | 20.4 | 215                                               | 10.4 |         | 51.0                     | 57                                               | 57.7          |                | 33.4  | 128                                               | 23.3           |      | 28.6 |   |
| 9   | 243                                                             | 15.0 |     |      | 276                                                                                                                                                                                                                                | 51.1                |     | 19.4 | 230                                               | 11.4 |         | 51.6                     | 73                                               | 00.2          |                | 33.4  | 143                                               | 26.0           |      | 28.6 |   |
| 10  | 258                                                             | 17.5 |     |      | 291                                                                                                                                                                                                                                | 50.6                |     | 18.3 | 245                                               | 12.5 |         | 52.3                     | 88                                               | 02.7          |                | 33.4  | 158                                               | 28.7           |      | 28.6 |   |
| 11  | 273                                                             | 20.0 |     |      | 306                                                                                                                                                                                                                                | 50.1                | -15 | 17.3 | 260                                               | 13.6 | +5      | 52.9                     | 103                                              | 05.2          | +5             | 33.5  | 173                                               | 31.4           | +22  | 28.7 |   |
| 12  | 288                                                             | 22.4 |     |      | 321                                                                                                                                                                                                                                | 49.6                | -15 | 16.2 | 275                                               | 14.6 | +5      | 53.6                     | 118                                              | 07.7          | +5             | 33.5  | 188                                               | 34.0           | +22  | 28.7 |   |
| 13  | 303                                                             | 24.9 |     |      | 336                                                                                                                                                                                                                                | 49.1                |     | 15.2 | 290                                               | 15.7 |         | 54.2                     | 133                                              | 10.2          |                | 33.5  | 203                                               | 36.7           |      | 28.7 |   |
| 14  | 318                                                             | 27.3 |     |      | 351                                                                                                                                                                                                                                | 48.6                |     | 14.1 | 305                                               | 16.7 |         | 54.8                     | 148                                              | 12.7          |                | 33.5  | 218                                               | 39.4           |      | 28.7 |   |
| 15  | 333                                                             | 29.8 |     |      | 6                                                                                                                                                                                                                                  | 48.1                |     | 13.1 | 320                                               | 17.8 |         | 55.5                     | 163                                              | 15.2          |                | 33.6  | 233                                               | 42.1           |      | 28.7 |   |
| 16  | 348                                                             | 32.3 |     |      | 21                                                                                                                                                                                                                                 | 47.6                |     | 12.0 | 335                                               | 18.8 |         | 56.1                     | 178                                              | 17.7          |                | 33.6  | 248                                               | 44.8           |      | 28.8 |   |
| 17  | 3                                                               | 34.7 |     |      | 36                                                                                                                                                                                                                                 | 47.1                | -15 | 10.9 | 350                                               | 19.9 | +5      | 56.8                     | 193                                              | 20.2          | +5             | 33.6  | 263                                               | 47.5           | +22  | 28.8 |   |
| 18  | 18                                                              | 37.2 |     |      | 51                                                                                                                                                                                                                                 | 46.6                | -15 | 09.9 | 5                                                 | 20.9 | +5      | 57.4                     | 208                                              | 22.7          | +5             | 33.7  | 278                                               | 50.1           | +22  | 28.8 |   |
| 19  | 33                                                              | 39.7 |     |      | 66                                                                                                                                                                                                                                 | 46.1                |     | 08.8 | 20                                                | 22.0 |         | 58.1                     | 223                                              | 25.2          |                | 33.7  | 293                                               | 52.8           |      | 28.8 |   |
| 20  | 48                                                              | 42.1 |     |      | 81                                                                                                                                                                                                                                 | 45.6                |     | 07.7 | 35                                                | 23.0 |         | 58.7                     | 238                                              | 27.7          |                | 33.7  | 308                                               | 55.5           |      | 28.8 |   |
| 21  | 63                                                              | 44.6 |     |      | 96                                                                                                                                                                                                                                 | 45.1                |     | 06.7 | 50                                                | 24.1 | +5      | 59.4                     | 253                                              | 30.2          |                | 33.8  | 323                                               | 58.2           |      | 28.8 |   |
| 22  | 78                                                              | 47.1 |     |      | 111                                                                                                                                                                                                                                | 44.6                |     | 05.6 | 65                                                | 25.2 | +6      | 00.0                     | 268                                              | 32.7          |                | 33.8  | 339                                               | 00.9           |      | 28.9 |   |
| 23  | 93                                                              | 49.5 |     |      | 126                                                                                                                                                                                                                                | 44.1                |     | 04.6 | 80                                                | 26.2 | +6      | 00.6                     | 283                                              | 35.2          |                | 33.8  | 354                                               | 03.5           |      | 28.9 |   |
| 24  | 108                                                             | 52.0 |     |      | 141                                                                                                                                                                                                                                | 43.6                | -15 | 03.5 | 95                                                | 27.3 | +6      | 01.3                     | 298                                              | 37.7          | +5             | 33.8  | 9                                                 | 06.2           | +22  | 28.9 |   |
| Dif | —                                                               |      | -5  |      | +11                                                                                                                                                                                                                                |                     |     |      | +11                                               |      | +6      |                          | +25                                              |               | 0              |       | +27                                               |                | 0    |      |   |

| UT | SOL                                                |      |          | LUNA                                                                                                                                                                           |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |          | Puesta de Luna |    |
|----|----------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|-------|---------|----------------|----------|----------------|----|
|    | SD: 16:3<br>PMG: 12 <sup>h</sup> 07 <sup>m</sup> 3 |      |          | Edad: 17 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 55'8<br>12 <sup>h</sup> : 55'9<br>20 <sup>h</sup> : 56'1<br>SD: 15'2<br>PMG: 2 <sup>h</sup> 08 <sup>m</sup> R°: 48 <sup>m</sup> |                     |                         |         |               |                      |       |         |                |          |                |    |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                                                                           | Dif                 | Dec                     |         |               | Dif                  | Civil | Náutico | Hora           | R°       | Hora           | R° |
| h  | °                                                  | '    | °        | °                                                                                                                                                                              | '                   | °                       | '       | °             | h m                  | h m   | h m     | h m m          | h m m    | h m m          |    |
| 0  | 178                                                | 13.7 | -22 05.1 | 328                                                                                                                                                                            | 56.8                | +20 54.3                |         | 60 N          | 15 20                | 16 14 | 17 09   | 18 27 93       | 10 52 4  |                |    |
| 1  | 193                                                | 13.5 |          | 343                                                                                                                                                                            | 27.1 <sup>113</sup> | 44.8 <sup>95</sup>      |         | 58            | 35                   | 25    | 16      | 39 88          | 39 8     |                |    |
| 2  | 208                                                | 13.2 | 04.4     | 357                                                                                                                                                                            | 57.5 <sup>114</sup> | 35.1 <sup>97</sup>      |         | 56            | 15 48                | 34    | 22      | 49 85          | 28 12    |                |    |
| 3  | 223                                                | 13.0 | 04.0     | 12                                                                                                                                                                             | 28.0 <sup>115</sup> | 25.3 <sup>98</sup>      |         | 54            | 16 00                | 42    | 27      | 18 59 81       | 18 15    |                |    |
| 4  | 238                                                | 12.7 | 03.7     | 26                                                                                                                                                                             | 58.5 <sup>115</sup> | 15.5 <sup>98</sup>      |         | 52            | 10                   | 49    | 32      | 19 07 78       | 09 18    |                |    |
| 5  | 253                                                | 12.4 | -22 03.3 | 41                                                                                                                                                                             | 29.0 <sup>115</sup> | +20 05.5 <sup>100</sup> |         | 50            | 16 19                | 16 56 | 17 37   | 19 14 76       | 10 01 20 |                |    |
| 6  | 268                                                | 12.2 | -22 02.9 | 55                                                                                                                                                                             | 59.6 <sup>116</sup> | +19 55.4 <sup>101</sup> |         | 45            | 16 38                | 17 11 | 17 48   | 19 29 71       | 9 45 24  |                |    |
| 7  | 283                                                | 11.9 | 02.6     | 70                                                                                                                                                                             | 30.2 <sup>116</sup> | 45.2 <sup>102</sup>     |         | 40            | 16 53                | 23    | 17 57   | 42 66          | 31 28    |                |    |
| 8  | 298                                                | 11.7 | 02.2     | 85                                                                                                                                                                             | 00.9 <sup>117</sup> | 35.0 <sup>102</sup>     |         | 35            | 17 06                | 34    | 18 05   | 19 53 63       | 19 32    |                |    |
| 9  | 313                                                | 11.4 | 01.8     | 99                                                                                                                                                                             | 31.6 <sup>117</sup> | 24.6 <sup>104</sup>     |         | 30            | 18                   | 17 44 | 13      | 20 02 60       | 9 08 35  |                |    |
| 10 | 328                                                | 11.2 | 01.5     | 114                                                                                                                                                                            | 02.4 <sup>118</sup> | 14.1 <sup>105</sup>     |         | 20            | 37                   | 18 01 | 28      | 18 55          | 8 51 39  |                |    |
| 11 | 343                                                | 10.9 | -22 01.1 | 128                                                                                                                                                                            | 33.3 <sup>119</sup> | +19 03.5 <sup>106</sup> |         | 10 N          | 17 55                | 18 17 | 18 43   | 20 32 51       | 8 35 44  |                |    |
| 12 | 358                                                | 10.7 | -22 00.7 | 143                                                                                                                                                                            | 04.1 <sup>118</sup> | +18 52.9 <sup>106</sup> |         | 0             | 18 11                | 18 33 | 18 59   | 20 45 47       | 8 20 48  |                |    |
| 13 | 13                                                 | 10.4 | -22 00.4 | 157                                                                                                                                                                            | 35.1 <sup>120</sup> | 42.1 <sup>108</sup>     |         | 10 S          | 27                   | 18 50 | 19 17   | 20 58 43       | 8 05 52  |                |    |
| 14 | 28                                                 | 10.1 | -22 00.0 | 172                                                                                                                                                                            | 06.0 <sup>119</sup> | 31.2 <sup>109</sup>     |         | 20            | 18 45                | 19 09 | 19 38   | 21 12 38       | 7 49 56  |                |    |
| 15 | 43                                                 | 09.9 | -21 59.6 | 186                                                                                                                                                                            | 37.1 <sup>121</sup> | 20.3 <sup>109</sup>     |         | 30            | 19 06                | 33    | 20 05   | 27 34          | 31 60    |                |    |
| 16 | 58                                                 | 09.6 | 59.3     | 201                                                                                                                                                                            | 08.1 <sup>120</sup> | +18 09.2 <sup>111</sup> |         | 35            | 18                   | 19 47 | 23      | 37 30          | 20 63    |                |    |
| 17 | 73                                                 | 09.4 | -21 58.9 | 215                                                                                                                                                                            | 39.2 <sup>121</sup> | +17 58.1 <sup>111</sup> |         | 40            | 19 32                | 20 04 | 20 44   | 21 47 27       | 7 08 66  |                |    |
| 18 | 88                                                 | 09.1 | -21 58.5 | 230                                                                                                                                                                            | 10.4 <sup>122</sup> | +17 46.9 <sup>112</sup> |         | 45            | 19 48                | 20 24 | 21 12   | 21 59 23       | 6 53 70  |                |    |
| 19 | 103                                                | 08.9 | 58.2     | 244                                                                                                                                                                            | 41.6 <sup>122</sup> | 35.5 <sup>114</sup>     |         | 50            | 20 09                | 20 51 | 21 51   | 22 14 18       | 35 75    |                |    |
| 20 | 118                                                | 08.6 | 57.8     | 259                                                                                                                                                                            | 12.9 <sup>123</sup> | 24.1 <sup>114</sup>     |         | 52            | 19                   | 21 05 | 22 14   | 20 16          | 26 78    |                |    |
| 21 | 133                                                | 08.4 | 57.4     | 273                                                                                                                                                                            | 44.2 <sup>123</sup> | 12.6 <sup>115</sup>     |         | 54            | 30                   | 21    | 22 45   | 28 13          | 16 81    |                |    |
| 22 | 148                                                | 08.1 | 57.0     | 288                                                                                                                                                                            | 15.5 <sup>123</sup> | +17 01.0 <sup>116</sup> |         | 56            | 42                   | 21 40 | ** **   | 36 11          | 6 05 85  |                |    |
| 23 | 163                                                | 07.9 | 56.7     | 302                                                                                                                                                                            | 46.9 <sup>124</sup> | +16 49.4 <sup>116</sup> |         | 58            | 20 57                | 22 04 | ** **   | 46 7           | 5 53 88  |                |    |
| 24 | 178                                                | 07.6 | -21 56.3 | 317                                                                                                                                                                            | 18.3 <sup>124</sup> | +16 37.6 <sup>118</sup> |         | 60 S          | 21 15                | 22 37 | ** **   | 22 56 3        | 5 38 93  |                |    |

| UT  | ARIES                                  |      | VENUS                                             |          | MARTE                                             |         | JÚPITER                                          |         | SATURNO                                           |          |
|-----|----------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 16 <sup>h</sup> 41 <sup>m</sup> 8 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 34 <sup>m</sup> |          | Mag: +0.4<br>PMG: 17 <sup>h</sup> 37 <sup>m</sup> |         | Mag: -2.3<br>PMG: 4 <sup>h</sup> 05 <sup>m</sup> |         | Mag: -0.4<br>PMG: 23 <sup>h</sup> 19 <sup>m</sup> |          |
|     | hG ♈                                   |      | hG ♀                                              | Dec      | hG ♂                                              | Dec     | hG ♃                                             | Dec     | hG ♄                                              | Dec      |
| h   | °                                      | '    | °                                                 | '        | °                                                 | '       | °                                                | '       | °                                                 | '        |
| 0   | 108                                    | 52.0 | 141 43.6                                          | -15 03.5 | 95 27.3                                           | +6 01.3 | 298 37.7                                         | +5 33.8 | 9 06.2                                            | +22 28.9 |
| 1   | 123                                    | 54.5 | 156 43.1                                          | 02.4     | 110 28.3                                          | 01.9    | 313 40.2                                         | 33.9    | 24 08.9                                           | 28.9     |
| 2   | 138                                    | 56.9 | 171 42.6                                          | 01.4     | 125 29.4                                          | 02.6    | 328 42.7                                         | 33.9    | 39 11.6                                           | 28.9     |
| 3   | 153                                    | 59.4 | 186 42.1                                          | -15 00.3 | 140 30.4                                          | 03.2    | 343 45.2                                         | 33.9    | 54 14.3                                           | 29.0     |
| 4   | 169                                    | 01.8 | 201 41.6                                          | -14 59.2 | 155 31.5                                          | 03.9    | 358 47.7                                         | 34.0    | 69 16.9                                           | 29.0     |
| 5   | 184                                    | 04.3 | 216 41.1                                          | -14 58.2 | 170 32.5                                          | +6 04.5 | 13 50.3                                          | +5 34.0 | 84 19.6                                           | +22 29.0 |
| 6   | 199                                    | 06.8 | 231 40.6                                          | -14 57.1 | 185 33.6                                          | +6 05.1 | 28 52.8                                          | +5 34.0 | 99 22.3                                           | +22 29.0 |
| 7   | 214                                    | 09.2 | 246 40.1                                          | 56.0     | 200 34.6                                          | 05.8    | 43 55.3                                          | 34.0    | 114 25.0                                          | 29.0     |
| 8   | 229                                    | 11.7 | 261 39.6                                          | 55.0     | 215 35.7                                          | 06.4    | 58 57.8                                          | 34.1    | 129 27.7                                          | 29.0     |
| 9   | 244                                    | 14.2 | 276 39.1                                          | 53.9     | 230 36.7                                          | 07.1    | 74 00.3                                          | 34.1    | 144 30.3                                          | 29.1     |
| 10  | 259                                    | 16.6 | 291 38.6                                          | 52.8     | 245 37.8                                          | 07.7    | 89 02.8                                          | 34.1    | 159 33.0                                          | 29.1     |
| 11  | 274                                    | 19.1 | 306 38.1                                          | -14 51.7 | 260 38.8                                          | +6 08.4 | 104 05.3                                         | +5 34.2 | 174 35.7                                          | +22 29.1 |
| 12  | 289                                    | 21.6 | 321 37.6                                          | -14 50.7 | 275 39.9                                          | +6 09.0 | 119 07.8                                         | +5 34.2 | 189 38.4                                          | +22 29.1 |
| 13  | 304                                    | 24.0 | 336 37.2                                          | 49.6     | 290 40.9                                          | 09.6    | 134 10.3                                         | 34.2    | 204 41.1                                          | 29.1     |
| 14  | 319                                    | 26.5 | 351 36.7                                          | 48.5     | 305 42.0                                          | 10.3    | 149 12.8                                         | 34.3    | 219 43.8                                          | 29.2     |
| 15  | 334                                    | 29.0 | 6 36.2                                            | 47.4     | 320 43.0                                          | 10.9    | 164 15.3                                         | 34.3    | 234 46.4                                          | 29.2     |
| 16  | 349                                    | 31.4 | 21 35.7                                           | 46.4     | 335 44.1                                          | 11.6    | 179 17.8                                         | 34.3    | 249 49.1                                          | 29.2     |
| 17  | 4                                      | 33.9 | 36 35.2                                           | -14 45.3 | 350 45.1                                          | +6 12.2 | 194 20.3                                         | +5 34.4 | 264 51.8                                          | +22 29.2 |
| 18  | 19                                     | 36.3 | 51 34.7                                           | -14 44.2 | 5 46.2                                            | +6 12.9 | 209 22.9                                         | +5 34.4 | 279 54.5                                          | +22 29.2 |
| 19  | 34                                     | 38.8 | 66 34.2                                           | 43.1     | 20 47.2                                           | 13.5    | 224 25.4                                         | 34.4    | 294 57.2                                          | 29.3     |
| 20  | 49                                     | 41.3 | 81 33.7                                           | 42.1     | 35 48.3                                           | 14.1    | 239 27.9                                         | 34.5    | 309 59.8                                          | 29.3     |
| 21  | 64                                     | 43.7 | 96 33.2                                           | 41.0     | 50 49.3                                           | 14.8    | 254 30.4                                         | 34.5    | 325 02.5                                          | 29.3     |
| 22  | 79                                     | 46.2 | 111 32.8                                          | 39.9     | 65 50.4                                           | 15.4    | 269 32.9                                         | 34.5    | 340 05.2                                          | 29.3     |
| 23  | 94                                     | 48.7 | 126 32.3                                          | 38.8     | 80 51.4                                           | 16.1    | 284 35.4                                         | 34.6    | 355 07.9                                          | 29.3     |
| 24  | 109                                    | 51.1 | 141 31.8                                          | -14 37.7 | 95 52.5                                           | +6 16.7 | 299 37.9                                         | +5 34.6 | 10 10.6                                           | +22 29.3 |
| Dif | —                                      |      | -5                                                | +11      | +11                                               | +6      | +25                                              | 0       | +27                                               | 0        |

| UT | SOL                                    |      |          | LUNA                    |                                                                                    |                         | Latitud | Principio del crepúsculo            |       | Salida de Sol | Salida de Luna      |    | Puesta de Luna |    |
|----|----------------------------------------|------|----------|-------------------------|------------------------------------------------------------------------------------|-------------------------|---------|-------------------------------------|-------|---------------|---------------------|----|----------------|----|
|    | SD: 16'3                               |      |          | Edad: 18 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 56'3<br>12 <sup>h</sup> : 56'4<br>20 <sup>h</sup> : 56'6 |                         |         |                                     |       |               |                     |    |                |    |
|    | PMG: 12 <sup>h</sup> 07 <sup>m</sup> 7 |      |          |                         |                                                                                    | SD: 15'3                |         | PMG: 2 <sup>h</sup> 56 <sup>m</sup> |       |               | R°: 47 <sup>m</sup> |    |                |    |
|    | hG ☉                                   |      | Dec      | hG ☾ Dif                |                                                                                    | Dec Dif                 |         | Náutico                             | Civil |               | Hora                | R° | Hora           | R° |
| h  | °                                      | '    | °        | °                       | '                                                                                  | °                       | °       | h                                   | m     | h             | m                   | h  | m              | m  |
| 0  | 178                                    | 07.6 | -21 56.3 | 317                     | 18.3                                                                               | +16 37.6                | 60 N    | 7 05                                | 8 00  | 8 54          | 20 00               | 91 | 10 56          | 2  |
| 1  | 193                                    | 07.4 | 55.9     | 331                     | 49.8 <sup>125</sup>                                                                | 25.8 <sup>118</sup>     | 58      | 6 59                                | 7 50  | 39            | 07 87               |    | 47             | 7  |
| 2  | 208                                    | 07.1 | 55.5     | 346                     | 21.3 <sup>125</sup>                                                                | 13.8 <sup>120</sup>     | 56      | 53                                  | 40    | 26            | 14 84               |    | 40             | 9  |
| 3  | 223                                    | 06.9 | 55.2     | 0                       | 52.9 <sup>126</sup>                                                                | +16 01.8 <sup>120</sup> | 54      | 47                                  | 32    | 15            | 20 81               |    | 33             | 12 |
| 4  | 238                                    | 06.6 | 54.8     | 15                      | 24.5 <sup>126</sup>                                                                | +15 49.7 <sup>121</sup> | 52      | 42                                  | 25    | 8 05          | 25 78               |    | 27             | 15 |
| 5  | 253                                    | 06.4 | -21 54.4 | 29                      | 56.1 <sup>126</sup>                                                                | +15 37.6 <sup>121</sup> | 50      | 6 38                                | 7 18  | 7 56          | 20 30               | 76 | 10 21          | 17 |
| 6  | 268                                    | 06.1 | -21 54.0 | 44                      | 27.8 <sup>127</sup>                                                                | +15 25.3 <sup>123</sup> | 45      | 6 27                                | 7 04  | 7 37          | 20 40               | 71 | 10 09          | 22 |
| 7  | 283                                    | 05.9 | 53.7     | 58                      | 59.5 <sup>127</sup>                                                                | 13.0 <sup>123</sup>     | 40      | 18                                  | 6 51  | 21            | 48 67               |    | 9 59           | 26 |
| 8  | 298                                    | 05.6 | 53.3     | 73                      | 31.3 <sup>128</sup>                                                                | +15 00.6 <sup>124</sup> | 35      | 09                                  | 41    | 7 08          | 20 56               | 63 | 51             | 29 |
| 9  | 313                                    | 05.4 | 52.9     | 88                      | 03.1 <sup>128</sup>                                                                | +14 48.1 <sup>125</sup> | 30      | 6 01                                | 31    | 6 57          | 21 02               | 60 | 43             | 32 |
| 10 | 328                                    | 05.1 | 52.5     | 102                     | 34.9 <sup>128</sup>                                                                | 35.5 <sup>126</sup>     | 20      | 5 46                                | 6 14  | 37            | 13 55               |    | 30             | 37 |
| 11 | 343                                    | 04.9 | -21 52.1 | 117                     | 06.8 <sup>129</sup>                                                                | +14 22.9 <sup>126</sup> | 10 N    | 5 32                                | 5 58  | 6 20          | 21 23               | 49 | 9 19           | 41 |
| 12 | 358                                    | 04.6 | -21 51.7 | 131                     | 38.7 <sup>129</sup>                                                                | +14 10.2 <sup>127</sup> | 0       | 5 16                                | 5 42  | 6 04          | 21 32               | 45 | 9 08           | 45 |
| 13 | 13                                     | 04.4 | 51.4     | 146                     | 10.7 <sup>130</sup>                                                                | +13 57.4 <sup>128</sup> | 10 S    | 4 58                                | 25    | 5 48          | 41 41               |    | 8 57           | 50 |
| 14 | 28                                     | 04.1 | 51.0     | 160                     | 42.7 <sup>130</sup>                                                                | 44.5 <sup>129</sup>     | 20      | 37                                  | 5 06  | 30            | 21 50               | 36 | 45             | 54 |
| 15 | 43                                     | 03.9 | 50.6     | 175                     | 14.7 <sup>130</sup>                                                                | 31.6 <sup>129</sup>     | 30      | 4 10                                | 4 43  | 5 10          | 22 01               | 31 | 31             | 60 |
| 16 | 58                                     | 03.6 | 50.2     | 189                     | 46.8 <sup>131</sup>                                                                | 18.6 <sup>130</sup>     | 35      | 3 53                                | 28    | 4 58          | 07 28               |    | 23             | 63 |
| 17 | 73                                     | 03.4 | -21 49.8 | 204                     | 18.9 <sup>131</sup>                                                                | +13 05.5 <sup>131</sup> | 40      | 3 31                                | 4 12  | 4 44          | 22 14               | 25 | 8 14           | 66 |
| 18 | 88                                     | 03.1 | -21 49.4 | 218                     | 51.0 <sup>131</sup>                                                                | +12 52.4 <sup>131</sup> | 45      | 3 04                                | 3 51  | 4 27          | 22 22               | 21 | 8 03           | 71 |
| 19 | 103                                    | 02.9 | 49.0     | 233                     | 23.2 <sup>132</sup>                                                                | 39.2 <sup>132</sup>     | 50      | 2 24                                | 24    | 4 07          | 32 16               |    | 7 50           | 76 |
| 20 | 118                                    | 02.6 | 48.7     | 247                     | 55.4 <sup>132</sup>                                                                | 25.9 <sup>133</sup>     | 52      | 2 01                                | 3 10  | 3 57          | 36 14               |    | 44             | 78 |
| 21 | 133                                    | 02.4 | 48.3     | 262                     | 27.6 <sup>132</sup>                                                                | +12 12.6 <sup>133</sup> | 54      | 1 30                                | 2 55  | 46            | 41 11               |    | 37             | 81 |
| 22 | 148                                    | 02.1 | 47.9     | 276                     | 59.8 <sup>132</sup>                                                                | +11 59.2 <sup>134</sup> | 56      | ** **                               | 36    | 33            | 47 8                |    | 30             | 84 |
| 23 | 163                                    | 01.9 | 47.5     | 291                     | 32.1 <sup>133</sup>                                                                | 45.7 <sup>135</sup>     | 58      | ** **                               | 2 12  | 18            | 53 5                |    | 21             | 88 |
| 24 | 178                                    | 01.7 | -21 47.1 | 306                     | 04.4 <sup>133</sup>                                                                | +11 32.2 <sup>135</sup> | 60 S    | ** **                               | 1 38  | 3 01          | 22 59               | 3  | 7 11           | 92 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |          | JÚPITER                                          |          | SATURNO                                           |          |          |  |   |  |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|----------|--------------------------------------------------|----------|---------------------------------------------------|----------|----------|--|---|--|
|     | PMG 16 <sup>h</sup> 37 <sup>m</sup> 9 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 34 <sup>m</sup> |      | Mag: +0.4<br>PMG: 17 <sup>h</sup> 35 <sup>m</sup> |          | Mag: -2.3<br>PMG: 4 <sup>h</sup> 01 <sup>m</sup> |          | Mag: -0.4<br>PMG: 23 <sup>h</sup> 15 <sup>m</sup> |          |          |  |   |  |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |          | hG ♃                                             |          | hG ♄                                              |          |          |  |   |  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '        | °                                                | '        | °                                                 | '        |          |  |   |  |
| 0   | 109                                   | 51.1 | 141                                               | 31.8 | -14 37.7                                          | 95 52.5  | +6 16.7                                          | 299 37.9 | +5 34.6                                           | 10 10.6  | +22 29.3 |  |   |  |
| 1   | 124                                   | 53.6 | 156                                               | 31.3 | 36.7                                              | 110 53.5 | 17.4                                             | 314 40.4 | 34.6                                              | 25 13.2  | 29.4     |  |   |  |
| 2   | 139                                   | 56.1 | 171                                               | 30.8 | 35.6                                              | 125 54.6 | 18.0                                             | 329 42.9 | 34.6                                              | 40 15.9  | 29.4     |  |   |  |
| 3   | 154                                   | 58.5 | 186                                               | 30.3 | 34.5                                              | 140 55.6 | 18.6                                             | 344 45.5 | 34.7                                              | 55 18.6  | 29.4     |  |   |  |
| 4   | 170                                   | 01.0 | 201                                               | 29.9 | 33.4                                              | 155 56.7 | 19.3                                             | 359 48.0 | 34.7                                              | 70 21.3  | 29.4     |  |   |  |
| 5   | 185                                   | 03.5 | 216                                               | 29.4 | -14 32.3                                          | 170 57.7 | +6 19.9                                          | 14 50.5  | +5 34.7                                           | 85 24.0  | +22 29.4 |  |   |  |
| 6   | 200                                   | 05.9 | 231                                               | 28.9 | -14 31.2                                          | 185 58.8 | +6 20.6                                          | 29 53.0  | +5 34.8                                           | 100 26.6 | +22 29.5 |  |   |  |
| 7   | 215                                   | 08.4 | 246                                               | 28.4 | 30.2                                              | 200 59.8 | 21.2                                             | 44 55.5  | 34.8                                              | 115 29.3 | 29.5     |  |   |  |
| 8   | 230                                   | 10.8 | 261                                               | 27.9 | 29.1                                              | 216 00.9 | 21.9                                             | 59 58.0  | 34.8                                              | 130 32.0 | 29.5     |  |   |  |
| 9   | 245                                   | 13.3 | 276                                               | 27.4 | 28.0                                              | 231 01.9 | 22.5                                             | 75 00.5  | 34.9                                              | 145 34.7 | 29.5     |  |   |  |
| 10  | 260                                   | 15.8 | 291                                               | 27.0 | 26.9                                              | 246 03.0 | 23.1                                             | 90 03.1  | 34.9                                              | 160 37.4 | 29.5     |  |   |  |
| 11  | 275                                   | 18.2 | 306                                               | 26.5 | -14 25.8                                          | 261 04.0 | +6 23.8                                          | 105 05.6 | +5 35.0                                           | 175 40.0 | +22 29.5 |  |   |  |
| 12  | 290                                   | 20.7 | 321                                               | 26.0 | -14 24.7                                          | 276 05.1 | +6 24.4                                          | 120 08.1 | +5 35.0                                           | 190 42.7 | +22 29.6 |  |   |  |
| 13  | 305                                   | 23.2 | 336                                               | 25.5 | 23.6                                              | 291 06.1 | 25.1                                             | 135 10.6 | 35.0                                              | 205 45.4 | 29.6     |  |   |  |
| 14  | 320                                   | 25.6 | 351                                               | 25.1 | 22.5                                              | 306 07.2 | 25.7                                             | 150 13.1 | 35.1                                              | 220 48.1 | 29.6     |  |   |  |
| 15  | 335                                   | 28.1 | 6                                                 | 24.6 | 21.5                                              | 321 08.2 | 26.4                                             | 165 15.6 | 35.1                                              | 235 50.8 | 29.6     |  |   |  |
| 16  | 350                                   | 30.6 | 21                                                | 24.1 | 20.4                                              | 336 09.2 | 27.0                                             | 180 18.1 | 35.1                                              | 250 53.4 | 29.6     |  |   |  |
| 17  | 5                                     | 33.0 | 36                                                | 23.6 | -14 19.3                                          | 351 10.3 | +6 27.6                                          | 195 20.7 | +5 35.2                                           | 265 56.1 | +22 29.7 |  |   |  |
| 18  | 20                                    | 35.5 | 51                                                | 23.2 | -14 18.2                                          | 6        | 11.3                                             | 210 23.2 | +5 35.2                                           | 280 58.8 | +22 29.7 |  |   |  |
| 19  | 35                                    | 37.9 | 66                                                | 22.7 | 17.1                                              | 21       | 12.4                                             | 225 25.7 | 35.2                                              | 296 01.5 | 29.7     |  |   |  |
| 20  | 50                                    | 40.4 | 81                                                | 22.2 | 16.0                                              | 36       | 13.4                                             | 240 28.2 | 35.3                                              | 311 04.1 | 29.7     |  |   |  |
| 21  | 65                                    | 42.9 | 96                                                | 21.7 | 14.9                                              | 51       | 14.5                                             | 255 30.7 | 35.3                                              | 326 06.8 | 29.7     |  |   |  |
| 22  | 80                                    | 45.3 | 111                                               | 21.3 | 13.8                                              | 66       | 15.5                                             | 270 33.3 | 35.3                                              | 341 09.5 | 29.8     |  |   |  |
| 23  | 95                                    | 47.8 | 126                                               | 20.8 | 12.7                                              | 81       | 16.6                                             | 285 35.8 | 35.4                                              | 356 12.2 | 29.8     |  |   |  |
| 24  | 110                                   | 50.3 | 141                                               | 20.3 | -14 11.6                                          | 96       | 17.6                                             | 300 38.3 | +5 35.4                                           | 11 14.9  | +22 29.8 |  |   |  |
| Dif | —                                     |      | -5                                                |      | +11                                               | +10      |                                                  | +25      |                                                   | 0        | +27      |  | 0 |  |

| UT  | SOL                                                |      |                                                   | LUNA                                                                       |                                                                                                                           |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                   | Puesta de Luna |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 08 <sup>m</sup> 1 |      |                                                   | Edad: 19 <sup>d</sup> 6<br>SD: 15:4<br>PMG: 3 <sup>h</sup> 43 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 56' 8<br>12 <sup>h</sup> : 57' 0<br>20 <sup>h</sup> : 57' 2<br>R <sup>o</sup> : 45 <sup>m</sup> |                                                   |         |               |                                                  |       |                |                                                   |                |          |
|     | hG ☉                                               | Dec  | hG ☾                                              |                                                                            |                                                                                                                           | Dif                                               |         |               | Dec                                              | Dif   | Civil          | Náutico                                           | Hora           | R°       |
| h   | °                                                  | '    | °                                                 | °                                                                          | '                                                                                                                         | °                                                 | °       | h m           | h m                                              | h m   | h m m          | h m m                                             | h m m          | h m m    |
| 0   | 178                                                | 01.7 | -21 47.1                                          | 306                                                                        | 04.4                                                                                                                      | +11 32.2                                          | 60 N    | 15 24         | 16 18                                            | 17 12 | 21 31 91       | 10 58 2                                           |                |          |
| 1   | 193                                                | 01.4 | 46.7                                              | 320                                                                        | 36.8 <sup>134</sup>                                                                                                       | 18.6 <sup>136</sup>                               | 58      | 39            | 28                                               | 19    | 34 88          | 54 5                                              |                |          |
| 2   | 208                                                | 01.2 | 46.3                                              | 335                                                                        | 09.1 <sup>133</sup>                                                                                                       | +11 05.0 <sup>136</sup>                           | 56      | 15 52         | 37                                               | 25    | 38 84          | 49 8                                              |                |          |
| 3   | 223                                                | 00.9 | 45.9                                              | 349                                                                        | 41.5 <sup>134</sup>                                                                                                       | +10 51.3 <sup>137</sup>                           | 54      | 16 03         | 45                                               | 30    | 41 81          | 45 11                                             |                |          |
| 4   | 238                                                | 00.7 | 45.5                                              | 4                                                                          | 13.9 <sup>134</sup>                                                                                                       | 37.5 <sup>138</sup>                               | 52      | 13            | 52                                               | 35    | 43 79          | 42 13                                             |                |          |
| 5   | 253                                                | 00.4 | -21 45.1                                          | 18                                                                         | 46.4 <sup>135</sup>                                                                                                       | +10 23.7 <sup>138</sup>                           | 50      | 16 21         | 16 59                                            | 17 39 | 21 46 76       | 10 38 16                                          |                |          |
| 6   | 268                                                | 00.2 | -21 44.7                                          | 33                                                                         | 18.8 <sup>134</sup>                                                                                                       | +10 09.8 <sup>139</sup>                           | 45      | 16 40         | 17 13                                            | 17 50 | 21 51 71       | 10 31 20                                          |                |          |
| 7   | 282                                                | 59.9 | 44.3                                              | 47                                                                         | 51.3 <sup>135</sup>                                                                                                       | +9 55.9 <sup>139</sup>                            | 40      | 16 55         | 25                                               | 17 59 | 55 67          | 25 24                                             |                |          |
| 8   | 297                                                | 59.7 | 43.9                                              | 62                                                                         | 23.8 <sup>135</sup>                                                                                                       | 41.9 <sup>140</sup>                               | 35      | 17 08         | 36                                               | 18 07 | 21 59 63       | 20 27                                             |                |          |
| 9   | 312                                                | 59.4 | 43.5                                              | 76                                                                         | 56.3 <sup>135</sup>                                                                                                       | 27.8 <sup>141</sup>                               | 30      | 19            | 17 45                                            | 15    | 22 02 60       | 15 31                                             |                |          |
| 10  | 327                                                | 59.2 | 43.1                                              | 91                                                                         | 28.9 <sup>136</sup>                                                                                                       | +9 13.7 <sup>141</sup>                            | 20      | 39            | 18 02                                            | 30    | 08 54          | 07 36                                             |                |          |
| 11  | 342                                                | 59.0 | -21 42.7                                          | 106                                                                        | 01.4 <sup>135</sup>                                                                                                       | +8 59.6 <sup>141</sup>                            | 10 N    | 17 56         | 18 18                                            | 18 44 | 22 12 50       | 10 00 41                                          |                |          |
| 12  | 357                                                | 58.7 | -21 42.3                                          | 120                                                                        | 34.0 <sup>136</sup>                                                                                                       | +8 45.4 <sup>142</sup>                            | 0       | 18 12         | 18 34                                            | 19 00 | 22 17 45       | 9 53 45                                           |                |          |
| 13  | 12                                                 | 58.5 | 41.9                                              | 135                                                                        | 06.6 <sup>136</sup>                                                                                                       | 31.1 <sup>143</sup>                               | 10 S    | 28            | 18 51                                            | 17    | 22 40          | 47 49                                             |                |          |
| 14  | 27                                                 | 58.2 | 41.5                                              | 149                                                                        | 39.2 <sup>136</sup>                                                                                                       | 16.8 <sup>143</sup>                               | 20      | 18 45         | 19 09                                            | 19 38 | 26 36          | 39 55                                             |                |          |
| 15  | 42                                                 | 58.0 | 41.1                                              | 164                                                                        | 11.8 <sup>136</sup>                                                                                                       | +8 02.5 <sup>143</sup>                            | 30      | 19 05         | 32                                               | 20 05 | 32 30          | 31 60                                             |                |          |
| 16  | 57                                                 | 57.8 | 40.7                                              | 178                                                                        | 44.5 <sup>137</sup>                                                                                                       | +7 48.1 <sup>144</sup>                            | 35      | 17            | 19 46                                            | 22    | 35 27          | 26 63                                             |                |          |
| 17  | 72                                                 | 57.5 | -21 40.3                                          | 193                                                                        | 17.1 <sup>136</sup>                                                                                                       | +7 33.6 <sup>145</sup>                            | 40      | 19 31         | 20 03                                            | 20 43 | 22 39 24       | 9 20 67                                           |                |          |
| 18  | 87                                                 | 57.3 | -21 39.9                                          | 207                                                                        | 49.8 <sup>137</sup>                                                                                                       | +7 19.2 <sup>144</sup>                            | 45      | 19 47         | 20 23                                            | 21 10 | 22 43 20       | 9 14 71                                           |                |          |
| 19  | 102                                                | 57.0 | 39.5                                              | 222                                                                        | 22.5 <sup>137</sup>                                                                                                       | +7 04.6 <sup>146</sup>                            | 50      | 20 08         | 20 50                                            | 21 49 | 48 15          | 06 76                                             |                |          |
| 20  | 117                                                | 56.8 | 39.1                                              | 236                                                                        | 55.1 <sup>136</sup>                                                                                                       | +6 50.1 <sup>145</sup>                            | 52      | 17            | 21 03                                            | 22 11 | 50 13          | 9 02 79                                           |                |          |
| 21  | 132                                                | 56.5 | 38.7                                              | 251                                                                        | 27.8 <sup>137</sup>                                                                                                       | 35.4 <sup>147</sup>                               | 54      | 28            | 18                                               | 22 40 | 52 11          | 8 58 81                                           |                |          |
| 22  | 147                                                | 56.3 | 38.3                                              | 266                                                                        | 00.5 <sup>137</sup>                                                                                                       | 20.8 <sup>146</sup>                               | 56      | 40            | 21 37                                            | 23 32 | 55 8           | 54 84                                             |                |          |
| 23  | 162                                                | 56.1 | 37.9                                              | 280                                                                        | 33.2 <sup>137</sup>                                                                                                       | +6 06.1 <sup>147</sup>                            | 58      | 20 55         | 22 00                                            | ** ** | 22 58 5        | 49 87                                             |                |          |
| 24  | 177                                                | 55.8 | -21 37.5                                          | 295                                                                        | 05.9 <sup>137</sup>                                                                                                       | +5 51.4 <sup>147</sup>                            | 60 S    | 21 12         | 22 31                                            | ** ** | 23 02 1        | 8 43 91                                           |                |          |
| UT  | ARIES                                              |      | VENUS                                             |                                                                            |                                                                                                                           | MARTE                                             |         |               | JÚPITER                                          |       |                | SATURNO                                           |                |          |
|     | PMG: 16 <sup>h</sup> 33 <sup>m</sup> 9             |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 35 <sup>m</sup> |                                                                            |                                                                                                                           | Mag: +0.4<br>PMG: 17 <sup>h</sup> 34 <sup>m</sup> |         |               | Mag: -2.3<br>PMG: 3 <sup>h</sup> 57 <sup>m</sup> |       |                | Mag: -0.4<br>PMG: 23 <sup>h</sup> 11 <sup>m</sup> |                |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                        |                                                                                                                           | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |                | hG ♄                                              | Dec            |          |
| h   | °                                                  | '    | °                                                 | '                                                                          | °                                                                                                                         | °                                                 | '       | °             | °                                                | '     | °              | °                                                 | '              | °        |
| 0   | 110                                                | 50.3 | 141                                               | 20.3                                                                       | -14 11.6                                                                                                                  | 96                                                | 17.6    | +6 32.1       | 300                                              | 38.3  | +5 35.4        | 11                                                | 14.9           | +22 29.8 |
| 1   | 125                                                | 52.7 | 156                                               | 19.9                                                                       | 10.5                                                                                                                      | 111                                               | 18.7    | 32.8          | 315                                              | 40.8  | 35.4           | 26                                                | 17.5           | 29.8     |
| 2   | 140                                                | 55.2 | 171                                               | 19.4                                                                       | 09.4                                                                                                                      | 126                                               | 19.7    | 33.4          | 330                                              | 43.3  | 35.5           | 41                                                | 20.2           | 29.8     |
| 3   | 155                                                | 57.7 | 186                                               | 18.9                                                                       | 08.3                                                                                                                      | 141                                               | 20.7    | 34.0          | 345                                              | 45.8  | 35.5           | 56                                                | 22.9           | 29.8     |
| 4   | 171                                                | 00.1 | 201                                               | 18.4                                                                       | 07.2                                                                                                                      | 156                                               | 21.8    | 34.7          | 0                                                | 48.4  | 35.5           | 71                                                | 25.6           | 29.9     |
| 5   | 186                                                | 02.6 | 216                                               | 18.0                                                                       | -14 06.1                                                                                                                  | 171                                               | 22.8    | +6 35.3       | 15                                               | 50.9  | +5 35.6        | 86                                                | 28.3           | +22 29.9 |
| 6   | 201                                                | 05.1 | 231                                               | 17.5                                                                       | -14 05.0                                                                                                                  | 186                                               | 23.9    | +6 36.0       | 30                                               | 53.4  | +5 35.6        | 101                                               | 30.9           | +22 29.9 |
| 7   | 216                                                | 07.5 | 246                                               | 17.0                                                                       | 03.9                                                                                                                      | 201                                               | 24.9    | 36.6          | 45                                               | 55.9  | 35.7           | 116                                               | 33.6           | 29.9     |
| 8   | 231                                                | 10.0 | 261                                               | 16.6                                                                       | 02.8                                                                                                                      | 216                                               | 26.0    | 37.3          | 60                                               | 58.5  | 35.7           | 131                                               | 36.3           | 29.9     |
| 9   | 246                                                | 12.4 | 276                                               | 16.1                                                                       | 01.7                                                                                                                      | 231                                               | 27.0    | 37.9          | 76                                               | 01.0  | 35.7           | 146                                               | 39.0           | 30.0     |
| 10  | 261                                                | 14.9 | 291                                               | 15.7                                                                       | -14 00.6                                                                                                                  | 246                                               | 28.1    | 38.5          | 91                                               | 03.5  | 35.8           | 161                                               | 41.6           | 30.0     |
| 11  | 276                                                | 17.4 | 306                                               | 15.2                                                                       | -13 59.5                                                                                                                  | 261                                               | 29.1    | +6 39.2       | 106                                              | 06.0  | +5 35.8        | 176                                               | 44.3           | +22 30.0 |
| 12  | 291                                                | 19.8 | 321                                               | 14.7                                                                       | -13 58.4                                                                                                                  | 276                                               | 30.1    | +6 39.8       | 121                                              | 08.5  | +5 35.8        | 191                                               | 47.0           | +22 30.0 |
| 13  | 306                                                | 22.3 | 336                                               | 14.3                                                                       | 57.3                                                                                                                      | 291                                               | 31.2    | 40.5          | 136                                              | 11.1  | 35.9           | 206                                               | 49.7           | 30.0     |
| 14  | 321                                                | 24.8 | 351                                               | 13.8                                                                       | 56.2                                                                                                                      | 306                                               | 32.2    | 41.1          | 151                                              | 13.6  | 35.9           | 221                                               | 52.4           | 30.0     |
| 15  | 336                                                | 27.2 | 6                                                 | 13.3                                                                       | 55.1                                                                                                                      | 321                                               | 33.3    | 41.7          | 166                                              | 16.1  | 36.0           | 236                                               | 55.0           | 30.1     |
| 16  | 351                                                | 29.7 | 21                                                | 12.9                                                                       | 54.0                                                                                                                      | 336                                               | 34.3    | 42.4          | 181                                              | 18.6  | 36.0           | 251                                               | 57.7           | 30.1     |
| 17  | 6                                                  | 32.2 | 36                                                | 12.4                                                                       | -13 52.9                                                                                                                  | 351                                               | 35.4    | +6 43.0       | 196                                              | 21.2  | +5 36.0        | 267                                               | 00.4           | +22 30.1 |
| 18  | 21                                                 | 34.6 | 51                                                | 12.0                                                                       | -13 51.8                                                                                                                  | 6                                                 | 36.4    | +6 43.7       | 211                                              | 23.7  | +5 36.1        | 282                                               | 03.1           | +22 30.1 |
| 19  | 36                                                 | 37.1 | 66                                                | 11.5                                                                       | 50.7                                                                                                                      | 21                                                | 37.4    | 44.3          | 226                                              | 26.2  | 36.1           | 297                                               | 05.7           | 30.1     |
| 20  | 51                                                 | 39.6 | 81                                                | 11.0                                                                       | 49.6                                                                                                                      | 36                                                | 38.5    | 44.9          | 241                                              | 28.7  | 36.1           | 312                                               | 08.4           | 30.2     |
| 21  | 66                                                 | 42.0 | 96                                                | 10.6                                                                       | 48.5                                                                                                                      | 51                                                | 39.5    | 45.6          | 256                                              | 31.3  | 36.2           | 327                                               | 11.1           | 30.2     |
| 22  | 81                                                 | 44.5 | 111                                               | 10.1                                                                       | 47.3                                                                                                                      | 66                                                | 40.6    | 46.2          | 271                                              | 33.8  | 36.2           | 342                                               | 13.8           | 30.2     |
| 23  | 96                                                 | 46.9 | 126                                               | 09.7                                                                       | 46.2                                                                                                                      | 81                                                | 41.6    | 46.9          | 286                                              | 36.3  | 36.3           | 357                                               | 16.5           | 30.2     |
| 24  | 111                                                | 49.4 | 141                                               | 09.2                                                                       | -13 45.1                                                                                                                  | 96                                                | 42.6    | +6 47.5       | 301                                              | 38.8  | +5 36.3        | 12                                                | 19.1           | +22 30.2 |
| Dif | —                                                  |      | -5                                                |                                                                            | +11                                                                                                                       | +10                                               |         | +6            | +25                                              |       | 0              | +27                                               |                | 0        |

| UT | SOL                                    |      |          | LUNA                    |                                                                                    |                        | Latitud | Principio del crepúsculo            |         | Salida de Sol | Salida de Luna      |      | Puesta de Luna |      |    |   |
|----|----------------------------------------|------|----------|-------------------------|------------------------------------------------------------------------------------|------------------------|---------|-------------------------------------|---------|---------------|---------------------|------|----------------|------|----|---|
|    | SD: 16:3                               |      |          | Edad: 20 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 57/4<br>12 <sup>h</sup> : 57/6<br>20 <sup>h</sup> : 57/8 |                        |         |                                     |         |               |                     |      |                |      |    |   |
|    | PMG: 12 <sup>h</sup> 08 <sup>m</sup> 5 |      |          |                         |                                                                                    | SD: 15:6               |         | PMG: 4 <sup>h</sup> 28 <sup>m</sup> |         |               | R°: 45 <sup>m</sup> |      |                |      |    |   |
|    | hG ☉                                   | Dec  |          | hG ☾                    | Dif                                                                                | Dec                    | Dif     |                                     | Náutico | Civil         |                     | Hora | R°             | Hora | R° |   |
| h  | °                                      | '    | °        | °                       | '                                                                                  | °                      | '       | °                                   | h       | m             | h                   | m    | h              | m    | h  | m |
| 0  | 177                                    | 55.8 | -21 37.5 | 295                     | 05.9                                                                               | +5 51.4                | 60 N    | 7 03                                | 7 58    | 8 52          | 23 02               | 94   | 11 00          | 2    |    |   |
| 1  | 192                                    | 55.6 | 37.0     | 309                     | 38.6 <sup>137</sup>                                                                | 36.6 <sup>148</sup>    | 58      | 6 57                                | 48      | 37            | 02 90               |      | 10 59          | 4    |    |   |
| 2  | 207                                    | 55.3 | 36.6     | 324                     | 11.3 <sup>137</sup>                                                                | 21.8 <sup>148</sup>    | 56      | 51                                  | 39      | 24            | 02 87               |      | 57             | 8    |    |   |
| 3  | 222                                    | 55.1 | 36.2     | 338                     | 44.1 <sup>138</sup>                                                                | +5 06.9 <sup>149</sup> | 54      | 46                                  | 31      | 13            | 02 84               |      | 56             | 10   |    |   |
| 4  | 237                                    | 54.9 | 35.8     | 353                     | 16.8 <sup>137</sup>                                                                | +4 52.1 <sup>148</sup> | 52      | 41                                  | 24      | 8 03          | 02 81               |      | 55             | 12   |    |   |
| 5  | 252                                    | 54.6 | -21 35.4 | 7                       | 49.5 <sup>137</sup>                                                                | +4 37.2 <sup>149</sup> | 50      | 6 37                                | 7 17    | 7 55          | 23 02               | 79   | 10 54          | 15   |    |   |
| 6  | 267                                    | 54.4 | -21 35.0 | 22                      | 22.2 <sup>137</sup>                                                                | +4 22.2 <sup>150</sup> | 45      | 6 27                                | 7 03    | 7 36          | 23 02               | 73   | 10 51          | 20   |    |   |
| 7  | 282                                    | 54.2 | 34.6     | 36                      | 54.9 <sup>137</sup>                                                                | +4 07.2 <sup>150</sup> | 40      | 18                                  | 6 51    | 21            | 02 69               |      | 49             | 24   |    |   |
| 8  | 297                                    | 53.9 | 34.1     | 51                      | 27.6 <sup>137</sup>                                                                | +3 52.2 <sup>150</sup> | 35      | 09                                  | 41      | 7 08          | 02 65               |      | 47             | 28   |    |   |
| 9  | 312                                    | 53.7 | 33.7     | 66                      | 00.3 <sup>137</sup>                                                                | 37.2 <sup>150</sup>    | 30      | 6 02                                | 31      | 6 57          | 02 62               |      | 46             | 30   |    |   |
| 10 | 327                                    | 53.4 | 33.3     | 80                      | 33.0 <sup>137</sup>                                                                | 22.1 <sup>151</sup>    | 20      | 5 47                                | 6 14    | 38            | 02 56               |      | 43             | 36   |    |   |
| 11 | 342                                    | 53.2 | -21 32.9 | 95                      | 05.6 <sup>136</sup>                                                                | +3 07.1 <sup>150</sup> | 10 N    | 5 32                                | 5 58    | 6 21          | 23 02               | 51   | 10 41          | 41   |    |   |
| 12 | 357                                    | 53.0 | -21 32.5 | 109                     | 38.3 <sup>137</sup>                                                                | +2 51.9 <sup>152</sup> | 0       | 5 17                                | 5 43    | 6 05          | 23 02               | 46   | 10 38          | 46   |    |   |
| 13 | 12                                     | 52.7 | 32.1     | 124                     | 11.0 <sup>137</sup>                                                                | 36.8 <sup>151</sup>    | 10 S    | 4 59                                | 26      | 5 49          | 02 42               |      | 36             | 50   |    |   |
| 14 | 27                                     | 52.5 | 31.6     | 138                     | 43.6 <sup>136</sup>                                                                | 21.6 <sup>152</sup>    | 20      | 39                                  | 5 07    | 31            | 02 37               |      | 34             | 55   |    |   |
| 15 | 42                                     | 52.3 | 31.2     | 153                     | 16.2 <sup>136</sup>                                                                | +2 06.4 <sup>152</sup> | 30      | 4 12                                | 4 44    | 5 11          | 02 32               |      | 31             | 60   |    |   |
| 16 | 57                                     | 52.0 | 30.8     | 167                     | 48.9 <sup>137</sup>                                                                | +1 51.2 <sup>152</sup> | 35      | 3 55                                | 30      | 4 59          | 02 28               |      | 29             | 64   |    |   |
| 17 | 72                                     | 51.8 | -21 30.4 | 182                     | 21.5 <sup>136</sup>                                                                | +1 36.0 <sup>152</sup> | 40      | 3 34                                | 4 14    | 4 46          | 23 03               | 24   | 10 27          | 68   |    |   |
| 18 | 87                                     | 51.6 | -21 30.0 | 196                     | 54.0 <sup>135</sup>                                                                | +1 20.7 <sup>153</sup> | 45      | 3 07                                | 3 54    | 4 30          | 23 03               | 20   | 10 25          | 72   |    |   |
| 19 | 102                                    | 51.3 | 29.5     | 211                     | 26.6 <sup>136</sup>                                                                | +1 05.5 <sup>152</sup> | 50      | 2 28                                | 27      | 09            | 03 15               |      | 22             | 77   |    |   |
| 20 | 117                                    | 51.1 | 29.1     | 225                     | 59.2 <sup>136</sup>                                                                | +0 50.2 <sup>153</sup> | 52      | 2 06                                | 3 14    | 4 00          | 03 13               |      | 21             | 79   |    |   |
| 21 | 132                                    | 50.9 | 28.7     | 240                     | 31.7 <sup>135</sup>                                                                | 34.9 <sup>153</sup>    | 54      | 1 37                                | 2 59    | 3 49          | 03 11               |      | 19             | 83   |    |   |
| 22 | 147                                    | 50.6 | 28.3     | 255                     | 04.2 <sup>135</sup>                                                                | 19.6 <sup>153</sup>    | 56      | 0 45                                | 40      | 37            | 03 8                |      | 18             | 85   |    |   |
| 23 | 162                                    | 50.4 | 27.8     | 269                     | 36.7 <sup>135</sup>                                                                | +0 04.2 <sup>154</sup> | 58      | ** **                               | 2 17    | 22            | 03 5                |      | 16             | 89   |    |   |
| 24 | 177                                    | 50.1 | -21 27.4 | 284                     | 09.1 <sup>134</sup>                                                                | -0 11.1 <sup>153</sup> | 60 S    | ** **                               | 1 46    | 3 05          | 23 03               | 2    | 10 14          | 92   |    |   |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |          | JÚPITER                                          |          | SATURNO                                           |          |          |          |  |   |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|----------|--------------------------------------------------|----------|---------------------------------------------------|----------|----------|----------|--|---|
|     | PMG: 16 <sup>h</sup> 30 <sup>m</sup> 0 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 36 <sup>m</sup> |      | Mag: +0.4<br>PMG: 17 <sup>h</sup> 32 <sup>m</sup> |          | Mag: -2.3<br>PMG: 3 <sup>h</sup> 53 <sup>m</sup> |          | Mag: -0.4<br>PMG: 23 <sup>h</sup> 07 <sup>m</sup> |          |          |          |  |   |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec      | hG ♃                                             | Dec      | hG ♄                                              | Dec      |          |          |  |   |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '        | °                                                | '        | °                                                 | '        |          |          |  |   |
| 0   | 111                                    | 49.4 | 141                                               | 09.2 | -13 45.1                                          | 96 42.6  | +6 47.5                                          | 301 38.8 | +5 36.3                                           | 12 19.1  | +22 30.2 |          |  |   |
| 1   | 126                                    | 51.9 | 156                                               | 08.7 | 44.0                                              | 111 43.7 | 48.1                                             | 316 41.4 | 36.3                                              | 27 21.8  | 30.2     |          |  |   |
| 2   | 141                                    | 54.3 | 171                                               | 08.3 | 42.9                                              | 126 44.7 | 48.8                                             | 331 43.9 | 36.4                                              | 42 24.5  | 30.3     |          |  |   |
| 3   | 156                                    | 56.8 | 186                                               | 07.8 | 41.8                                              | 141 45.8 | 49.4                                             | 346 46.4 | 36.4                                              | 57 27.2  | 30.3     |          |  |   |
| 4   | 171                                    | 59.3 | 201                                               | 07.4 | 40.7                                              | 156 46.8 | 50.1                                             | 1 48.9   | 36.5                                              | 72 29.8  | 30.3     |          |  |   |
| 5   | 187                                    | 01.7 | 216                                               | 06.9 | -13 39.6                                          | 171 47.8 | +6 50.7                                          | 16 51.5  | +5 36.5                                           | 87 32.5  | +22 30.3 |          |  |   |
| 6   | 202                                    | 04.2 | 231                                               | 06.5 | -13 38.4                                          | 186 48.9 | +6 51.3                                          | 31 54.0  | +5 36.5                                           | 102 35.2 | +22 30.3 |          |  |   |
| 7   | 217                                    | 06.7 | 246                                               | 06.0 | 37.3                                              | 201 49.9 | 52.0                                             | 46 56.5  | 36.6                                              | 117 37.9 | 30.4     |          |  |   |
| 8   | 232                                    | 09.1 | 261                                               | 05.6 | 36.2                                              | 216 51.0 | 52.6                                             | 61 59.1  | 36.6                                              | 132 40.6 | 30.4     |          |  |   |
| 9   | 247                                    | 11.6 | 276                                               | 05.1 | 35.1                                              | 231 52.0 | 53.3                                             | 77 01.6  | 36.7                                              | 147 43.2 | 30.4     |          |  |   |
| 10  | 262                                    | 14.0 | 291                                               | 04.7 | 34.0                                              | 246 53.0 | 53.9                                             | 92 04.1  | 36.7                                              | 162 45.9 | 30.4     |          |  |   |
| 11  | 277                                    | 16.5 | 306                                               | 04.2 | -13 32.9                                          | 261 54.1 | +6 54.5                                          | 107 06.6 | +5 36.7                                           | 177 48.6 | +22 30.4 |          |  |   |
| 12  | 292                                    | 19.0 | 321                                               | 03.8 | -13 31.7                                          | 276 55.1 | +6 55.2                                          | 122 09.2 | +5 36.8                                           | 192 51.3 | +22 30.4 |          |  |   |
| 13  | 307                                    | 21.4 | 336                                               | 03.3 | 30.6                                              | 291 56.2 | 55.8                                             | 137 11.7 | 36.8                                              | 207 53.9 | 30.5     |          |  |   |
| 14  | 322                                    | 23.9 | 351                                               | 02.9 | 29.5                                              | 306 57.2 | 56.4                                             | 152 14.2 | 36.9                                              | 222 56.6 | 30.5     |          |  |   |
| 15  | 337                                    | 26.4 | 6                                                 | 02.4 | 28.4                                              | 321 58.2 | 57.1                                             | 167 16.8 | 36.9                                              | 237 59.3 | 30.5     |          |  |   |
| 16  | 352                                    | 28.8 | 21                                                | 02.0 | 27.3                                              | 336 59.3 | 57.7                                             | 182 19.3 | 36.9                                              | 253 02.0 | 30.5     |          |  |   |
| 17  | 7                                      | 31.3 | 36                                                | 01.5 | -13 26.1                                          | 352 00.3 | +6 58.4                                          | 197 21.8 | +5 37.0                                           | 268 04.6 | +22 30.5 |          |  |   |
| 18  | 22                                     | 33.8 | 51                                                | 01.1 | -13 25.0                                          | 7        | 01.4                                             | +6 59.0  | 212 24.4                                          | +5 37.0  | 283 07.3 | +22 30.6 |  |   |
| 19  | 37                                     | 36.2 | 66                                                | 00.6 | 23.9                                              | 22       | 02.4                                             | +6 59.6  | 227 26.9                                          | 37.1     | 298 10.0 | 30.6     |  |   |
| 20  | 52                                     | 38.7 | 81                                                | 00.2 | 22.8                                              | 37       | 03.4                                             | +7 00.3  | 242 29.4                                          | 37.1     | 313 12.7 | 30.6     |  |   |
| 21  | 67                                     | 41.2 | 95                                                | 59.7 | 21.7                                              | 52       | 04.5                                             | 00.9     | 257 32.0                                          | 37.1     | 328 15.3 | 30.6     |  |   |
| 22  | 82                                     | 43.6 | 110                                               | 59.3 | 20.5                                              | 67       | 05.5                                             | 01.6     | 272 34.5                                          | 37.2     | 343 18.0 | 30.6     |  |   |
| 23  | 97                                     | 46.1 | 125                                               | 58.9 | 19.4                                              | 82       | 06.5                                             | 02.2     | 287 37.0                                          | 37.2     | 358 20.7 | 30.6     |  |   |
| 24  | 112                                    | 48.5 | 140                                               | 58.4 | -13 18.3                                          | 97       | 07.6                                             | +7 02.8  | 302 39.6                                          | +5 37.3  | 13 23.4  | +22 30.7 |  |   |
| Dif | —                                      |      | -4                                                |      | +11                                               | +10      |                                                  | +6       | +25                                               |          | 0        | +27      |  | 0 |



| UT  | SOL                                                |          |                                                   | ☾ LUNA                                                                           |                     |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                             |          |         | Salida de Luna                                    |    | Puesta de Luna |    |
|-----|----------------------------------------------------|----------|---------------------------------------------------|----------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|---------------|--------------------------------------------------|----------|---------|---------------------------------------------------|----|----------------|----|
|     | SD: 16/3<br>PMG: 12 <sup>h</sup> 08 <sup>m</sup> 8 |          |                                                   | Edad: 21 <sup>d</sup> 6 PHE {<br>SD: 15/8<br>PMG: 5 <sup>h</sup> 13 <sup>m</sup> |                     |                                                   |          |               |                                                  |          |         |                                                   |    |                |    |
|     | hG ☉                                               | Dec      |                                                   | hG ☾                                                                             | Dif                 | Dec                                               |          |               | Dif                                              | Civil    | Náutico | Hora                                              | R° | Hora           | R° |
| h   | °                                                  | '        | °                                                 | °                                                                                | '                   | °                                                 | '        | °             | h m                                              | h m      | h m     | h m m                                             |    | h m m          |    |
| 0   | 177                                                | 50.1     | -21 27.4                                          | 284                                                                              | 09.1                | -0 11.1                                           |          | 60 N          | 15 28                                            | 16 21    | 17 16   | ** ** *                                           |    | 11 02          | 2  |
| 1   | 192                                                | 49.9     | 27.0                                              | 298                                                                              | 41.6 <sup>135</sup> | 26.5 <sup>154</sup>                               |          | 58            | 43                                               | 31       | 22      | ** ** *                                           |    | 03             | 6  |
| 2   | 207                                                | 49.7     | 26.5                                              | 313                                                                              | 14.0 <sup>134</sup> | 41.8 <sup>153</sup>                               |          | 56            | 15 55                                            | 40       | 27      | ** ** *                                           |    | 05             | 8  |
| 3   | 222                                                | 49.4     | 26.1                                              | 327                                                                              | 46.3 <sup>133</sup> | -0 57.2 <sup>154</sup>                            |          | 54            | 16 06                                            | 48       | 33      | ** ** *                                           |    | 06             | 11 |
| 4   | 237                                                | 49.2     | 25.7                                              | 342                                                                              | 18.7 <sup>134</sup> | -1 12.6 <sup>154</sup>                            |          | 52            | 16                                               | 16 55    | 37      | ** ** *                                           |    | 07             | 14 |
| 5   | 252                                                | 49.0     | -21 25.3                                          | 356                                                                              | 51.0 <sup>133</sup> | -1 28.0 <sup>154</sup>                            |          | 50            | 16 24                                            | 17 01    | 17 42   | ** ** *                                           |    | 11 09          | 16 |
| 6   | 267                                                | 48.8     | -21 24.8                                          | 11                                                                               | 23.3 <sup>133</sup> | -1 43.4 <sup>154</sup>                            |          | 45            | 16 42                                            | 17 15    | 17 52   | ** ** *                                           |    | 11 11          | 21 |
| 7   | 282                                                | 48.5     | 24.4                                              | 25                                                                               | 55.5 <sup>132</sup> | -1 58.8 <sup>154</sup>                            |          | 40            | 16 57                                            | 27       | 18 01   | ** ** *                                           |    | 13             | 25 |
| 8   | 297                                                | 48.3     | 24.0                                              | 40                                                                               | 27.8 <sup>133</sup> | -2 14.2 <sup>154</sup>                            |          | 35            | 17 10                                            | 38       | 09      | ** ** *                                           |    | 15             | 29 |
| 9   | 312                                                | 48.1     | 23.5                                              | 54                                                                               | 59.9 <sup>131</sup> | 29.6 <sup>154</sup>                               |          | 30            | 21                                               | 17 47    | 16      | ** ** *                                           |    | 16             | 33 |
| 10  | 327                                                | 47.8     | 23.1                                              | 69                                                                               | 32.1 <sup>132</sup> | -2 45.0 <sup>154</sup>                            |          | 20            | 40                                               | 18 04    | 31      | 23 58                                             | 58 | 19             | 38 |
| 11  | 342                                                | 47.6     | -21 22.7                                          | 84                                                                               | 04.2 <sup>131</sup> | -3 00.5 <sup>155</sup>                            |          | 10 N          | 17 57                                            | 18 19    | 18 45   | 23 53                                             | 53 | 11 22          | 42 |
| 12  | 357                                                | 47.4     | -21 22.2                                          | 98                                                                               | 36.2 <sup>130</sup> | -3 15.9 <sup>154</sup>                            |          | 0             | 18 13                                            | 18 35    | 19 01   | 23 48                                             | 49 | 11 24          | 47 |
| 13  | 12                                                 | 47.1     | 21.8                                              | 113                                                                              | 08.3 <sup>131</sup> | 31.3 <sup>154</sup>                               |          | 10 S          | 28                                               | 18 51    | 18      | 44                                                | 44 | 26             | 52 |
| 14  | 27                                                 | 46.9     | 21.3                                              | 127                                                                              | 40.2 <sup>129</sup> | -3 46.7 <sup>154</sup>                            |          | 20            | 18 45                                            | 19 10    | 19 38   | 39                                                | 39 | 29             | 56 |
| 15  | 42                                                 | 46.7     | 20.9                                              | 142                                                                              | 12.2 <sup>130</sup> | -4 02.1 <sup>154</sup>                            |          | 30            | 19 05                                            | 32       | 20 04   | 34                                                | 33 | 31             | 63 |
| 16  | 57                                                 | 46.4     | 20.5                                              | 156                                                                              | 44.1 <sup>129</sup> | 17.5 <sup>154</sup>                               |          | 35            | 17                                               | 19 46    | 21      | 30                                                | 31 | 33             | 66 |
| 17  | 72                                                 | 46.2     | -21 20.0                                          | 171                                                                              | 15.9 <sup>128</sup> | -4 32.9 <sup>154</sup>                            |          | 40            | 19 30                                            | 20 02    | 20 42   | 23 27                                             | 27 | 11 35          | 69 |
| 18  | 87                                                 | 46.0     | -21 19.6                                          | 185                                                                              | 47.7 <sup>128</sup> | -4 48.3 <sup>154</sup>                            |          | 45            | 19 46                                            | 20 22    | 21 08   | 23 23                                             | 22 | 11 37          | 74 |
| 19  | 102                                                | 45.8     | 19.1                                              | 200                                                                              | 19.4 <sup>127</sup> | -5 03.7 <sup>154</sup>                            |          | 50            | 20 06                                            | 20 48    | 21 46   | 18                                                | 17 | 39             | 80 |
| 20  | 117                                                | 45.5     | 18.7                                              | 214                                                                              | 51.1 <sup>127</sup> | 19.0 <sup>153</sup>                               |          | 52            | 16                                               | 21 01    | 22 07   | 16                                                | 15 | 40             | 83 |
| 21  | 132                                                | 45.3     | 18.3                                              | 229                                                                              | 22.8 <sup>127</sup> | 34.4 <sup>154</sup>                               |          | 54            | 26                                               | 16       | 22 34   | 14                                                | 12 | 42             | 85 |
| 22  | 147                                                | 45.1     | 17.8                                              | 243                                                                              | 54.4 <sup>126</sup> | -5 49.7 <sup>153</sup>                            |          | 56            | 38                                               | 34       | 23 19   | 11                                                | 9  | 43             | 88 |
| 23  | 162                                                | 44.9     | 17.4                                              | 258                                                                              | 25.9 <sup>125</sup> | -6 05.0 <sup>153</sup>                            |          | 58            | 20 52                                            | 21 56    | ** ** * | 08                                                | 6  | 45             | 91 |
| 24  | 177                                                | 44.6     | -21 16.9                                          | 272                                                                              | 57.4 <sup>125</sup> | -6 20.3 <sup>153</sup>                            |          | 60 S          | 21 09                                            | 22 25    | ** ** * | 23 05                                             | 2  | 11 46          | 96 |
| UT  | ARIES                                              |          | VENUS                                             |                                                                                  |                     | MARTE                                             |          |               | JÚPITER                                          |          |         | SATURNO                                           |    |                |    |
|     | PMG: 16 <sup>h</sup> 26 <sup>m</sup> 1             |          | Mag: -4.0<br>PMG: 14 <sup>h</sup> 37 <sup>m</sup> |                                                                                  |                     | Mag: +0.5<br>PMG: 17 <sup>h</sup> 30 <sup>m</sup> |          |               | Mag: -2.3<br>PMG: 3 <sup>h</sup> 49 <sup>m</sup> |          |         | Mag: -0.4<br>PMG: 23 <sup>h</sup> 02 <sup>m</sup> |    |                |    |
|     | hG ♈                                               | Dec      | hG ♀                                              | Dec                                                                              | hG ♂                | Dec                                               | hG ♃     | Dec           | hG ♄                                             | Dec      | hG ♅    | Dec                                               |    |                |    |
| h   | °                                                  | '        | °                                                 | '                                                                                | °                   | '                                                 | °        | '             | °                                                | '        | °       | '                                                 | °  | '              | °  |
| 0   | 112                                                | 48.5     | 140 58.4                                          | -13 18.3                                                                         | 97 07.6             | +7 02.8                                           | 302 39.6 | +5 37.3       | 13 23.4                                          | +22 30.7 |         |                                                   |    |                |    |
| 1   | 127                                                | 51.0     | 155 58.0                                          | 17.2                                                                             | 112 08.6            | 03.5                                              | 317 42.1 | 37.3          | 28 26.0                                          | 30.7     |         |                                                   |    |                |    |
| 2   | 142                                                | 53.5     | 170 57.5                                          | 16.0                                                                             | 127 09.7            | 04.1                                              | 332 44.6 | 37.4          | 43 28.7                                          | 30.7     |         |                                                   |    |                |    |
| 3   | 157                                                | 55.9     | 185 57.1                                          | 14.9                                                                             | 142 10.7            | 04.7                                              | 347 47.2 | 37.4          | 58 31.4                                          | 30.7     |         |                                                   |    |                |    |
| 4   | 172                                                | 58.4     | 200 56.6                                          | 13.8                                                                             | 157 11.7            | 05.4                                              | 2 49.7   | 37.4          | 73 34.1                                          | 30.7     |         |                                                   |    |                |    |
| 5   | 188                                                | 00.9     | 215 56.2                                          | -13 12.6                                                                         | 172 12.8            | +7 06.0                                           | 17 52.2  | +5 37.5       | 88 36.7                                          | +22 30.7 |         |                                                   |    |                |    |
| 6   | 203                                                | 03.3     | 230 55.8                                          | -13 11.5                                                                         | 187 13.8            | +7 06.7                                           | 32 54.8  | +5 37.5       | 103 39.4                                         | +22 30.8 |         |                                                   |    |                |    |
| 7   | 218                                                | 05.8     | 245 55.3                                          | 10.4                                                                             | 202 14.8            | 07.3                                              | 47 57.3  | 37.6          | 118 42.1                                         | 30.8     |         |                                                   |    |                |    |
| 8   | 233                                                | 08.3     | 260 54.9                                          | 09.3                                                                             | 217 15.9            | 07.9                                              | 62 59.8  | 37.6          | 133 44.8                                         | 30.8     |         |                                                   |    |                |    |
| 9   | 248                                                | 10.7     | 275 54.5                                          | 08.1                                                                             | 232 16.9            | 08.6                                              | 78 02.4  | 37.7          | 148 47.4                                         | 30.8     |         |                                                   |    |                |    |
| 10  | 263                                                | 13.2     | 290 54.0                                          | 07.0                                                                             | 247 17.9            | 09.2                                              | 93 04.9  | 37.7          | 163 50.1                                         | 30.8     |         |                                                   |    |                |    |
| 11  | 278                                                | 15.6     | 305 53.6                                          | -13 05.9                                                                         | 262 19.0            | +7 09.9                                           | 108 07.5 | +5 37.7       | 178 52.8                                         | +22 30.9 |         |                                                   |    |                |    |
| 12  | 293                                                | 18.1     | 320 53.1                                          | -13 04.7                                                                         | 277 20.0            | +7 10.5                                           | 123 10.0 | +5 37.8       | 193 55.5                                         | +22 30.9 |         |                                                   |    |                |    |
| 13  | 308                                                | 20.6     | 335 52.7                                          | 03.6                                                                             | 292 21.0            | 11.1                                              | 138 12.5 | 37.8          | 208 58.1                                         | 30.9     |         |                                                   |    |                |    |
| 14  | 323                                                | 23.0     | 350 52.3                                          | 02.5                                                                             | 307 22.1            | 11.8                                              | 153 15.1 | 37.9          | 224 00.8                                         | 30.9     |         |                                                   |    |                |    |
| 15  | 338                                                | 25.5     | 5 51.8                                            | 01.3                                                                             | 322 23.1            | 12.4                                              | 168 17.6 | 37.9          | 239 03.5                                         | 30.9     |         |                                                   |    |                |    |
| 16  | 353                                                | 28.0     | 20 51.4                                           | -13 00.2                                                                         | 337 24.2            | 13.0                                              | 183 20.1 | 38.0          | 254 06.2                                         | 30.9     |         |                                                   |    |                |    |
| 17  | 8 30.4                                             | 35 51.0  | -12 59.1                                          | 352 25.2                                                                         | +7 13.7             | 198 22.7                                          | +5 38.0  | 269 08.8      | +22 31.0                                         |          |         |                                                   |    |                |    |
| 18  | 23 32.9                                            | 50 50.5  | -12 57.9                                          | 7 26.2                                                                           | +7 14.3             | 213 25.2                                          | +5 38.0  | 284 11.5      | +22 31.0                                         |          |         |                                                   |    |                |    |
| 19  | 38 35.4                                            | 65 50.1  | 56.8                                              | 22 27.3                                                                          | 15.0                | 228 27.8                                          | 38.1     | 299 14.2      | 31.0                                             |          |         |                                                   |    |                |    |
| 20  | 53 37.8                                            | 80 49.7  | 55.7                                              | 37 28.3                                                                          | 15.6                | 243 30.3                                          | 38.1     | 314 16.9      | 31.0                                             |          |         |                                                   |    |                |    |
| 21  | 68 40.3                                            | 95 49.2  | 54.5                                              | 52 29.3                                                                          | 16.2                | 258 32.8                                          | 38.2     | 329 19.5      | 31.0                                             |          |         |                                                   |    |                |    |
| 22  | 83 42.8                                            | 110 48.8 | 53.4                                              | 67 30.4                                                                          | 16.9                | 273 35.4                                          | 38.2     | 344 22.2      | 31.1                                             |          |         |                                                   |    |                |    |
| 23  | 98 45.2                                            | 125 48.4 | 52.2                                              | 82 31.4                                                                          | 17.5                | 288 37.9                                          | 38.3     | 359 24.9      | 31.1                                             |          |         |                                                   |    |                |    |
| 24  | 113 47.7                                           | 140 48.0 | -12 51.1                                          | 97 32.4                                                                          | +7 18.1             | 303 40.5                                          | +5 38.3  | 14 27.6       | +22 31.1                                         |          |         |                                                   |    |                |    |
| Dif | —                                                  |          | -4 +11                                            |                                                                                  |                     | +10 +6                                            |          | +25 0         |                                                  | +27 0    |         |                                                   |    |                |    |

| UT | SOL                                    |      |          |  LUNA |                     |                                                                           | Latitud             | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------|------|----------|----------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------|---------------------|--------------------------|---------|---------------|----------------|----------|----------------|-------|
|    | SD: 16'3                               |      |          | Edad: 22 <sup>d</sup> 6                                                                | PHE                 | 4 <sup>h</sup> : 58'6<br>12 <sup>h</sup> : 58'8<br>20 <sup>h</sup> : 59'0 |                     | Náutico                  | Civil   |               | Hora           | R°       | Hora           | R°    |
|    | PMG: 12 <sup>h</sup> 09 <sup>m</sup> 2 |      |          |                                                                                        |                     |                                                                           |                     |                          |         |               |                |          |                |       |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                   | Dif                 | Dec                                                                       | Dif                 |                          |         |               |                |          |                |       |
| h  | °                                      | '    | °        | °                                                                                      | '                   | °                                                                         | '                   | °                        | h m     | h m           | h m            | h m m    | h m m          | h m m |
| 0  | 177                                    | 44.6 | -21 16.9 | 272                                                                                    | 57.4                | -6 20.3                                                                   |                     | 60 N                     | 7 02    | 7 56          | 8 49           | 0 36 98  | 11 04 2        |       |
| 1  | 192                                    | 44.4 |          | 287                                                                                    | 28.8 <sup>124</sup> |                                                                           | 35.6 <sup>153</sup> | 58                       | 6 55    | 46            | 34             | 32 94    | 09 7           |       |
| 2  | 207                                    | 44.2 |          | 302                                                                                    | 00.1 <sup>123</sup> | -6 50.9 <sup>153</sup>                                                    |                     | 56                       | 50      | 37            | 22             | 29 90    | 13 11          |       |
| 3  | 222                                    | 43.9 |          | 316                                                                                    | 31.4 <sup>123</sup> | -7 06.1 <sup>152</sup>                                                    |                     | 54                       | 45      | 30            | 11             | 26 87    | 17 14          |       |
| 4  | 237                                    | 43.7 |          | 331                                                                                    | 02.7 <sup>123</sup> |                                                                           | 21.4 <sup>153</sup> | 52                       | 40      | 23            | 8 02           | 23 84    | 21 16          |       |
| 5  | 252                                    | 43.5 | -21 14.7 | 345                                                                                    | 33.8 <sup>121</sup> | -7 36.6 <sup>152</sup>                                                    |                     | 50                       | 6 36    | 7 16          | 7 53           | 0 21 81  | 11 25 18       |       |
| 6  | 267                                    | 43.3 | -21 14.2 | 0                                                                                      | 05.0 <sup>122</sup> | -7 51.8 <sup>152</sup>                                                    |                     | 45                       | 6 26    | 7 02          | 7 35           | 0 15 76  | 11 32 24       |       |
| 7  | 282                                    | 43.0 |          | 14                                                                                     | 36.0 <sup>120</sup> | -8 06.9 <sup>151</sup>                                                    |                     | 40                       | 17      | 6 51          | 20             | 11 71    | 38 29          |       |
| 8  | 297                                    | 42.8 |          | 29                                                                                     | 07.0 <sup>120</sup> |                                                                           | 22.0 <sup>151</sup> | 35                       | 09      | 40            | 7 08           | 07 68    | 44 32          |       |
| 9  | 312                                    | 42.6 |          | 43                                                                                     | 37.9 <sup>119</sup> |                                                                           | 37.1 <sup>151</sup> | 30                       | 6 02    | 31            | 6 57           | 0 04 64  | 49 35          |       |
| 10 | 327                                    | 42.4 |          | 58                                                                                     | 08.7 <sup>118</sup> | -8 52.2 <sup>151</sup>                                                    |                     | 20                       | 5 47    | 6 14          | 38             | ** ** *  | 11 57 41       |       |
| 11 | 342                                    | 42.1 | -21 12.0 | 72                                                                                     | 39.5 <sup>118</sup> | -9 07.3 <sup>151</sup>                                                    |                     | 10 N                     | 5 33    | 5 59          | 6 21           | ** ** *  | 12 04 46       |       |
| 12 | 357                                    | 41.9 | -21 11.5 | 87                                                                                     | 10.2 <sup>117</sup> | -9 22.3 <sup>150</sup>                                                    |                     | 0                        | 5 18    | 5 43          | 6 06           | ** ** *  | 12 11 50       |       |
| 13 | 12                                     | 41.7 |          | 101                                                                                    | 40.8 <sup>116</sup> |                                                                           | 37.2 <sup>149</sup> | 10 S                     | 5 00    | 27            | 5 50           | ** ** *  | 18 55          |       |
| 14 | 27                                     | 41.5 |          | 116                                                                                    | 11.4 <sup>116</sup> | -9 52.2 <sup>150</sup>                                                    |                     | 20                       | 4 40    | 5 09          | 33             | ** ** *  | 25 60          |       |
| 15 | 42                                     | 41.3 |          | 130                                                                                    | 41.8 <sup>114</sup> | -10 07.1 <sup>149</sup>                                                   |                     | 30                       | 4 14    | 4 46          | 13             | ** ** *  | 34 66          |       |
| 16 | 57                                     | 41.0 |          | 145                                                                                    | 12.2 <sup>114</sup> |                                                                           | 21.9 <sup>148</sup> | 35                       | 3 57    | 32            | 5 01           | ** ** *  | 39 69          |       |
| 17 | 72                                     | 40.8 | -21 09.3 | 159                                                                                    | 42.5 <sup>113</sup> | -10 36.8 <sup>149</sup>                                                   |                     | 40                       | 3 37    | 4 16          | 4 48           | 23 54 31 | 12 44 73       |       |
| 18 | 87                                     | 40.6 | -21 08.8 | 174                                                                                    | 12.8 <sup>113</sup> | -10 51.5 <sup>147</sup>                                                   |                     | 45                       | 3 10    | 3 56          | 4 32           | 23 45 27 | 12 51 77       |       |
| 19 | 102                                    | 40.4 |          | 188                                                                                    | 42.9 <sup>111</sup> | -11 06.3 <sup>148</sup>                                                   |                     | 50                       | 2 32    | 30            | 12             | 35 22    | 12 59 83       |       |
| 20 | 117                                    | 40.1 |          | 203                                                                                    | 13.0 <sup>111</sup> |                                                                           | 21.0 <sup>147</sup> | 52                       | 2 12    | 18            | 4 03           | 31 19    | 13 03 85       |       |
| 21 | 132                                    | 39.9 |          | 217                                                                                    | 43.0 <sup>110</sup> |                                                                           | 35.6 <sup>146</sup> | 54                       | 1 44    | 3 03          | 3 52           | 26 16    | 07 88          |       |
| 22 | 147                                    | 39.7 |          | 232                                                                                    | 12.9 <sup>109</sup> | -11 50.2 <sup>146</sup>                                                   |                     | 56                       | 0 59    | 2 45          | 40             | 20 13    | 11 92          |       |
| 23 | 162                                    | 39.5 |          | 246                                                                                    | 42.7 <sup>108</sup> | -12 04.7 <sup>145</sup>                                                   |                     | 58                       | ** ** * | 2 23          | 26             | 14 9     | 16 96          |       |
| 24 | 177                                    | 39.3 | -21 06.0 | 261                                                                                    | 12.4 <sup>107</sup> | -12 19.2 <sup>145</sup>                                                   |                     | 60 S                     | ** ** * | 1 53          | 3 10           | 23 07 5  | 13 22 100      |       |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |          | JÚPITER                                          |          | SATURNO                                           |          |          |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|----------|--------------------------------------------------|----------|---------------------------------------------------|----------|----------|
|     | PMG: 16 <sup>h</sup> 22 <sup>m</sup> 1 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 37 <sup>m</sup> |      | Mag: +0.5<br>PMG: 17 <sup>h</sup> 29 <sup>m</sup> |          | Mag: -2.3<br>PMG: 3 <sup>h</sup> 45 <sup>m</sup> |          | Mag: -0.4<br>PMG: 22 <sup>h</sup> 58 <sup>m</sup> |          |          |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec      | hG ♃                                             | Dec      | hG ♄                                              | Dec      |          |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '        | °                                                | '        | °                                                 | '        |          |
| 0   | 113                                    | 47.7 | 140                                               | 48.0 | -12 51.1                                          | 97 32.4  | +7 18.1                                          | 303 40.5 | +5 38.3                                           | 14 27.6  | +22 31.1 |
| 1   | 128                                    | 50.1 | 155                                               | 47.5 | 50.0                                              | 112 33.5 | 18.8                                             | 318 43.0 | 38.4                                              | 29 30.2  | 31.1     |
| 2   | 143                                    | 52.6 | 170                                               | 47.1 | 48.8                                              | 127 34.5 | 19.4                                             | 333 45.5 | 38.4                                              | 44 32.9  | 31.1     |
| 3   | 158                                    | 55.1 | 185                                               | 46.7 | 47.7                                              | 142 35.5 | 20.0                                             | 348 48.1 | 38.4                                              | 59 35.6  | 31.1     |
| 4   | 173                                    | 57.5 | 200                                               | 46.2 | 46.5                                              | 157 36.6 | 20.7                                             | 3 50.6   | 38.5                                              | 74 38.3  | 31.2     |
| 5   | 189                                    | 00.0 | 215                                               | 45.8 | -12 45.4                                          | 172 37.6 | +7 21.3                                          | 18 53.2  | +5 38.5                                           | 89 40.9  | +22 31.2 |
| 6   | 204                                    | 02.5 | 230                                               | 45.4 | -12 44.3                                          | 187 38.6 | +7 22.0                                          | 33 55.7  | +5 38.6                                           | 104 43.6 | +22 31.2 |
| 7   | 219                                    | 04.9 | 245                                               | 45.0 | 43.1                                              | 202 39.6 | 22.6                                             | 48 58.3  | 38.6                                              | 119 46.3 | 31.2     |
| 8   | 234                                    | 07.4 | 260                                               | 44.5 | 42.0                                              | 217 40.7 | 23.2                                             | 64 00.8  | 38.7                                              | 134 49.0 | 31.2     |
| 9   | 249                                    | 09.9 | 275                                               | 44.1 | 40.8                                              | 232 41.7 | 23.9                                             | 79 03.3  | 38.7                                              | 149 51.6 | 31.2     |
| 10  | 264                                    | 12.3 | 290                                               | 43.7 | 39.7                                              | 247 42.7 | 24.5                                             | 94 05.9  | 38.8                                              | 164 54.3 | 31.3     |
| 11  | 279                                    | 14.8 | 305                                               | 43.3 | -12 38.5                                          | 262 43.8 | +7 25.1                                          | 109 08.4 | +5 38.8                                           | 179 57.0 | +22 31.3 |
| 12  | 294                                    | 17.3 | 320                                               | 42.8 | -12 37.4                                          | 277 44.8 | +7 25.8                                          | 124 11.0 | +5 38.9                                           | 194 59.7 | +22 31.3 |
| 13  | 309                                    | 19.7 | 335                                               | 42.4 | 36.2                                              | 292 45.8 | 26.4                                             | 139 13.5 | 38.9                                              | 210 02.3 | 31.3     |
| 14  | 324                                    | 22.2 | 350                                               | 42.0 | 35.1                                              | 307 46.9 | 27.0                                             | 154 16.1 | 39.0                                              | 225 05.0 | 31.3     |
| 15  | 339                                    | 24.6 | 5                                                 | 41.6 | 33.9                                              | 322 47.9 | 27.7                                             | 169 18.6 | 39.0                                              | 240 07.7 | 31.4     |
| 16  | 354                                    | 27.1 | 20                                                | 41.2 | 32.8                                              | 337 48.9 | 28.3                                             | 184 21.2 | 39.0                                              | 255 10.3 | 31.4     |
| 17  | 9                                      | 29.6 | 35                                                | 40.7 | -12 31.6                                          | 352 50.0 | +7 29.0                                          | 199 23.7 | +5 39.1                                           | 270 13.0 | +22 31.4 |
| 18  | 24                                     | 32.0 | 50                                                | 40.3 | -12 30.5                                          | 7 51.0   | +7 29.6                                          | 214 26.3 | +5 39.1                                           | 285 15.7 | +22 31.4 |
| 19  | 39                                     | 34.5 | 65                                                | 39.9 | 29.3                                              | 22 52.0  | 30.2                                             | 229 28.8 | 39.2                                              | 300 18.4 | 31.4     |
| 20  | 54                                     | 37.0 | 80                                                | 39.5 | 28.2                                              | 37 53.0  | 30.9                                             | 244 31.3 | 39.2                                              | 315 21.0 | 31.4     |
| 21  | 69                                     | 39.4 | 95                                                | 39.1 | 27.0                                              | 52 54.1  | 31.5                                             | 259 33.9 | 39.3                                              | 330 23.7 | 31.5     |
| 22  | 84                                     | 41.9 | 110                                               | 38.6 | 25.9                                              | 67 55.1  | 32.1                                             | 274 36.4 | 39.3                                              | 345 26.4 | 31.5     |
| 23  | 99                                     | 44.4 | 125                                               | 38.2 | 24.7                                              | 82 56.1  | 32.8                                             | 289 39.0 | 39.4                                              | 0 29.1   | 31.5     |
| 24  | 114                                    | 46.8 | 140                                               | 37.8 | -12 23.6                                          | 97 57.2  | +7 33.4                                          | 304 41.5 | +5 39.4                                           | 15 31.7  | +22 31.5 |
| Dif | —                                      |      | -4                                                | +11  |                                                   | +10      | +6                                               | +25      | 0                                                 | +27      | 0        |

| UT  | SOL                                    |      |          | ☾ LUNA                                            |                     |                                                                                                                  | Latitud                                           | Puesta de Sol | Final del crepúsculo  |                                                  |          | Salida de Luna                      |                                                   | Puesta de Luna |                                  |
|-----|----------------------------------------|------|----------|---------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------|-----------------------|--------------------------------------------------|----------|-------------------------------------|---------------------------------------------------|----------------|----------------------------------|
|     | SD: 16 <sup>h</sup> 3                  |      |          | Edad: 23 <sup>d</sup> 6                           | PHE {               | 4 <sup>h</sup> : 59 <sup>m</sup> 2<br>12 <sup>h</sup> : 59 <sup>m</sup> 4<br>20 <sup>h</sup> : 59 <sup>m</sup> 5 |                                                   |               |                       |                                                  |          |                                     |                                                   |                |                                  |
|     | PMG: 12 <sup>h</sup> 09 <sup>m</sup> 6 |      |          |                                                   |                     |                                                                                                                  |                                                   |               | SD: 16 <sup>h</sup> 1 |                                                  |          | PMG: 6 <sup>h</sup> 49 <sup>m</sup> |                                                   |                | R <sup>o</sup> : 54 <sup>m</sup> |
|     | hG ☉                                   | Dec  |          | hG ☾                                              | Dif                 | Dec                                                                                                              | Dif                                               |               | Civil                 | Náutico                                          |          | Hora                                | R <sup>o</sup>                                    | Hora           | R <sup>o</sup>                   |
| h   | °                                      | '    | °        | °                                                 | '                   | °                                                                                                                | '                                                 | °             | h m                   | h m                                              | h m      | h m m                               |                                                   | h m m          |                                  |
| 0   | 177                                    | 39.3 | -21 06.0 | 261                                               | 12.4                | -12 19.2                                                                                                         |                                                   | 60 N          | 15 33                 | 16 25                                            | 17 19    | 2 14 105                            |                                                   | 11 06 6        |                                  |
| 1   | 192                                    | 39.0 | 05.6     | 275                                               | 42.1 <sup>107</sup> | 33.7 <sup>145</sup>                                                                                              |                                                   | 58            | 47                    | 35                                               | 25       | 2 06 99                             |                                                   | 16 10          |                                  |
| 2   | 207                                    | 38.8 | 05.1     | 290                                               | 11.6 <sup>105</sup> | -12 48.1 <sup>144</sup>                                                                                          |                                                   | 56            | 15 59                 | 43                                               | 31       | 1 59 95                             |                                                   | 24 14          |                                  |
| 3   | 222                                    | 38.6 | 04.7     | 304                                               | 41.1 <sup>105</sup> | -13 02.4 <sup>143</sup>                                                                                          |                                                   | 54            | 16 09                 | 51                                               | 35       | 53 91                               |                                                   | 31 18          |                                  |
| 4   | 237                                    | 38.4 | 04.2     | 319                                               | 10.5 <sup>104</sup> | 16.7 <sup>143</sup>                                                                                              |                                                   | 52            | 19                    | 16 58                                            | 40       | 47 88                               |                                                   | 37 22          |                                  |
| 5   | 252                                    | 38.2 | -21 03.7 | 333                                               | 39.7 <sup>102</sup> | -13 30.9 <sup>142</sup>                                                                                          |                                                   | 50            | 16 27                 | 17 04                                            | 17 44    | 1 42 85                             |                                                   | 11 43 24       |                                  |
| 6   | 267                                    | 37.9 | -21 03.3 | 348                                               | 08.9 <sup>102</sup> | -13 45.0 <sup>141</sup>                                                                                          |                                                   | 45            | 16 45                 | 17 18                                            | 17 54    | 1 31 79                             |                                                   | 11 56 29       |                                  |
| 7   | 282                                    | 37.7 | 02.8     | 2                                                 | 38.0 <sup>101</sup> | -13 59.1 <sup>141</sup>                                                                                          |                                                   | 40            | 16 59                 | 29                                               | 18 03    | 22 75                               |                                                   | 12 07 33       |                                  |
| 8   | 297                                    | 37.5 | 02.3     | 17                                                | 07.0 <sup>100</sup> | -14 13.2 <sup>141</sup>                                                                                          |                                                   | 35            | 17 12                 | 39                                               | 10       | 15 70                               |                                                   | 16 37          |                                  |
| 9   | 312                                    | 37.3 | 01.9     | 31                                                | 35.9 <sup>99</sup>  | 27.1 <sup>139</sup>                                                                                              |                                                   | 30            | 23                    | 17 49                                            | 18       | 1 08 67                             |                                                   | 24 40          |                                  |
| 10  | 327                                    | 37.1 | 01.4     | 46                                                | 04.7 <sup>98</sup>  | 41.0 <sup>139</sup>                                                                                              |                                                   | 20            | 41                    | 18 05                                            | 32       | 0 56 62                             |                                                   | 38 45          |                                  |
| 11  | 342                                    | 36.9 | -21 00.9 | 60                                                | 33.4 <sup>97</sup>  | -14 54.8 <sup>138</sup>                                                                                          |                                                   | 10 N          | 17 58                 | 18 20                                            | 18 46    | 0 46 57                             |                                                   | 12 50 50       |                                  |
| 12  | 357                                    | 36.6 | -21 00.5 | 75                                                | 02.0 <sup>96</sup>  | -15 08.6 <sup>138</sup>                                                                                          |                                                   | 0             | 18 13                 | 18 35                                            | 19 01    | 0 37 52                             |                                                   | 13 01 55       |                                  |
| 13  | 12                                     | 36.4 | -21 00.0 | 89                                                | 30.5 <sup>95</sup>  | 22.3 <sup>137</sup>                                                                                              |                                                   | 10 S          | 29                    | 18 51                                            | 18       | 28 48                               |                                                   | 13 59          |                                  |
| 14  | 27                                     | 36.2 | -20 59.5 | 103                                               | 58.9 <sup>94</sup>  | 35.9 <sup>136</sup>                                                                                              |                                                   | 20            | 18 46                 | 19 10                                            | 19 38    | 18 43                               |                                                   | 25 64          |                                  |
| 15  | 42                                     | 36.0 | 59.0     | 118                                               | 27.2 <sup>93</sup>  | -15 49.4 <sup>135</sup>                                                                                          |                                                   | 30            | 19 05                 | 32                                               | 20 04    | 07 38                               |                                                   | 40 68          |                                  |
| 16  | 57                                     | 35.8 | 58.6     | 132                                               | 55.3 <sup>91</sup>  | -16 02.9 <sup>135</sup>                                                                                          |                                                   | 35            | 16                    | 19 45                                            | 20       | 0 01 34                             |                                                   | 48 72          |                                  |
| 17  | 72                                     | 35.6 | -20 58.1 | 147                                               | 23.4 <sup>91</sup>  | -16 16.2 <sup>133</sup>                                                                                          |                                                   | 40            | 19 30                 | 20 01                                            | 20 41    | *** ** *                            |                                                   | 13 57 76       |                                  |
| 18  | 87                                     | 35.3 | -20 57.6 | 161                                               | 51.4 <sup>90</sup>  | -16 29.5 <sup>133</sup>                                                                                          |                                                   | 45            | 19 45                 | 20 21                                            | 21 07    | *** ** *                            |                                                   | 14 08 81       |                                  |
| 19  | 102                                    | 35.1 | 57.1     | 176                                               | 19.3 <sup>89</sup>  | 42.7 <sup>132</sup>                                                                                              |                                                   | 50            | 20 05                 | 46                                               | 21 43    | 23 57 28                            |                                                   | 22 86          |                                  |
| 20  | 117                                    | 34.9 | 56.7     | 190                                               | 47.0 <sup>87</sup>  | -16 55.8 <sup>131</sup>                                                                                          |                                                   | 52            | 14                    | 20 58                                            | 22 03    | 50 25                               |                                                   | 28 89          |                                  |
| 21  | 132                                    | 34.7 | 56.2     | 205                                               | 14.7 <sup>87</sup>  | -17 08.9 <sup>131</sup>                                                                                          |                                                   | 54            | 24                    | 21 13                                            | 22 29    | 42 22                               |                                                   | 35 93          |                                  |
| 22  | 147                                    | 34.5 | 55.7     | 219                                               | 42.2 <sup>85</sup>  | 21.8 <sup>129</sup>                                                                                              |                                                   | 56            | 36                    | 30                                               | 23 09    | 33 18                               |                                                   | 43 97          |                                  |
| 23  | 162                                    | 34.3 | 55.2     | 234                                               | 09.6 <sup>84</sup>  | 34.6 <sup>128</sup>                                                                                              |                                                   | 58            | 20 49                 | 21 51                                            | ** ** *  | 23 14                               |                                                   | 14 52 101      |                                  |
| 24  | 177                                    | 34.1 | -20 54.8 | 248                                               | 37.0 <sup>84</sup>  | -17 47.4 <sup>128</sup>                                                                                          |                                                   | 60 S          | 21 05                 | 22 19                                            | ** ** *  | 23 12 8                             |                                                   | 15 02 107      |                                  |
| UT  | ARIES                                  |      |          | VENUS                                             |                     |                                                                                                                  | MARTE                                             |               |                       | JÚPITER                                          |          |                                     | SATURNO                                           |                |                                  |
|     | PMG: 16 <sup>h</sup> 18 <sup>m</sup> 2 |      |          | Mag: -4.0<br>PMG: 14 <sup>h</sup> 38 <sup>m</sup> |                     |                                                                                                                  | Mag: +0.5<br>PMG: 17 <sup>h</sup> 27 <sup>m</sup> |               |                       | Mag: -2.3<br>PMG: 3 <sup>h</sup> 41 <sup>m</sup> |          |                                     | Mag: -0.4<br>PMG: 22 <sup>h</sup> 54 <sup>m</sup> |                |                                  |
|     | hG ♈                                   | hG ♀ | Dec      | hG ♂                                              | Dec                 | hG ♎                                                                                                             | Dec                                               | hG ♊          | Dec                   | hG ♏                                             | Dec      | hG ♏                                | Dec                                               | hG ♏           | Dec                              |
| h   | °                                      | '    | °        | °                                                 | '                   | °                                                                                                                | '                                                 | °             | '                     | °                                                | '        | °                                   | '                                                 | °              | '                                |
| 0   | 114                                    | 46.8 | 140 37.8 | -12 23.6                                          | 97 57.2             | +7 33.4                                                                                                          |                                                   | 304 41.5      | +5 39.4               | 15 31.7                                          | +22 31.5 |                                     |                                                   |                |                                  |
| 1   | 129                                    | 49.3 | 155 37.4 | 22.4                                              | 112 58.2            | 34.0                                                                                                             |                                                   | 319 44.1      | 39.5                  | 30 34.4                                          | 31.5     |                                     |                                                   |                |                                  |
| 2   | 144                                    | 51.7 | 170 37.0 | 21.3                                              | 127 59.2            | 34.7                                                                                                             |                                                   | 334 46.6      | 39.5                  | 45 37.1                                          | 31.6     |                                     |                                                   |                |                                  |
| 3   | 159                                    | 54.2 | 185 36.6 | 20.1                                              | 143 00.3            | 35.3                                                                                                             |                                                   | 349 49.2      | 39.6                  | 60 39.7                                          | 31.6     |                                     |                                                   |                |                                  |
| 4   | 174                                    | 56.7 | 200 36.2 | 19.0                                              | 158 01.3            | 35.9                                                                                                             |                                                   | 4 51.7        | 39.6                  | 75 42.4                                          | 31.6     |                                     |                                                   |                |                                  |
| 5   | 189                                    | 59.1 | 215 35.7 | -12 17.8                                          | 173 02.3            | +7 36.6                                                                                                          |                                                   | 19 54.3       | +5 39.7               | 90 45.1                                          | +22 31.6 |                                     |                                                   |                |                                  |
| 6   | 205                                    | 01.6 | 230 35.3 | -12 16.7                                          | 188 03.3            | +7 37.2                                                                                                          |                                                   | 34 56.8       | +5 39.7               | 105 47.8                                         | +22 31.6 |                                     |                                                   |                |                                  |
| 7   | 220                                    | 04.1 | 245 34.9 | 15.5                                              | 203 04.4            | 37.8                                                                                                             |                                                   | 49 59.4       | 39.8                  | 120 50.4                                         | 31.6     |                                     |                                                   |                |                                  |
| 8   | 235                                    | 06.5 | 260 34.5 | 14.3                                              | 218 05.4            | 38.5                                                                                                             |                                                   | 65 01.9       | 39.8                  | 135 53.1                                         | 31.7     |                                     |                                                   |                |                                  |
| 9   | 250                                    | 09.0 | 275 34.1 | 13.2                                              | 233 06.4            | 39.1                                                                                                             |                                                   | 80 04.5       | 39.9                  | 150 55.8                                         | 31.7     |                                     |                                                   |                |                                  |
| 10  | 265                                    | 11.5 | 290 33.7 | 12.0                                              | 248 07.4            | 39.8                                                                                                             |                                                   | 95 07.0       | 39.9                  | 165 58.4                                         | 31.7     |                                     |                                                   |                |                                  |
| 11  | 280                                    | 13.9 | 305 33.3 | -12 10.9                                          | 263 08.5            | +7 40.4                                                                                                          |                                                   | 110 09.6      | +5 40.0               | 181 01.1                                         | +22 31.7 |                                     |                                                   |                |                                  |
| 12  | 295                                    | 16.4 | 320 32.9 | -12 09.7                                          | 278 09.5            | +7 41.0                                                                                                          |                                                   | 125 12.1      | +5 40.0               | 196 03.8                                         | +22 31.7 |                                     |                                                   |                |                                  |
| 13  | 310                                    | 18.9 | 335 32.4 | 08.6                                              | 293 10.5            | 41.7                                                                                                             |                                                   | 140 14.7      | 40.1                  | 211 06.5                                         | 31.7     |                                     |                                                   |                |                                  |
| 14  | 325                                    | 21.3 | 350 32.0 | 07.4                                              | 308 11.6            | 42.3                                                                                                             |                                                   | 155 17.2      | 40.1                  | 226 09.1                                         | 31.8     |                                     |                                                   |                |                                  |
| 15  | 340                                    | 23.8 | 5 31.6   | 06.2                                              | 323 12.6            | 42.9                                                                                                             |                                                   | 170 19.8      | 40.2                  | 241 11.8                                         | 31.8     |                                     |                                                   |                |                                  |
| 16  | 355                                    | 26.2 | 20 31.2  | 05.1                                              | 338 13.6            | 43.6                                                                                                             |                                                   | 185 22.4      | 40.2                  | 256 14.5                                         | 31.8     |                                     |                                                   |                |                                  |
| 17  | 10                                     | 28.7 | 35 30.8  | -12 03.9                                          | 353 14.6            | +7 44.2                                                                                                          |                                                   | 200 24.9      | +5 40.3               | 271 17.1                                         | +22 31.8 |                                     |                                                   |                |                                  |
| 18  | 25                                     | 31.2 | 50 30.4  | -12 02.8                                          | 8 15.7              | +7 44.8                                                                                                          |                                                   | 215 27.5      | +5 40.3               | 286 19.8                                         | +22 31.8 |                                     |                                                   |                |                                  |
| 19  | 40                                     | 33.6 | 65 30.0  | 01.6                                              | 23 16.7             | 45.5                                                                                                             |                                                   | 230 30.0      | 40.4                  | 301 22.5                                         | 31.8     |                                     |                                                   |                |                                  |
| 20  | 55                                     | 36.1 | 80 29.6  | -12 00.4                                          | 38 17.7             | 46.1                                                                                                             |                                                   | 245 32.6      | 40.4                  | 316 25.2                                         | 31.9     |                                     |                                                   |                |                                  |
| 21  | 70                                     | 38.6 | 95 29.2  | -11 59.3                                          | 53 18.7             | 46.7                                                                                                             |                                                   | 260 35.1      | 40.5                  | 331 27.8                                         | 31.9     |                                     |                                                   |                |                                  |
| 22  | 85                                     | 41.0 | 110 28.8 | 58.1                                              | 68 19.8             | 47.4                                                                                                             |                                                   | 275 37.7      | 40.5                  | 346 30.5                                         | 31.9     |                                     |                                                   |                |                                  |
| 23  | 100                                    | 43.5 | 125 28.4 | 56.9                                              | 83 20.8             | 48.0                                                                                                             |                                                   | 290 40.2      | 40.6                  | 1 33.2                                           | 31.9     |                                     |                                                   |                |                                  |
| 24  | 115                                    | 46.0 | 140 28.0 | -11 55.8                                          | 98 21.8             | +7 48.6                                                                                                          |                                                   | 305 42.8      | +5 40.6               | 16 35.8                                          | +22 31.9 |                                     |                                                   |                |                                  |
| Dif | —                                      | —    | -4       | +12                                               | +10                 | +6                                                                                                               |                                                   | +26           | 0                     | +27                                              | 0        |                                     |                                                   |                |                                  |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                  |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |       |     |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|-------|-----|
|    | SD: 16/3<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> 9 |      |     | Edad: 24 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 59/7<br>12 <sup>h</sup> : 59/9<br>20 <sup>h</sup> : 60/0<br>PMG: 7 <sup>h</sup> 43 <sup>m</sup> R°: 58 <sup>m</sup> |     |      |         |                          |         |               |                |      |                |      |       |     |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                  | Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°    |     |
| h  | °                                                  | '    | °   | '                                                                                                                                                                     | °   | '    | °       | '                        | h       | m             | h              | m    | h              | m    | h     | m   |
| 0  | 177                                                | 34.1 | -20 | 54.8                                                                                                                                                                  | 248 | 37.0 | -17     | 47.4                     | 60 N    | 6 59          | 7 53           | 8 46 | 3 59           | 109  | 11 12 | 11  |
| 1  | 192                                                | 33.8 |     | 54.3                                                                                                                                                                  | 263 | 04.2 | 82      | -18 00.1                 | 58      | 54            | 44             | 32   | 45             | 103  | 26    | 17  |
| 2  | 207                                                | 33.6 |     | 53.8                                                                                                                                                                  | 277 | 31.3 | 81      | 12.6                     | 56      | 48            | 35             | 20   | 34             | 98   | 38    | 23  |
| 3  | 222                                                | 33.4 |     | 53.3                                                                                                                                                                  | 291 | 58.3 | 80      | 25.1                     | 54      | 43            | 28             | 09   | 24             | 93   | 49    | 26  |
| 4  | 237                                                | 33.2 |     | 52.8                                                                                                                                                                  | 306 | 25.1 | 78      | 37.4                     | 52      | 39            | 21             | 8 00 | 15             | 90   | 11    | 59  |
| 5  | 252                                                | 33.0 | -20 | 52.4                                                                                                                                                                  | 320 | 51.9 | 78      | -18 49.7                 | 50      | 6 35          | 7 15           | 7 52 | 3 07           | 87   | 12    | 07  |
| 6  | 267                                                | 32.8 | -20 | 51.9                                                                                                                                                                  | 335 | 18.6 | 77      | -19 01.9                 | 45      | 6 25          | 7 01           | 7 34 | 2 50           | 82   | 12    | 25  |
| 7  | 282                                                | 32.6 |     | 51.4                                                                                                                                                                  | 349 | 45.1 | 75      | 13.9                     | 40      | 17            | 6 50           | 20   | 37             | 77   | 40    | 42  |
| 8  | 297                                                | 32.4 |     | 50.9                                                                                                                                                                  | 4   | 11.5 | 74      | 25.8                     | 35      | 09            | 40             | 7 07 | 25             | 74   | 12    | 53  |
| 9  | 312                                                | 32.1 |     | 50.4                                                                                                                                                                  | 18  | 37.8 | 73      | 37.7                     | 30      | 6 01          | 31             | 6 56 | 2 15           | 71   | 13    | 04  |
| 10 | 327                                                | 31.9 |     | 49.9                                                                                                                                                                  | 33  | 04.0 | 72      | -19 49.4                 | 20      | 5 47          | 6 14           | 38   | 1 58           | 65   | 23    | 53  |
| 11 | 342                                                | 31.7 | -20 | 49.5                                                                                                                                                                  | 47  | 30.1 | 71      | -20 01.0                 | 10 N    | 5 33          | 5 59           | 6 22 | 1 43           | 61   | 13    | 40  |
| 12 | 357                                                | 31.5 | -20 | 49.0                                                                                                                                                                  | 61  | 56.1 | 70      | -20 12.5                 | 0       | 5 18          | 5 44           | 6 06 | 1 29           | 58   | 13    | 56  |
| 13 | 12                                                 | 31.3 |     | 48.5                                                                                                                                                                  | 76  | 21.9 | 68      | 23.8                     | 10 S    | 5 02          | 28             | 5 51 | 16             | 53   | 14    | 12  |
| 14 | 27                                                 | 31.1 |     | 48.0                                                                                                                                                                  | 90  | 47.6 | 67      | 35.1                     | 20      | 4 42          | 5 10           | 34   | 1 01           | 49   | 29    | 66  |
| 15 | 42                                                 | 30.9 |     | 47.5                                                                                                                                                                  | 105 | 13.3 | 67      | 46.2                     | 30      | 4 16          | 4 48           | 15   | 0 45           | 44   | 14    | 48  |
| 16 | 57                                                 | 30.7 |     | 47.0                                                                                                                                                                  | 119 | 38.8 | 65      | -20 57.2                 | 35      | 3 59          | 35             | 5 03 | 35             | 41   | 15    | 00  |
| 17 | 72                                                 | 30.5 | -20 | 46.5                                                                                                                                                                  | 134 | 04.2 | 64      | -21 08.1                 | 40      | 3 39          | 4 19           | 4 50 | 0 24           | 38   | 15    | 13  |
| 18 | 87                                                 | 30.3 | -20 | 46.0                                                                                                                                                                  | 148 | 29.4 | 62      | -21 18.8                 | 45      | 3 13          | 3 59           | 4 35 | 0 12           | 33   | 15    | 29  |
| 19 | 102                                                | 30.1 |     | 45.5                                                                                                                                                                  | 162 | 54.6 | 62      | 29.5                     | 50      | 2 37          | 34             | 15   | ** ** *        | **   | 48    | 86  |
| 20 | 117                                                | 29.8 |     | 45.1                                                                                                                                                                  | 177 | 19.6 | 60      | 39.9                     | 52      | 2 17          | 21             | 4 06 | ** ** *        | **   | 15    | 57  |
| 21 | 132                                                | 29.6 |     | 44.6                                                                                                                                                                  | 191 | 44.6 | 60      | -21 50.3                 | 54      | 1 51          | 3 07           | 3 56 | ** ** *        | **   | 16    | 08  |
| 22 | 147                                                | 29.4 |     | 44.1                                                                                                                                                                  | 206 | 09.4 | 58      | -22 00.5                 | 56      | 1 11          | 2 50           | 44   | 23             | 51   | 30    | 20  |
| 23 | 162                                                | 29.2 |     | 43.6                                                                                                                                                                  | 220 | 34.1 | 57      | 10.6                     | 58      | ** ** *       | 29             | 31   | 37             | 24   | 33    | 101 |
| 24 | 177                                                | 29.0 | -20 | 43.1                                                                                                                                                                  | 234 | 58.7 | 56      | -22 20.5                 | 60 S    | ** ** *       | 2 01           | 3 15 | 23             | 20   | 18    | 16  |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 16 <sup>h</sup> 14 <sup>m</sup> 3 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 39 <sup>m</sup> |      | Mag: +0.5<br>PMG: 17 <sup>h</sup> 25 <sup>m</sup> |      | Mag: -2.3<br>PMG: 3 <sup>h</sup> 37 <sup>m</sup> |      | Mag: -0.4<br>PMG: 22 <sup>h</sup> 50 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 115                                    | 46.0 | 140                                               | 28.0 | -11                                               | 55.8 | 98                                               | 21.8 | +7                                                | 48.6 |
| 1   | 130                                    | 48.4 | 155                                               | 27.6 |                                                   | 54.6 | 113                                              | 22.8 |                                                   | 49.3 |
| 2   | 145                                    | 50.9 | 170                                               | 27.2 |                                                   | 53.4 | 128                                              | 23.9 |                                                   | 49.9 |
| 3   | 160                                    | 53.4 | 185                                               | 26.8 |                                                   | 52.3 | 143                                              | 24.9 |                                                   | 50.5 |
| 4   | 175                                    | 55.8 | 200                                               | 26.4 |                                                   | 51.1 | 158                                              | 25.9 |                                                   | 51.2 |
| 5   | 190                                    | 58.3 | 215                                               | 26.0 | -11                                               | 49.9 | 173                                              | 26.9 | +7                                                | 51.8 |
| 6   | 206                                    | 00.7 | 230                                               | 25.6 | -11                                               | 48.8 | 188                                              | 28.0 | +7                                                | 52.4 |
| 7   | 221                                    | 03.2 | 245                                               | 25.2 |                                                   | 47.6 | 203                                              | 29.0 |                                                   | 53.1 |
| 8   | 236                                    | 05.7 | 260                                               | 24.8 |                                                   | 46.4 | 218                                              | 30.0 |                                                   | 53.7 |
| 9   | 251                                    | 08.1 | 275                                               | 24.4 |                                                   | 45.3 | 233                                              | 31.0 |                                                   | 54.3 |
| 10  | 266                                    | 10.6 | 290                                               | 24.0 |                                                   | 44.1 | 248                                              | 32.1 |                                                   | 55.0 |
| 11  | 281                                    | 13.1 | 305                                               | 23.6 | -11                                               | 42.9 | 263                                              | 33.1 | +7                                                | 55.6 |
| 12  | 296                                    | 15.5 | 320                                               | 23.2 | -11                                               | 41.7 | 278                                              | 34.1 | +7                                                | 56.2 |
| 13  | 311                                    | 18.0 | 335                                               | 22.8 |                                                   | 40.6 | 293                                              | 35.1 |                                                   | 56.9 |
| 14  | 326                                    | 20.5 | 350                                               | 22.4 |                                                   | 39.4 | 308                                              | 36.1 |                                                   | 57.5 |
| 15  | 341                                    | 22.9 | 5                                                 | 22.0 |                                                   | 38.2 | 323                                              | 37.2 |                                                   | 58.1 |
| 16  | 356                                    | 25.4 | 20                                                | 21.6 |                                                   | 37.1 | 338                                              | 38.2 |                                                   | 58.8 |
| 17  | 11                                     | 27.9 | 35                                                | 21.2 | -11                                               | 35.9 | 353                                              | 39.2 | +7                                                | 59.4 |
| 18  | 26                                     | 30.3 | 50                                                | 20.8 | -11                                               | 34.7 | 8                                                | 40.2 | +8                                                | 00.0 |
| 19  | 41                                     | 32.8 | 65                                                | 20.4 |                                                   | 33.5 | 23                                               | 41.3 | +8                                                | 00.7 |
| 20  | 56                                     | 35.2 | 80                                                | 20.0 |                                                   | 32.4 | 38                                               | 42.3 |                                                   | 01.3 |
| 21  | 71                                     | 37.7 | 95                                                | 19.6 |                                                   | 31.2 | 53                                               | 43.3 |                                                   | 01.9 |
| 22  | 86                                     | 40.2 | 110                                               | 19.2 |                                                   | 30.0 | 68                                               | 44.3 |                                                   | 02.6 |
| 23  | 101                                    | 42.6 | 125                                               | 18.9 |                                                   | 28.8 | 83                                               | 45.3 |                                                   | 03.2 |
| 24  | 116                                    | 45.1 | 140                                               | 18.5 | -11                                               | 27.6 | 98                                               | 46.4 | +8                                                | 03.8 |
| Dif | —                                      |      | -4 +12                                            |      | +10 +6                                            |      | +26 +1                                           |      | +27 0                                             |      |

| UT  | SOL                                    |      |                                                | ● LUNA                                                                                                  |          |                                                | Latitud  | Puesta de Sol | Final del crepúsculo                          |          |         | Salida de Luna                                 |          | Puesta de Luna |   |
|-----|----------------------------------------|------|------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------|------------------------------------------------|----------|---------------|-----------------------------------------------|----------|---------|------------------------------------------------|----------|----------------|---|
|     | SD: 16:3                               |      |                                                | Edad: 25 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 60:1<br>12 <sup>h</sup> : 60:2<br>20 <sup>h</sup> : 60:3 |          |                                                |          |               | Final del crepúsculo                          |          |         | Salida de Luna                                 |          | Puesta de Luna |   |
|     | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 2 |      |                                                | SD: 16:4 PMG: 8 <sup>h</sup> 41 <sup>m</sup> R°: 63 <sup>m</sup>                                        |          |                                                |          |               | Civil Nútico                                  |          |         | Hora R°                                        |          | Hora R°        |   |
|     | hG ☉                                   | Dec  |                                                | hG ☾                                                                                                    | Dif      | Dec                                            | Dif      |               |                                               |          |         |                                                |          |                |   |
| h   | °                                      | '    | °                                              | °                                                                                                       | '        | °                                              | '        | °             | h m                                           | h m      | h m     | h m m                                          | h m m    | h m m          | m |
| 0   | 177                                    | 29.0 | -20 43.1                                       | 234                                                                                                     | 58.7     | -22 20.5                                       | 98       | 60 N          | 15 37                                         | 16 29    | 17 23   | 5 48 107                                       | 11 23 24 |                |   |
| 1   | 192                                    | 28.8 | 42.6                                           | 249                                                                                                     | 23.1     | 30.3                                           | 54       | 58            | 15 51                                         | 38       | 28      | 28 99                                          | 11 43 33 |                |   |
| 2   | 207                                    | 28.6 | 42.1                                           | 263                                                                                                     | 47.5     | 40.0                                           | 97       | 56            | 16 03                                         | 47       | 34      | 5 12 93                                        | 12 01 37 |                |   |
| 3   | 222                                    | 28.4 | 41.6                                           | 278                                                                                                     | 11.8     | 49.5                                           | 95       | 54            | 13                                            | 16 54    | 38      | 4 57 90                                        | 15 41    |                |   |
| 4   | 237                                    | 28.2 | 41.1                                           | 292                                                                                                     | 35.9     | -22 58.8                                       | 93       | 52            | 22                                            | 17 01    | 43      | 45 86                                          | 28 44    |                |   |
| 5   | 252                                    | 28.0 | -20 40.6                                       | 306                                                                                                     | 59.9     | -23 08.1                                       | 93       | 50            | 16 30                                         | 17 07    | 17 47   | 4 34 84                                        | 12 40 45 |                |   |
| 6   | 267                                    | 27.8 | -20 40.1                                       | 321                                                                                                     | 23.9     | -23 17.1                                       | 90       | 45            | 16 47                                         | 17 20    | 17 56   | 4 12 79                                        | 13 03 50 |                |   |
| 7   | 282                                    | 27.6 | 39.6                                           | 335                                                                                                     | 47.7     | 26.0                                           | 89       | 40            | 17 02                                         | 31       | 18 05   | 3 54 76                                        | 22 53    |                |   |
| 8   | 297                                    | 27.4 | 39.1                                           | 350                                                                                                     | 11.4     | 34.8                                           | 88       | 35            | 14                                            | 41       | 12      | 39 73                                          | 38 55    |                |   |
| 9   | 312                                    | 27.2 | 38.6                                           | 4                                                                                                       | 35.0     | 43.4                                           | 86       | 30            | 24                                            | 17 50    | 19      | 26 71                                          | 13 52 56 |                |   |
| 10  | 327                                    | 27.0 | 38.1                                           | 18                                                                                                      | 58.5     | -23 51.8                                       | 84       | 20            | 43                                            | 18 06    | 33      | 3 03 68                                        | 14 16 59 |                |   |
| 11  | 342                                    | 26.8 | -20 37.6                                       | 33                                                                                                      | 21.9     | -24 00.1                                       | 83       | 10 N          | 17 59                                         | 18 21    | 18 47   | 2 44 65                                        | 14 36 62 |                |   |
| 12  | 357                                    | 26.6 | -20 37.1                                       | 47                                                                                                      | 45.2     | -24 08.2                                       | 81       | 0             | 18 14                                         | 18 36    | 19 02   | 2 27 61                                        | 14 55 64 |                |   |
| 13  | 12                                     | 26.4 | 36.6                                           | 62                                                                                                      | 08.4     | 16.2                                           | 80       | 10 S          | 29                                            | 18 52    | 18      | 2 09 59                                        | 15 15 65 |                |   |
| 14  | 27                                     | 26.2 | 36.1                                           | 76                                                                                                      | 31.5     | 24.0                                           | 78       | 20            | 18 46                                         | 19 09    | 19 38   | 1 50 56                                        | 35 68    |                |   |
| 15  | 42                                     | 26.0 | 35.6                                           | 90                                                                                                      | 54.5     | 31.6                                           | 76       | 30            | 19 05                                         | 31       | 20 03   | 29 52                                          | 15 59 71 |                |   |
| 16  | 57                                     | 25.8 | 35.1                                           | 105                                                                                                     | 17.4     | 39.0                                           | 74       | 35            | 16                                            | 19 44    | 19      | 16 50                                          | 16 14 71 |                |   |
| 17  | 72                                     | 25.6 | -20 34.6                                       | 119                                                                                                     | 40.2     | -24 46.3                                       | 73       | 40            | 19 29                                         | 20 00    | 20 39   | 1 02 47                                        | 16 30 74 |                |   |
| 18  | 87                                     | 25.4 | -20 34.1                                       | 134                                                                                                     | 02.9     | -24 53.4                                       | 71       | 45            | 19 44                                         | 20 19    | 21 04   | 0 45 44                                        | 16 50 75 |                |   |
| 19  | 102                                    | 25.2 | 33.5                                           | 148                                                                                                     | 25.5     | -25 00.4                                       | 70       | 50            | 20 03                                         | 44       | 40      | 25 38                                          | 17 14 79 |                |   |
| 20  | 117                                    | 25.0 | 33.0                                           | 162                                                                                                     | 48.0     | 07.1                                           | 67       | 52            | 12                                            | 20 56    | 21 59   | 15 36                                          | 26 81    |                |   |
| 21  | 132                                    | 24.8 | 32.5                                           | 177                                                                                                     | 10.5     | 13.7                                           | 66       | 54            | 22                                            | 21 10    | 22 23   | 0 04 33                                        | 40 83    |                |   |
| 22  | 147                                    | 24.6 | 32.0                                           | 191                                                                                                     | 32.8     | 20.1                                           | 64       | 56            | 33                                            | 26       | 22 59   | ** ** *                                        | 17 56 85 |                |   |
| 23  | 162                                    | 24.4 | 31.5                                           | 205                                                                                                     | 55.1     | 26.4                                           | 63       | 58            | 20 46                                         | 21 47    | ** ** * | ** ** *                                        | 18 14 90 |                |   |
| 24  | 177                                    | 24.2 | -20 31.0                                       | 220                                                                                                     | 17.3     | -25 32.4                                       | 60       | 60 S          | 21 02                                         | 22 13    | ** ** * | 23 38 38                                       | 18 38 96 |                |   |
| UT  | ARIES                                  |      | VENUS                                          |                                                                                                         |          | MARTE                                          |          |               | JÚPITER                                       |          |         | SATURNO                                        |          |                |   |
|     | PMG 16 <sup>h</sup> 10 <sup>m</sup> 3  |      | Mag: -4.0 PMG: 14 <sup>h</sup> 39 <sup>m</sup> |                                                                                                         |          | Mag: +0.5 PMG: 17 <sup>h</sup> 24 <sup>m</sup> |          |               | Mag: -2.4 PMG: 3 <sup>h</sup> 32 <sup>m</sup> |          |         | Mag: -0.4 PMG: 22 <sup>h</sup> 45 <sup>m</sup> |          |                |   |
|     | hG ♈                                   |      | hG ♀                                           | Dec                                                                                                     |          | hG ♂                                           | Dec      |               | hG ♃                                          | Dec      |         | hG ♄                                           | Dec      |                |   |
| h   | °                                      | '    | °                                              | °                                                                                                       | '        | °                                              | °        | '             | °                                             | °        | '       | °                                              | °        | '              | ° |
| 0   | 116                                    | 45.1 | 140 18.5                                       | -11 27.6                                                                                                | 98 46.4  | +8 03.8                                        | 306 44.2 | +5 41.9       | 17 39.9                                       | +22 32.4 |         |                                                |          |                |   |
| 1   | 131                                    | 47.6 | 155 18.1                                       | 26.5                                                                                                    | 113 47.4 | 04.4                                           | 321 46.8 | 41.9          | 32 42.6                                       | 32.4     |         |                                                |          |                |   |
| 2   | 146                                    | 50.0 | 170 17.7                                       | 25.3                                                                                                    | 128 48.4 | 05.1                                           | 336 49.4 | 42.0          | 47 45.2                                       | 32.4     |         |                                                |          |                |   |
| 3   | 161                                    | 52.5 | 185 17.3                                       | 24.1                                                                                                    | 143 49.4 | 05.7                                           | 351 51.9 | 42.0          | 62 47.9                                       | 32.4     |         |                                                |          |                |   |
| 4   | 176                                    | 55.0 | 200 16.9                                       | 22.9                                                                                                    | 158 50.4 | 06.3                                           | 6 54.5   | 42.1          | 77 50.6                                       | 32.4     |         |                                                |          |                |   |
| 5   | 191                                    | 57.4 | 215 16.5                                       | -11 21.7                                                                                                | 173 51.5 | +8 07.0                                        | 21 57.0  | +5 42.1       | 92 53.2                                       | +22 32.4 |         |                                                |          |                |   |
| 6   | 206                                    | 59.9 | 230 16.1                                       | -11 20.6                                                                                                | 188 52.5 | +8 07.6                                        | 36 59.6  | +5 42.2       | 107 55.9                                      | +22 32.5 |         |                                                |          |                |   |
| 7   | 222                                    | 02.4 | 245 15.7                                       | 19.4                                                                                                    | 203 53.5 | 08.2                                           | 52 02.2  | 42.3          | 122 58.6                                      | 32.5     |         |                                                |          |                |   |
| 8   | 237                                    | 04.8 | 260 15.4                                       | 18.2                                                                                                    | 218 54.5 | 08.9                                           | 67 04.7  | 42.3          | 138 01.2                                      | 32.5     |         |                                                |          |                |   |
| 9   | 252                                    | 07.3 | 275 15.0                                       | 17.0                                                                                                    | 233 55.5 | 09.5                                           | 82 07.3  | 42.4          | 153 03.9                                      | 32.5     |         |                                                |          |                |   |
| 10  | 267                                    | 09.7 | 290 14.6                                       | 15.8                                                                                                    | 248 56.6 | 10.1                                           | 97 09.9  | 42.4          | 168 06.6                                      | 32.5     |         |                                                |          |                |   |
| 11  | 282                                    | 12.2 | 305 14.2                                       | -11 14.7                                                                                                | 263 57.6 | +8 10.8                                        | 112 12.4 | +5 42.5       | 183 09.2                                      | +22 32.5 |         |                                                |          |                |   |
| 12  | 297                                    | 14.7 | 320 13.8                                       | -11 13.5                                                                                                | 278 58.6 | +8 11.4                                        | 127 15.0 | +5 42.5       | 198 11.9                                      | +22 32.6 |         |                                                |          |                |   |
| 13  | 312                                    | 17.1 | 335 13.4                                       | 12.3                                                                                                    | 293 59.6 | 12.0                                           | 142 17.6 | 42.6          | 213 14.6                                      | 32.6     |         |                                                |          |                |   |
| 14  | 327                                    | 19.6 | 350 13.1                                       | 11.1                                                                                                    | 309 00.6 | 12.7                                           | 157 20.1 | 42.6          | 228 17.2                                      | 32.6     |         |                                                |          |                |   |
| 15  | 342                                    | 22.1 | 5 12.7                                         | 09.9                                                                                                    | 324 01.7 | 13.3                                           | 172 22.7 | 42.7          | 243 19.9                                      | 32.6     |         |                                                |          |                |   |
| 16  | 357                                    | 24.5 | 20 12.3                                        | 08.7                                                                                                    | 339 02.7 | 13.9                                           | 187 25.3 | 42.8          | 258 22.6                                      | 32.6     |         |                                                |          |                |   |
| 17  | 12                                     | 27.0 | 35 11.9                                        | -11 07.5                                                                                                | 354 03.7 | +8 14.5                                        | 202 27.8 | +5 42.8       | 273 25.2                                      | +22 32.6 |         |                                                |          |                |   |
| 18  | 27                                     | 29.5 | 50 11.5                                        | -11 06.4                                                                                                | 9 04.7   | +8 15.2                                        | 217 30.4 | +5 42.9       | 288 27.9                                      | +22 32.7 |         |                                                |          |                |   |
| 19  | 42                                     | 31.9 | 65 11.1                                        | 05.2                                                                                                    | 24 05.7  | 15.8                                           | 232 33.0 | 42.9          | 303 30.6                                      | 32.7     |         |                                                |          |                |   |
| 20  | 57                                     | 34.4 | 80 10.8                                        | 04.0                                                                                                    | 39 06.8  | 16.4                                           | 247 35.5 | 43.0          | 318 33.2                                      | 32.7     |         |                                                |          |                |   |
| 21  | 72                                     | 36.8 | 95 10.4                                        | 02.8                                                                                                    | 54 07.8  | 17.1                                           | 262 38.1 | 43.0          | 333 35.9                                      | 32.7     |         |                                                |          |                |   |
| 22  | 87                                     | 39.3 | 110 10.0                                       | 01.6                                                                                                    | 69 08.8  | 17.7                                           | 277 40.7 | 43.1          | 348 38.6                                      | 32.7     |         |                                                |          |                |   |
| 23  | 102                                    | 41.8 | 125 09.6                                       | -11 00.4                                                                                                | 84 09.8  | 18.3                                           | 292 43.3 | 43.2          | 3 41.2                                        | 32.7     |         |                                                |          |                |   |
| 24  | 117                                    | 44.2 | 140 09.2                                       | -10 59.2                                                                                                | 99 10.8  | +8 19.0                                        | 307 45.8 | +5 43.2       | 18 43.9                                       | +22 32.8 |         |                                                |          |                |   |
| Dif | —                                      |      | -4                                             | +12                                                                                                     | +10      | +6                                             | +26      | +1            | +27                                           |          |         |                                                |          |                |   |

| UT | SOL                                                |      |     | ● LUNA                                                                                                                                                                            |     |      | Latitud     | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-------------|--------------------------|---------|---------------|----------------|-------|----------------|-------|----|
|    | SD: 16'3<br>PMG: 12 <sup>h</sup> 10 <sup>m</sup> 5 |      |     | Edad: 26 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 60'4<br>12 <sup>h</sup> : 60'4<br>20 <sup>h</sup> : 60'4<br>SD: 16'4<br>PMG: 9 <sup>h</sup> 44 <sup>m</sup> R°: 65 <sup>m</sup> |     |      |             |                          |         |               |                |       |                |       |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec  |             | Dif                      | Náutico |               | Civil          | Hora  | R°             | Hora  | R° |
| h  | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '    | °           | h                        | m       | h             | m              | h     | m              | h     | m  |
| 0  | 177                                                | 24.2 | -20 | 31.0                                                                                                                                                                              | 220 | 17.3 | -25 32.4    | 60 N                     | 6 57    | 7 51          | 8 42           | 7 35  | 81             | 11 47 | 56 |
| 1  | 192                                                | 24.0 |     | 30.5                                                                                                                                                                              | 234 | 39.4 | 31 38.3     | 58                       | 52      | 41            | 29             | 7 07  | 77             | 12 16 | 58 |
| 2  | 207                                                | 23.8 |     | 30.0                                                                                                                                                                              | 249 | 01.4 | 30 44.0     | 56                       | 46      | 33            | 17             | 6 45  | 75             | 38    | 60 |
| 3  | 222                                                | 23.6 |     | 29.5                                                                                                                                                                              | 263 | 23.4 | 30 49.5     | 54                       | 42      | 26            | 8 07           | 27    | 74             | 12 56 | 61 |
| 4  | 237                                                | 23.4 |     | 28.9                                                                                                                                                                              | 277 | 45.3 | 29 54.8     | 52                       | 37      | 19            | 7 58           | 6 11  | 74             | 13 12 | 62 |
| 5  | 252                                                | 23.2 | -20 | 28.4                                                                                                                                                                              | 292 | 07.1 | 28 -25 59.9 | 50                       | 6 33    | 7 13          | 7 50           | 5 58  | 73             | 13 25 | 63 |
| 6  | 267                                                | 23.0 | -20 | 27.9                                                                                                                                                                              | 306 | 28.8 | 27 -26 04.8 | 45                       | 6 24    | 7 00          | 7 33           | 5 31  | 71             | 13 53 | 63 |
| 7  | 282                                                | 22.8 |     | 27.4                                                                                                                                                                              | 320 | 50.5 | 27 09.6     | 40                       | 16      | 6 49          | 19             | 5 10  | 70             | 14 15 | 63 |
| 8  | 297                                                | 22.6 |     | 26.9                                                                                                                                                                              | 335 | 12.1 | 26 14.1     | 35                       | 08      | 39            | 7 07           | 4 52  | 69             | 33    | 64 |
| 9  | 312                                                | 22.4 |     | 26.4                                                                                                                                                                              | 349 | 33.6 | 25 18.5     | 30                       | 6 01    | 30            | 6 56           | 37    | 68             | 14 48 | 65 |
| 10 | 327                                                | 22.2 |     | 25.9                                                                                                                                                                              | 3   | 55.1 | 25 22.7     | 20                       | 5 47    | 14            | 38             | 4 11  | 67             | 15 15 | 65 |
| 11 | 342                                                | 22.0 | -20 | 25.3                                                                                                                                                                              | 18  | 16.5 | 24 -26 26.6 | 10 N                     | 5 34    | 6 00          | 6 22           | 3 49  | 66             | 15 38 | 65 |
| 12 | 357                                                | 21.8 | -20 | 24.8                                                                                                                                                                              | 32  | 37.9 | 24 -26 30.4 | 0                        | 5 19    | 5 45          | 6 07           | 3 28  | 65             | 15 59 | 65 |
| 13 | 12                                                 | 21.6 |     | 24.3                                                                                                                                                                              | 46  | 59.2 | 23 34.0     | 10 S                     | 5 03    | 29            | 5 52           | 3 08  | 64             | 16 20 | 66 |
| 14 | 27                                                 | 21.4 |     | 23.8                                                                                                                                                                              | 61  | 20.5 | 23 37.4     | 20                       | 4 43    | 5 11          | 35             | 2 46  | 62             | 16 43 | 66 |
| 15 | 42                                                 | 21.2 |     | 23.3                                                                                                                                                                              | 75  | 41.8 | 23 40.6     | 30                       | 18      | 4 50          | 16             | 21    | 61             | 17 10 | 65 |
| 16 | 57                                                 | 21.0 |     | 22.7                                                                                                                                                                              | 90  | 02.9 | 21 43.6     | 35                       | 4 02    | 37            | 5 05           | 2 06  | 60             | 25    | 66 |
| 17 | 72                                                 | 20.8 | -20 | 22.2                                                                                                                                                                              | 104 | 24.1 | 22 -26 46.3 | 40                       | 3 42    | 4 21          | 4 53           | 1 49  | 58             | 17 44 | 65 |
| 18 | 87                                                 | 20.6 | -20 | 21.7                                                                                                                                                                              | 118 | 45.2 | 21 -26 48.9 | 45                       | 3 17    | 4 02          | 4 37           | 1 29  | 56             | 18 05 | 66 |
| 19 | 102                                                | 20.4 |     | 21.2                                                                                                                                                                              | 133 | 06.3 | 21 51.3     | 50                       | 2 41    | 3 38          | 19             | 1 03  | 54             | 33    | 65 |
| 20 | 117                                                | 20.2 |     | 20.6                                                                                                                                                                              | 147 | 27.3 | 20 53.5     | 52                       | 2 22    | 25            | 10             | 0 51  | 53             | 18 47 | 64 |
| 21 | 132                                                | 20.0 |     | 20.1                                                                                                                                                                              | 161 | 48.4 | 21 55.5     | 54                       | 1 58    | 3 11          | 4 00           | 37    | 51             | 19 03 | 64 |
| 22 | 147                                                | 19.9 |     | 19.6                                                                                                                                                                              | 176 | 09.4 | 20 57.3     | 56                       | 1 22    | 2 55          | 3 48           | 21    | 48             | 21    | 64 |
| 23 | 162                                                | 19.7 |     | 19.1                                                                                                                                                                              | 190 | 30.3 | 19 -26 58.9 | 58                       | ** **   | 35            | 35             | 0 01  | 45             | 19 44 | 63 |
| 24 | 177                                                | 19.5 | -20 | 18.5                                                                                                                                                                              | 204 | 51.3 | 20 -27 00.3 | 60 S                     | ** **   | 2 08          | 3 20           | ** ** | **             | 20 14 | 61 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 16 <sup>h</sup> 06 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 40 <sup>m</sup> |      | Mag: +0.5<br>PMG: 17 <sup>h</sup> 22 <sup>m</sup> |      | Mag: -2.4<br>PMG: 3 <sup>h</sup> 28 <sup>m</sup> |      | Mag: -0.4<br>PMG: 22 <sup>h</sup> 41 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 117                                    | 44.2 | 140                                               | 09.2 | 99                                                | 10.8 | 307                                              | 45.8 | 18                                                | 43.9 |
| 1   | 132                                    | 46.7 | 155                                               | 08.9 | 114                                               | 11.8 | 322                                              | 48.4 | 33                                                | 46.6 |
| 2   | 147                                    | 49.2 | 170                                               | 08.5 | 129                                               | 12.9 | 337                                              | 51.0 | 48                                                | 49.2 |
| 3   | 162                                    | 51.6 | 185                                               | 08.1 | 144                                               | 13.9 | 352                                              | 53.5 | 63                                                | 51.9 |
| 4   | 177                                    | 54.1 | 200                                               | 07.7 | 159                                               | 14.9 | 7                                                | 56.1 | 78                                                | 54.6 |
| 5   | 192                                    | 56.6 | 215                                               | 07.4 | 174                                               | 15.9 | 22                                               | 58.7 | 93                                                | 57.2 |
| 6   | 207                                    | 59.0 | 230                                               | 07.0 | 189                                               | 16.9 | 38                                               | 01.3 | 108                                               | 59.9 |
| 7   | 223                                    | 01.5 | 245                                               | 06.6 | 204                                               | 17.9 | 53                                               | 03.8 | 124                                               | 02.6 |
| 8   | 238                                    | 04.0 | 260                                               | 06.2 | 219                                               | 18.9 | 68                                               | 06.4 | 139                                               | 05.2 |
| 9   | 253                                    | 06.4 | 275                                               | 05.9 | 234                                               | 20.0 | 83                                               | 09.0 | 154                                               | 07.9 |
| 10  | 268                                    | 08.9 | 290                                               | 05.5 | 249                                               | 21.0 | 98                                               | 11.5 | 169                                               | 10.6 |
| 11  | 283                                    | 11.3 | 305                                               | 05.1 | 264                                               | 22.0 | 113                                              | 14.1 | 184                                               | 13.2 |
| 12  | 298                                    | 13.8 | 320                                               | 04.7 | 279                                               | 23.0 | 128                                              | 16.7 | 199                                               | 15.9 |
| 13  | 313                                    | 16.3 | 335                                               | 04.4 | 294                                               | 24.0 | 143                                              | 19.3 | 214                                               | 18.6 |
| 14  | 328                                    | 18.7 | 350                                               | 04.0 | 309                                               | 25.0 | 158                                              | 21.8 | 229                                               | 21.2 |
| 15  | 343                                    | 21.2 | 5                                                 | 03.6 | 324                                               | 26.1 | 173                                              | 24.4 | 244                                               | 23.9 |
| 16  | 358                                    | 23.7 | 20                                                | 03.3 | 339                                               | 27.1 | 188                                              | 27.0 | 259                                               | 26.6 |
| 17  | 13                                     | 26.1 | 35                                                | 02.9 | 354                                               | 28.1 | 203                                              | 29.6 | 274                                               | 29.2 |
| 18  | 28                                     | 28.6 | 50                                                | 02.5 | 9                                                 | 29.1 | 218                                              | 32.1 | 289                                               | 31.9 |
| 19  | 43                                     | 31.1 | 65                                                | 02.2 | 24                                                | 30.1 | 233                                              | 34.7 | 304                                               | 34.5 |
| 20  | 58                                     | 33.5 | 80                                                | 01.8 | 39                                                | 31.1 | 248                                              | 37.3 | 319                                               | 37.2 |
| 21  | 73                                     | 36.0 | 95                                                | 01.4 | 54                                                | 32.1 | 263                                              | 39.9 | 334                                               | 39.9 |
| 22  | 88                                     | 38.5 | 110                                               | 01.1 | 69                                                | 33.1 | 278                                              | 42.5 | 349                                               | 42.5 |
| 23  | 103                                    | 40.9 | 125                                               | 00.7 | 84                                                | 34.2 | 293                                              | 45.0 | 4                                                 | 45.2 |
| 24  | 118                                    | 43.4 | 140                                               | 00.3 | 99                                                | 35.2 | 308                                              | 47.6 | 19                                                | 47.9 |
| Dif | —                                      |      | -4                                                | +12  | +10                                               | +6   | +26                                              | +1   | +27                                               | 0    |

| UT  | SOL                                                |      |      |      | ● LUNA                                                                                                                         |      |      |          | Latitud                                           | Puesta de Sol | Final del crepúsculo |       |                                                  | Salida de Luna |       |       | Puesta de Luna                                    |       |  |  |
|-----|----------------------------------------------------|------|------|------|--------------------------------------------------------------------------------------------------------------------------------|------|------|----------|---------------------------------------------------|---------------|----------------------|-------|--------------------------------------------------|----------------|-------|-------|---------------------------------------------------|-------|--|--|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 10 <sup>m</sup> 9 |      |      |      | Edad: 27 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 60'4<br>12 <sup>h</sup> : 60'4<br>20 <sup>h</sup> : 60'3<br>R°: 64 <sup>m</sup> |      |      |          |                                                   |               |                      |       |                                                  |                |       |       |                                                   |       |  |  |
|     | hG ☉                                               |      | Dec  |      | hG ☾                                                                                                                           |      | Dif  |          |                                                   |               |                      |       |                                                  |                |       |       |                                                   |       |  |  |
| h   | °                                                  | '    | °    | '    | °                                                                                                                              | '    | °    | '        | °                                                 | h m           | h m                  | h m   | h m m                                            | h m m          | h m m | h m m | h m m                                             | h m m |  |  |
| 0   | 177                                                | 19.5 | -20  | 18.5 | 204                                                                                                                            | 51.3 | -27  | 00.3     | 60 N                                              | 15 42         | 16 33                | 17 26 | 8 56 42                                          | 12 43 93       |       |       |                                                   |       |  |  |
| 1   | 192                                                | 19.3 |      | 18.0 | 219                                                                                                                            | 12.2 | 19   | 01.4     | 58                                                | 15 55         | 42                   | 32    | 24 48                                            | 13 14 87       |       |       |                                                   |       |  |  |
| 2   | 207                                                | 19.1 |      | 17.5 | 233                                                                                                                            | 33.2 | 20   | 02.4     | 56                                                | 16 06         | 50                   | 37    | 8 00 51                                          | 38 83          |       |       |                                                   |       |  |  |
| 3   | 222                                                | 18.9 |      | 16.9 | 247                                                                                                                            | 54.1 | 19   | 03.2     | 54                                                | 16            | 16 57                | 41    | 7 41 53                                          | 13 57 81       |       |       |                                                   |       |  |  |
| 4   | 237                                                | 18.7 |      | 16.4 | 262                                                                                                                            | 15.0 | 19   | 03.7     | 52                                                | 25            | 17 04                | 46    | 25 55                                            | 14 14 78       |       |       |                                                   |       |  |  |
| 5   | 252                                                | 18.5 | -20  | 15.9 | 276                                                                                                                            | 35.9 | 19   | -27 04.1 | 50                                                | 16 33         | 17 10                | 17 50 | 7 11 56                                          | 14 28 77       |       |       |                                                   |       |  |  |
| 6   | 267                                                | 18.3 | -20  | 15.4 | 290                                                                                                                            | 56.8 | 19   | -27 04.3 | 45                                                | 16 50         | 17 23                | 17 59 | 6 42 58                                          | 14 56 75       |       |       |                                                   |       |  |  |
| 7   | 282                                                | 18.1 |      | 14.8 | 305                                                                                                                            | 17.7 | 19   | 04.2     | 40                                                | 17 04         | 33                   | 18 07 | 20 59                                            | 15 18 73       |       |       |                                                   |       |  |  |
| 8   | 297                                                | 17.9 |      | 14.3 | 319                                                                                                                            | 38.7 | 20   | 04.0     | 35                                                | 16            | 43                   | 14    | 6 01 61                                          | 37 71          |       |       |                                                   |       |  |  |
| 9   | 312                                                | 17.8 |      | 13.8 | 333                                                                                                                            | 59.6 | 19   | 03.5     | 30                                                | 26            | 17 52                | 21    | 5 45 62                                          | 15 53 69       |       |       |                                                   |       |  |  |
| 10  | 327                                                | 17.6 |      | 13.2 | 348                                                                                                                            | 20.5 | 19   | 02.8     | 20                                                | 17 44         | 18 07                | 34    | 5 18 63                                          | 16 20 67       |       |       |                                                   |       |  |  |
| 11  | 342                                                | 17.4 | -20  | 12.7 | 2                                                                                                                              | 41.5 | 20   | -27 02.0 | 10 N                                              | 18 00         | 18 22                | 18 48 | 4 55 64                                          | 16 43 65       |       |       |                                                   |       |  |  |
| 12  | 357                                                | 17.2 | -20  | 12.2 | 17                                                                                                                             | 02.5 | 20   | -27 00.9 | 0                                                 | 18 14         | 18 37                | 19 02 | 4 33 65                                          | 17 04 64       |       |       |                                                   |       |  |  |
| 13  | 12                                                 | 17.0 |      | 11.6 | 31                                                                                                                             | 23.5 | 20   | -26 59.6 | 10 S                                              | 29            | 18 52                | 18    | 4 12 65                                          | 26 62          |       |       |                                                   |       |  |  |
| 14  | 27                                                 | 16.8 |      | 11.1 | 45                                                                                                                             | 44.5 | 20   | 58.2     | 20                                                | 18 45         | 19 09                | 19 38 | 3 48 67                                          | 17 49 59       |       |       |                                                   |       |  |  |
| 15  | 42                                                 | 16.6 |      | 10.5 | 60                                                                                                                             | 05.5 | 20   | 56.5     | 30                                                | 19 04         | 31                   | 20 02 | 22 67                                            | 18 15 57       |       |       |                                                   |       |  |  |
| 16  | 57                                                 | 16.4 |      | 10.0 | 74                                                                                                                             | 26.6 | 21   | 54.6     | 35                                                | 15            | 43                   | 18    | 3 06 68                                          | 31 55          |       |       |                                                   |       |  |  |
| 17  | 72                                                 | 16.3 | -20  | 09.5 | 88                                                                                                                             | 47.8 | 22   | -26 52.6 | 40                                                | 19 28         | 19 59                | 20 37 | 2 47 69                                          | 18 49 54       |       |       |                                                   |       |  |  |
| 18  | 87                                                 | 16.1 | -20  | 08.9 | 103                                                                                                                            | 08.9 | 21   | -26 50.3 | 45                                                | 19 42         | 20 17                | 21 02 | 2 25 70                                          | 19 11 51       |       |       |                                                   |       |  |  |
| 19  | 102                                                | 15.9 |      | 08.4 | 117                                                                                                                            | 30.1 | 22   | 47.8     | 50                                                | 20 01         | 41                   | 36    | 1 57 71                                          | 38 48          |       |       |                                                   |       |  |  |
| 20  | 117                                                | 15.7 |      | 07.8 | 131                                                                                                                            | 51.4 | 23   | 45.1     | 52                                                | 09            | 20 53                | 21 55 | 44 70                                            | 19 51 46       |       |       |                                                   |       |  |  |
| 21  | 132                                                | 15.5 |      | 07.3 | 146                                                                                                                            | 12.7 | 23   | 42.3     | 54                                                | 19            | 21 07                | 22 18 | 28 71                                            | 20 07 43       |       |       |                                                   |       |  |  |
| 22  | 147                                                | 15.3 |      | 06.8 | 160                                                                                                                            | 34.0 | 23   | 39.2     | 56                                                | 30            | 23                   | 22 50 | 1 09 72                                          | 25 40          |       |       |                                                   |       |  |  |
| 23  | 162                                                | 15.1 |      | 06.2 | 174                                                                                                                            | 55.4 | 24   | 35.9     | 58                                                | 43            | 21 42                | ** ** | 0 46 74                                          | 20 47 36       |       |       |                                                   |       |  |  |
| 24  | 177                                                | 15.0 | -20  | 05.7 | 189                                                                                                                            | 16.8 | 24   | -26 32.5 | 60 S                                              | 20 58         | 22 07                | ** ** | 0 16 76                                          | 21 15 29       |       |       |                                                   |       |  |  |
| UT  | ARIES                                              |      |      |      | VENUS                                                                                                                          |      |      |          | MARTE                                             |               |                      |       | JÚPITER                                          |                |       |       | SATURNO                                           |       |  |  |
|     | PMG: 16 <sup>h</sup> 02 <sup>m</sup> 5             |      |      |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 40 <sup>m</sup>                                                                              |      |      |          | Mag: +0.6<br>PMG: 17 <sup>h</sup> 20 <sup>m</sup> |               |                      |       | Mag: -2.4<br>PMG: 3 <sup>h</sup> 24 <sup>m</sup> |                |       |       | Mag: -0.4<br>PMG: 22 <sup>h</sup> 37 <sup>m</sup> |       |  |  |
|     | hG ♈                                               |      | hG ♀ |      | Dec                                                                                                                            |      | hG ♂ |          | Dec                                               |               | hG ♃                 |       | Dec                                              |                | hG ♄  |       | Dec                                               |       |  |  |
| h   | °                                                  | '    | °    | '    | °                                                                                                                              | '    | °    | '        | °                                                 | '             | °                    | '     | °                                                | '              | °     | '     | °                                                 | '     |  |  |
| 0   | 118                                                | 43.4 | 140  | 00.3 | -10                                                                                                                            | 30.6 | 99   | 35.2     | +8                                                | 34.1          | 308                  | 47.6  | +5                                               | 44.6           | 19    | 47.9  | +22                                               | 33.2  |  |  |
| 1   | 133                                                | 45.8 | 155  | 00.0 |                                                                                                                                | 29.3 | 114  | 36.2     |                                                   | 34.7          | 323                  | 50.2  |                                                  | 44.7           | 34    | 50.5  |                                                   | 33.2  |  |  |
| 2   | 148                                                | 48.3 | 169  | 59.6 |                                                                                                                                | 28.1 | 129  | 37.2     |                                                   | 35.3          | 338                  | 52.8  |                                                  | 44.7           | 49    | 53.2  |                                                   | 33.2  |  |  |
| 3   | 163                                                | 50.8 | 184  | 59.2 |                                                                                                                                | 26.9 | 144  | 38.2     |                                                   | 35.9          | 353                  | 55.3  |                                                  | 44.8           | 64    | 55.9  |                                                   | 33.2  |  |  |
| 4   | 178                                                | 53.2 | 199  | 58.9 |                                                                                                                                | 25.7 | 159  | 39.2     |                                                   | 36.6          | 8                    | 57.9  |                                                  | 44.9           | 79    | 58.5  |                                                   | 33.2  |  |  |
| 5   | 193                                                | 55.7 | 214  | 58.5 | -10                                                                                                                            | 24.5 | 174  | 40.2     | +8                                                | 37.2          | 24                   | 00.5  | +5                                               | 44.9           | 95    | 01.2  | +22                                               | 33.3  |  |  |
| 6   | 208                                                | 58.2 | 229  | 58.1 | -10                                                                                                                            | 23.3 | 189  | 41.2     | +8                                                | 37.8          | 39                   | 03.1  | +5                                               | 45.0           | 110   | 03.8  | +22                                               | 33.3  |  |  |
| 7   | 224                                                | 00.6 | 244  | 57.8 |                                                                                                                                | 22.1 | 204  | 42.3     |                                                   | 38.5          | 54                   | 05.7  |                                                  | 45.0           | 125   | 06.5  |                                                   | 33.3  |  |  |
| 8   | 239                                                | 03.1 | 259  | 57.4 |                                                                                                                                | 20.9 | 219  | 43.3     |                                                   | 39.1          | 69                   | 08.2  |                                                  | 45.1           | 140   | 09.2  |                                                   | 33.3  |  |  |
| 9   | 254                                                | 05.6 | 274  | 57.1 |                                                                                                                                | 19.7 | 234  | 44.3     |                                                   | 39.7          | 84                   | 10.8  |                                                  | 45.2           | 155   | 11.8  |                                                   | 33.3  |  |  |
| 10  | 269                                                | 08.0 | 289  | 56.7 |                                                                                                                                | 18.5 | 249  | 45.3     |                                                   | 40.3          | 99                   | 13.4  |                                                  | 45.2           | 170   | 14.5  |                                                   | 33.3  |  |  |
| 11  | 284                                                | 10.5 | 304  | 56.3 | -10                                                                                                                            | 17.3 | 264  | 46.3     | +8                                                | 41.0          | 114                  | 16.0  | +5                                               | 45.3           | 185   | 17.2  | +22                                               | 33.4  |  |  |
| 12  | 299                                                | 13.0 | 319  | 56.0 | -10                                                                                                                            | 16.1 | 279  | 47.3     | +8                                                | 41.6          | 129                  | 18.6  | +5                                               | 45.3           | 200   | 19.8  | +22                                               | 33.4  |  |  |
| 13  | 314                                                | 15.4 | 334  | 55.6 |                                                                                                                                | 14.9 | 294  | 48.3     |                                                   | 42.2          | 144                  | 21.1  |                                                  | 45.4           | 215   | 22.5  |                                                   | 33.4  |  |  |
| 14  | 329                                                | 17.9 | 349  | 55.3 |                                                                                                                                | 13.7 | 309  | 49.3     |                                                   | 42.8          | 159                  | 23.7  |                                                  | 45.5           | 230   | 25.2  |                                                   | 33.4  |  |  |
| 15  | 344                                                | 20.3 | 4    | 54.9 |                                                                                                                                | 12.5 | 324  | 50.3     |                                                   | 43.5          | 174                  | 26.3  |                                                  | 45.5           | 245   | 27.8  |                                                   | 33.4  |  |  |
| 16  | 359                                                | 22.8 | 19   | 54.5 |                                                                                                                                | 11.3 | 339  | 51.4     |                                                   | 44.1          | 189                  | 28.9  |                                                  | 45.6           | 260   | 30.5  |                                                   | 33.4  |  |  |
| 17  | 14                                                 | 25.3 | 34   | 54.2 | -10                                                                                                                            | 10.1 | 354  | 52.4     | +8                                                | 44.7          | 204                  | 31.5  | +5                                               | 45.6           | 275   | 33.1  | +22                                               | 33.5  |  |  |
| 18  | 29                                                 | 27.7 | 49   | 53.8 | -10                                                                                                                            | 08.9 | 9    | 53.4     | +8                                                | 45.4          | 219                  | 34.1  | +5                                               | 45.7           | 290   | 35.8  | +22                                               | 33.5  |  |  |
| 19  | 44                                                 | 30.2 | 64   | 53.5 |                                                                                                                                | 07.7 | 24   | 54.4     |                                                   | 46.0          | 234                  | 36.6  |                                                  | 45.8           | 305   | 38.5  |                                                   | 33.5  |  |  |
| 20  | 59                                                 | 32.7 | 79   | 53.1 |                                                                                                                                | 06.4 | 39   | 55.4     |                                                   | 46.6          | 249                  | 39.2  |                                                  | 45.8           | 320   | 41.1  |                                                   | 33.5  |  |  |
| 21  | 74                                                 | 35.1 | 94   | 52.8 |                                                                                                                                | 05.2 | 54   | 56.4     |                                                   | 47.2          | 264                  | 41.8  |                                                  | 45.9           | 335   | 43.8  |                                                   | 33.5  |  |  |
| 22  | 89                                                 | 37.6 | 109  | 52.4 |                                                                                                                                | 04.0 | 69   | 57.4     |                                                   | 47.9          | 279                  | 44.4  |                                                  | 46.0           | 350   | 46.4  |                                                   | 33.5  |  |  |
| 23  | 104                                                | 40.1 | 124  | 52.0 |                                                                                                                                | 02.8 | 84   | 58.4     |                                                   | 48.5          | 294                  | 47.0  |                                                  | 46.0           | 5     | 49.1  |                                                   | 33.6  |  |  |
| 24  | 119                                                | 42.5 | 139  | 51.7 | -10                                                                                                                            | 01.6 | 99   | 59.4     | +8                                                | 49.1          | 309                  | 49.6  | +5                                               | 46.1           | 20    | 51.8  | +22                                               | 33.6  |  |  |
| Dif | —                                                  |      | -4   |      | +12                                                                                                                            |      | +10  |          | +6                                                |               | +26                  |       | +1                                               |                | +27   |       |                                                   |       |  |  |

| UT | SOL                                                |      |     | ● LUNA                                                                                                                                                                 |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |       |     |
|----|----------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|-------|-----|
|    | SD: 16:3<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> 2 |      |     | Edad: 28 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 60/2<br>12 <sup>h</sup> : 60/1<br>20 <sup>h</sup> : 59/9<br>PMG: 11 <sup>h</sup> 53 <sup>m</sup> R°: 61 <sup>m</sup> |     |      |         |                          |         |               |                |      |                |      |       |     |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                   | Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°    |     |
| h  | °                                                  | '    | °   | '                                                                                                                                                                      | °   | '    | °       | '                        | h       | m             | h              | m    | h              | m    | h     | m   |
| 0  | 177                                                | 15.0 | -20 | 05.7                                                                                                                                                                   | 189 | 16.8 | -26     | 32.5                     | 60 N    | 6 55          | 7 48           | 8 39 | 9 38           | 18   | 14 16 | 108 |
| 1  | 192                                                | 14.8 |     | 05.1                                                                                                                                                                   | 203 | 38.3 | 25      | 28.8                     | 58      | 49            | 39             | 26   | 9 12           | 26   | 14 41 | 100 |
| 2  | 207                                                | 14.6 |     | 04.6                                                                                                                                                                   | 217 | 59.9 | 26      | 25.0                     | 56      | 44            | 31             | 14   | 8 51           | 31   | 15 01 | 95  |
| 3  | 222                                                | 14.4 |     | 04.0                                                                                                                                                                   | 232 | 21.5 | 26      | 20.9                     | 54      | 40            | 24             | 8 05 | 34             | 35   | 18    | 91  |
| 4  | 237                                                | 14.2 |     | 03.5                                                                                                                                                                   | 246 | 43.2 | 27      | 16.7                     | 52      | 36            | 18             | 7 56 | 20             | 37   | 32    | 88  |
| 5  | 252                                                | 14.0 | -20 | 03.0                                                                                                                                                                   | 261 | 05.0 | 28      | -26                      | 50      | 6 32          | 7 12           | 7 48 | 8 07           | 40   | 15 45 | 85  |
| 6  | 267                                                | 13.9 | -20 | 02.4                                                                                                                                                                   | 275 | 26.8 | 28      | -26                      | 45      | 6 23          | 6 59           | 7 31 | 7 40           | 45   | 16 11 | 79  |
| 7  | 282                                                | 13.7 |     | 01.9                                                                                                                                                                   | 289 | 48.8 | 30      | -26                      | 40      | 15            | 48             | 17   | 19             | 48   | 31    | 76  |
| 8  | 297                                                | 13.5 |     | 01.3                                                                                                                                                                   | 304 | 10.7 | 29      | -25                      | 35      | 08            | 39             | 7 06 | 7 02           | 50   | 16 48 | 73  |
| 9  | 312                                                | 13.3 |     | 00.8                                                                                                                                                                   | 318 | 32.8 | 31      | 52.7                     | 30      | 6 01          | 30             | 6 56 | 6 47           | 52   | 17 02 | 71  |
| 10 | 327                                                | 13.1 | -20 | 00.2                                                                                                                                                                   | 332 | 55.0 | 32      | 47.4                     | 20      | 5 47          | 14             | 38   | 6 21           | 56   | 27    | 66  |
| 11 | 342                                                | 13.0 | -19 | 59.7                                                                                                                                                                   | 347 | 17.2 | 32      | -25                      | 10 N    | 5 34          | 6 00           | 6 22 | 5 59           | 59   | 17 48 | 63  |
| 12 | 357                                                | 12.8 | -19 | 59.1                                                                                                                                                                   | 1   | 39.5 | 33      | -25                      | 0       | 5 20          | 5 46           | 6 08 | 5 38           | 62   | 18 08 | 59  |
| 13 | 12                                                 | 12.6 |     | 58.6                                                                                                                                                                   | 16  | 01.9 | 34      | 30.2                     | 10 S    | 5 04          | 30             | 5 53 | 5 17           | 65   | 28    | 56  |
| 14 | 27                                                 | 12.4 |     | 58.0                                                                                                                                                                   | 30  | 24.4 | 35      | 24.2                     | 20      | 4 45          | 5 13           | 37   | 4 55           | 67   | 18 48 | 53  |
| 15 | 42                                                 | 12.2 |     | 57.5                                                                                                                                                                   | 44  | 47.0 | 36      | 17.9                     | 30      | 20            | 4 52           | 18   | 29             | 70   | 19 12 | 49  |
| 16 | 57                                                 | 12.1 |     | 56.9                                                                                                                                                                   | 59  | 09.7 | 37      | 11.5                     | 35      | 4 04          | 39             | 5 07 | 4 14           | 72   | 26    | 46  |
| 17 | 72                                                 | 11.9 | -19 | 56.3                                                                                                                                                                   | 73  | 32.5 | 38      | -25                      | 40      | 3 45          | 4 24           | 4 55 | 3 56           | 75   | 19 43 | 43  |
| 18 | 87                                                 | 11.7 | -19 | 55.8                                                                                                                                                                   | 87  | 55.3 | 38      | -24                      | 45      | 3 20          | 4 05           | 4 40 | 3 35           | 77   | 20 02 | 39  |
| 19 | 102                                                | 11.5 |     | 55.2                                                                                                                                                                   | 102 | 18.3 | 40      | 51.2                     | 50      | 2 46          | 3 41           | 22   | 3 08           | 82   | 26    | 34  |
| 20 | 117                                                | 11.4 |     | 54.7                                                                                                                                                                   | 116 | 41.4 | 41      | 44.1                     | 52      | 28            | 29             | 13   | 2 54           | 84   | 37    | 32  |
| 21 | 132                                                | 11.2 |     | 54.1                                                                                                                                                                   | 131 | 04.6 | 42      | 36.8                     | 54      | 2 05          | 16             | 4 03 | 39             | 87   | 20 50 | 29  |
| 22 | 147                                                | 11.0 |     | 53.6                                                                                                                                                                   | 145 | 27.8 | 42      | 29.4                     | 56      | 1 32          | 3 00           | 3 52 | 21             | 91   | 21 05 | 25  |
| 23 | 162                                                | 10.8 |     | 53.0                                                                                                                                                                   | 159 | 51.2 | 44      | 21.8                     | 58      | ** **         | 2 41           | 40   | 2 00           | 95   | 23    | 19  |
| 24 | 177                                                | 10.6 | -19 | 52.4                                                                                                                                                                   | 174 | 14.7 | 45      | -24                      | 60 S    | ** **         | 2 16           | 3 25 | 1 32           | 102  | 21 44 | 13  |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>15 <sup>h</sup> 58 <sup>m</sup> 5 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 41 <sup>m</sup> |      | Mag: +0.6<br>PMG: 17 <sup>h</sup> 19 <sup>m</sup> |      | Mag: -2.4<br>PMG: 3 <sup>h</sup> 20 <sup>m</sup> |      | Mag: -0.3<br>PMG: 22 <sup>h</sup> 33 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 119                                      | 42.5 | 139                                               | 51.7 | -10                                               | 01.6 | 99                                               | 59.4 | +8                                                | 49.1 | 309 | 49.6 | +5 | 46.1 | 20  | 51.8 | +22 | 33.6 |
| 1   | 134                                      | 45.0 | 154                                               | 51.3 | -10                                               | 00.4 | 115                                              | 00.4 |                                                   | 49.7 | 324 | 52.1 |    | 46.1 | 35  | 54.4 |     | 33.6 |
| 2   | 149                                      | 47.5 | 169                                               | 51.0 | -9                                                | 59.2 | 130                                              | 01.5 |                                                   | 50.4 | 339 | 54.7 |    | 46.2 | 50  | 57.1 |     | 33.6 |
| 3   | 164                                      | 49.9 | 184                                               | 50.6 |                                                   | 58.0 | 145                                              | 02.5 |                                                   | 51.0 | 354 | 57.3 |    | 46.3 | 65  | 59.8 |     | 33.6 |
| 4   | 179                                      | 52.4 | 199                                               | 50.3 |                                                   | 56.8 | 160                                              | 03.5 |                                                   | 51.6 | 9   | 59.9 |    | 46.3 | 81  | 02.4 |     | 33.6 |
| 5   | 194                                      | 54.8 | 214                                               | 49.9 | -9                                                | 55.5 | 175                                              | 04.5 | +8                                                | 52.2 | 25  | 02.5 | +5 | 46.4 | 96  | 05.1 | +22 | 33.7 |
| 6   | 209                                      | 57.3 | 229                                               | 49.6 | -9                                                | 54.3 | 190                                              | 05.5 | +8                                                | 52.9 | 40  | 05.1 | +5 | 46.5 | 111 | 07.7 | +22 | 33.7 |
| 7   | 224                                      | 59.8 | 244                                               | 49.2 |                                                   | 53.1 | 205                                              | 06.5 |                                                   | 53.5 | 55  | 07.7 |    | 46.5 | 126 | 10.4 |     | 33.7 |
| 8   | 240                                      | 02.2 | 259                                               | 48.9 |                                                   | 51.9 | 220                                              | 07.5 |                                                   | 54.1 | 70  | 10.2 |    | 46.6 | 141 | 13.1 |     | 33.7 |
| 9   | 255                                      | 04.7 | 274                                               | 48.5 |                                                   | 50.7 | 235                                              | 08.5 |                                                   | 54.7 | 85  | 12.8 |    | 46.7 | 156 | 15.7 |     | 33.7 |
| 10  | 270                                      | 07.2 | 289                                               | 48.2 |                                                   | 49.5 | 250                                              | 09.5 |                                                   | 55.4 | 100 | 15.4 |    | 46.7 | 171 | 18.4 |     | 33.7 |
| 11  | 285                                      | 09.6 | 304                                               | 47.8 | -9                                                | 48.3 | 265                                              | 10.5 | +8                                                | 56.0 | 115 | 18.0 | +5 | 46.8 | 186 | 21.0 | +22 | 33.8 |
| 12  | 300                                      | 12.1 | 319                                               | 47.5 | -9                                                | 47.0 | 280                                              | 11.5 | +8                                                | 56.6 | 130 | 20.6 | +5 | 46.8 | 201 | 23.7 | +22 | 33.8 |
| 13  | 315                                      | 14.6 | 334                                               | 47.1 |                                                   | 45.8 | 295                                              | 12.5 |                                                   | 57.2 | 145 | 23.2 |    | 46.9 | 216 | 26.4 |     | 33.8 |
| 14  | 330                                      | 17.0 | 349                                               | 46.8 |                                                   | 44.6 | 310                                              | 13.5 |                                                   | 57.9 | 160 | 25.8 |    | 47.0 | 231 | 29.0 |     | 33.8 |
| 15  | 345                                      | 19.5 | 4                                                 | 46.4 |                                                   | 43.4 | 325                                              | 14.5 |                                                   | 58.5 | 175 | 28.4 |    | 47.0 | 246 | 31.7 |     | 33.8 |
| 16  | 0                                        | 22.0 | 19                                                | 46.1 |                                                   | 42.2 | 340                                              | 15.6 |                                                   | 59.1 | 190 | 30.9 |    | 47.1 | 261 | 34.3 |     | 33.8 |
| 17  | 15                                       | 24.4 | 34                                                | 45.7 | -9                                                | 41.0 | 355                                              | 16.6 | +8                                                | 59.7 | 205 | 33.5 | +5 | 47.2 | 276 | 37.0 | +22 | 33.9 |
| 18  | 30                                       | 26.9 | 49                                                | 45.4 | -9                                                | 39.7 | 10                                               | 17.6 | +9                                                | 00.4 | 220 | 36.1 | +5 | 47.2 | 291 | 39.7 | +22 | 33.9 |
| 19  | 45                                       | 29.3 | 64                                                | 45.1 |                                                   | 38.5 | 25                                               | 18.6 |                                                   | 01.0 | 235 | 38.7 |    | 47.3 | 306 | 42.3 |     | 33.9 |
| 20  | 60                                       | 31.8 | 79                                                | 44.7 |                                                   | 37.3 | 40                                               | 19.6 |                                                   | 01.6 | 250 | 41.3 |    | 47.4 | 321 | 45.0 |     | 33.9 |
| 21  | 75                                       | 34.3 | 94                                                | 44.4 |                                                   | 36.1 | 55                                               | 20.6 |                                                   | 02.2 | 265 | 43.9 |    | 47.4 | 336 | 47.6 |     | 33.9 |
| 22  | 90                                       | 36.7 | 109                                               | 44.0 |                                                   | 34.9 | 70                                               | 21.6 |                                                   | 02.9 | 280 | 46.5 |    | 47.5 | 351 | 50.3 |     | 33.9 |
| 23  | 105                                      | 39.2 | 124                                               | 43.7 |                                                   | 33.6 | 85                                               | 22.6 |                                                   | 03.5 | 295 | 49.1 |    | 47.6 | 6   | 53.0 |     | 34.0 |
| 24  | 120                                      | 41.7 | 139                                               | 43.3 | -9                                                | 32.4 | 100                                              | 23.6 | +9                                                | 04.1 | 310 | 51.7 | +5 | 47.6 | 21  | 55.6 | +22 | 34.0 |
| Dif | —                                        |      | -3                                                |      | +12                                               |      | +10                                              |      | +6                                                |      | +26 |      | +1 |      | +27 |      | 0   |      |



| UT  | SOL                                                |      |                                                   | ● LUNA                                                                                                                         |      |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       |         | Salida de Luna                                    |           | Puesta de Luna |       |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|---------|---------------------------------------------------|-----------|----------------|-------|------|-----|------|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> 4 |      |                                                   | Edad: 29 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 59:8<br>12 <sup>h</sup> : 59:6<br>20 <sup>h</sup> : 59:3<br>R°: 55 <sup>m</sup> |      |                                                   |         |               |                                                  |       |         |                                                   |           |                |       |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                           | Dif  | Dec                                               |         |               | Dif                                              | Civil | Náutico | Hora                                              | R°        | Hora           | R°    |      |     |      |
| h   | °                                                  | '    | °                                                 | °                                                                                                                              | '    | °                                                 | '       | °             | h m                                              | h m   | h m     | h m m                                             | h m m     | h m m          | h m m |      |     |      |
| 0   | 177                                                | 10.6 | -19 52.4                                          | 174                                                                                                                            | 14.7 | -24 14.0                                          | 79      | 60 N          | 15 47                                            | 16 37 | 17 30   | 9 56 8                                            | 16 04 106 |                |       |      |     |      |
| 1   | 192                                                | 10.5 | 51.9                                              | 188                                                                                                                            | 38.3 | -24 06.1                                          | 46      | 58            | 15 59                                            | 46    | 35      | 38 14                                             | 21 100    |                |       |      |     |      |
| 2   | 207                                                | 10.3 | 51.3                                              | 203                                                                                                                            | 02.1 | -23 58.0                                          | 81      | 56            | 16 10                                            | 16 54 | 40      | 22 19                                             | 36 95     |                |       |      |     |      |
| 3   | 222                                                | 10.1 | 50.8                                              | 217                                                                                                                            | 25.9 | 49.8                                              | 82      | 54            | 20                                               | 17 01 | 45      | 9 09 22                                           | 16 49 91  |                |       |      |     |      |
| 4   | 237                                                | 09.9 | 50.2                                              | 231                                                                                                                            | 49.8 | 41.4                                              | 84      | 52            | 29                                               | 07    | 49      | 8 57 26                                           | 17 00 88  |                |       |      |     |      |
| 5   | 252                                                | 09.8 | -19 49.6                                          | 246                                                                                                                            | 13.9 | -23 32.8                                          | 86      | 50            | 16 36                                            | 17 13 | 17 52   | 8 47 28                                           | 17 10 85  |                |       |      |     |      |
| 6   | 267                                                | 09.6 | -19 49.1                                          | 260                                                                                                                            | 38.1 | -23 24.1                                          | 87      | 45            | 16 53                                            | 17 25 | 18 01   | 8 25 34                                           | 17 30 79  |                |       |      |     |      |
| 7   | 282                                                | 09.4 | 48.5                                              | 275                                                                                                                            | 02.3 | 15.3                                              | 88      | 40            | 17 06                                            | 36    | 09      | 8 07 38                                           | 17 47 75  |                |       |      |     |      |
| 8   | 297                                                | 09.2 | 48.0                                              | 289                                                                                                                            | 26.7 | -23 06.3                                          | 90      | 35            | 18                                               | 45    | 16      | 7 52 42                                           | 18 01 71  |                |       |      |     |      |
| 9   | 312                                                | 09.1 | 47.4                                              | 303                                                                                                                            | 51.3 | -22 57.2                                          | 91      | 30            | 28                                               | 17 53 | 23      | 39 45                                             | 13 68     |                |       |      |     |      |
| 10  | 327                                                | 08.9 | 46.8                                              | 318                                                                                                                            | 15.9 | 47.9                                              | 93      | 20            | 17 45                                            | 18 09 | 36      | 7 17 49                                           | 33 63     |                |       |      |     |      |
| 11  | 342                                                | 08.7 | -19 46.3                                          | 332                                                                                                                            | 40.7 | -22 38.5                                          | 94      | 10 N          | 18 01                                            | 18 23 | 18 49   | 6 58 53                                           | 18 51 58  |                |       |      |     |      |
| 12  | 357                                                | 08.6 | -19 45.7                                          | 347                                                                                                                            | 05.6 | -22 29.0                                          | 95      | 0             | 18 15                                            | 18 37 | 19 03   | 6 40 57                                           | 19 07 55  |                |       |      |     |      |
| 13  | 12                                                 | 08.4 | 45.1                                              | 1                                                                                                                              | 30.6 | 19.3                                              | 97      | 10 S          | 30                                               | 18 52 | 18      | 22 60                                             | 24 50     |                |       |      |     |      |
| 14  | 27                                                 | 08.2 | 44.6                                              | 15                                                                                                                             | 55.7 | -22 09.4                                          | 99      | 20            | 18 45                                            | 19 09 | 19 37   | 6 02 65                                           | 19 41 46  |                |       |      |     |      |
| 15  | 42                                                 | 08.0 | 44.0                                              | 30                                                                                                                             | 20.9 | -21 59.5                                          | 99      | 30            | 19 03                                            | 30    | 20 01   | 5 39 70                                           | 20 01 41  |                |       |      |     |      |
| 16  | 57                                                 | 07.9 | 43.4                                              | 44                                                                                                                             | 46.3 | 49.4                                              | 101     | 35            | 14                                               | 42    | 17      | 26 72                                             | 12 38     |                |       |      |     |      |
| 17  | 72                                                 | 07.7 | -19 42.9                                          | 59                                                                                                                             | 11.8 | -21 39.2                                          | 102     | 40            | 19 26                                            | 19 57 | 20 36   | 5 11 75                                           | 20 26 34  |                |       |      |     |      |
| 18  | 87                                                 | 07.5 | -19 42.3                                          | 73                                                                                                                             | 37.4 | -21 28.9                                          | 103     | 45            | 19 41                                            | 20 15 | 21 00   | 4 52 80                                           | 20 41 30  |                |       |      |     |      |
| 19  | 102                                                | 07.4 | 41.7                                              | 88                                                                                                                             | 03.2 | 18.4                                              | 105     | 50            | 19 59                                            | 39    | 33      | 30 85                                             | 21 00 24  |                |       |      |     |      |
| 20  | 117                                                | 07.2 | 41.1                                              | 102                                                                                                                            | 29.0 | -21 07.8                                          | 106     | 52            | 20 07                                            | 20 50 | 21 50   | 18 88                                             | 09 22     |                |       |      |     |      |
| 21  | 132                                                | 07.0 | 40.6                                              | 116                                                                                                                            | 55.0 | -20 57.1                                          | 107     | 54            | 16                                               | 21 03 | 22 12   | 4 06 91                                           | 19 19     |                |       |      |     |      |
| 22  | 147                                                | 06.9 | 40.0                                              | 131                                                                                                                            | 21.1 | 46.3                                              | 108     | 56            | 27                                               | 19    | 22 42   | 3 52 95                                           | 30 15     |                |       |      |     |      |
| 23  | 162                                                | 06.7 | 39.4                                              | 145                                                                                                                            | 47.4 | 35.3                                              | 110     | 58            | 39                                               | 21 37 | 23 36   | 5 35 100                                          | 42 12     |                |       |      |     |      |
| 24  | 177                                                | 06.5 | -19 38.8                                          | 160                                                                                                                            | 13.7 | -20 24.3                                          | 110     | 60 S          | 20 54                                            | 22 01 | ** **   | 3 14 107                                          | 21 57 7   |                |       |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                |      | MARTE                                             |         |               | JÚPITER                                          |       |         | SATURNO                                           |           |                |       |      |     |      |
|     | PMG: 15 <sup>h</sup> 54 <sup>m</sup> 6             |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 41 <sup>m</sup> |                                                                                                                                |      | Mag: +0.6<br>PMG: 17 <sup>h</sup> 17 <sup>m</sup> |         |               | Mag: -2.4<br>PMG: 3 <sup>h</sup> 16 <sup>m</sup> |       |         | Mag: -0.3<br>PMG: 22 <sup>h</sup> 28 <sup>m</sup> |           |                |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                            |      | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |         | hG ♄                                              | Dec       |                |       |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                              | °    | '                                                 | '       | °             | °                                                | '     | °       | '                                                 | °         | '              | °     |      |     |      |
| 0   | 120                                                | 41.7 | 139                                               | 43.3                                                                                                                           | -9   | 32.4                                              | 100     | 23.6          | +9                                               | 04.1  | 310     | 51.7                                              | +5        | 47.6           | 21    | 55.6 | +22 | 34.0 |
| 1   | 135                                                | 44.1 | 154                                               | 43.0                                                                                                                           |      | 31.2                                              | 115     | 24.6          |                                                  | 04.7  | 325     | 54.3                                              |           | 47.7           | 36    | 58.3 |     | 34.0 |
| 2   | 150                                                | 46.6 | 169                                               | 42.7                                                                                                                           |      | 30.0                                              | 130     | 25.6          |                                                  | 05.4  | 340     | 56.9                                              |           | 47.8           | 52    | 00.9 |     | 34.0 |
| 3   | 165                                                | 49.1 | 184                                               | 42.3                                                                                                                           |      | 28.7                                              | 145     | 26.6          |                                                  | 06.0  | 355     | 59.5                                              |           | 47.8           | 67    | 03.6 |     | 34.0 |
| 4   | 180                                                | 51.5 | 199                                               | 42.0                                                                                                                           |      | 27.5                                              | 160     | 27.6          |                                                  | 06.6  | 11      | 02.0                                              |           | 47.9           | 82    | 06.2 |     | 34.0 |
| 5   | 195                                                | 54.0 | 214                                               | 41.6                                                                                                                           | -9   | 26.3                                              | 175     | 28.6          | +9                                               | 07.2  | 26      | 04.6                                              | +5        | 48.0           | 97    | 08.9 | +22 | 34.1 |
| 6   | 210                                                | 56.5 | 229                                               | 41.3                                                                                                                           | -9   | 25.1                                              | 190     | 29.6          | +9                                               | 07.9  | 41      | 07.2                                              | +5        | 48.0           | 112   | 11.6 | +22 | 34.1 |
| 7   | 225                                                | 58.9 | 244                                               | 41.0                                                                                                                           |      | 23.9                                              | 205     | 30.6          |                                                  | 08.5  | 56      | 09.8                                              |           | 48.1           | 127   | 14.2 |     | 34.1 |
| 8   | 241                                                | 01.4 | 259                                               | 40.6                                                                                                                           |      | 22.6                                              | 220     | 31.6          |                                                  | 09.1  | 71      | 12.4                                              |           | 48.2           | 142   | 16.9 |     | 34.1 |
| 9   | 256                                                | 03.8 | 274                                               | 40.3                                                                                                                           |      | 21.4                                              | 235     | 32.6          |                                                  | 09.7  | 86      | 15.0                                              |           | 48.2           | 157   | 19.5 |     | 34.1 |
| 10  | 271                                                | 06.3 | 289                                               | 39.9                                                                                                                           |      | 20.2                                              | 250     | 33.6          |                                                  | 10.4  | 101     | 17.6                                              |           | 48.3           | 172   | 22.2 |     | 34.1 |
| 11  | 286                                                | 08.8 | 304                                               | 39.6                                                                                                                           | -9   | 19.0                                              | 265     | 34.6          | +9                                               | 11.0  | 116     | 20.2                                              | +5        | 48.4           | 187   | 24.9 | +22 | 34.2 |
| 12  | 301                                                | 11.2 | 319                                               | 39.3                                                                                                                           | -9   | 17.7                                              | 280     | 35.6          | +9                                               | 11.6  | 131     | 22.8                                              | +5        | 48.4           | 202   | 27.5 | +22 | 34.2 |
| 13  | 316                                                | 13.7 | 334                                               | 38.9                                                                                                                           |      | 16.5                                              | 295     | 36.6          |                                                  | 12.2  | 146     | 25.4                                              |           | 48.5           | 217   | 30.2 |     | 34.2 |
| 14  | 331                                                | 16.2 | 349                                               | 38.6                                                                                                                           |      | 15.3                                              | 310     | 37.6          |                                                  | 12.9  | 161     | 28.0                                              |           | 48.6           | 232   | 32.8 |     | 34.2 |
| 15  | 346                                                | 18.6 | 4                                                 | 38.3                                                                                                                           |      | 14.0                                              | 325     | 38.6          |                                                  | 13.5  | 176     | 30.6                                              |           | 48.6           | 247   | 35.5 |     | 34.2 |
| 16  | 1                                                  | 21.1 | 19                                                | 37.9                                                                                                                           |      | 12.8                                              | 340     | 39.6          |                                                  | 14.1  | 191     | 33.2                                              |           | 48.7           | 262   | 38.1 |     | 34.2 |
| 17  | 16                                                 | 23.6 | 34                                                | 37.6                                                                                                                           | -9   | 11.6                                              | 355     | 40.6          | +9                                               | 14.7  | 206     | 35.8                                              | +5        | 48.8           | 277   | 40.8 | +22 | 34.3 |
| 18  | 31                                                 | 26.0 | 49                                                | 37.3                                                                                                                           | -9   | 10.4                                              | 10      | 41.7          | +9                                               | 15.3  | 221     | 38.4                                              | +5        | 48.8           | 292   | 43.5 | +22 | 34.3 |
| 19  | 46                                                 | 28.5 | 64                                                | 36.9                                                                                                                           |      | 09.1                                              | 25      | 42.7          |                                                  | 16.0  | 236     | 41.0                                              |           | 48.9           | 307   | 46.1 |     | 34.3 |
| 20  | 61                                                 | 31.0 | 79                                                | 36.6                                                                                                                           |      | 07.9                                              | 40      | 43.7          |                                                  | 16.6  | 251     | 43.6                                              |           | 49.0           | 322   | 48.8 |     | 34.3 |
| 21  | 76                                                 | 33.4 | 94                                                | 36.3                                                                                                                           |      | 06.7                                              | 55      | 44.7          |                                                  | 17.2  | 266     | 46.2                                              |           | 49.0           | 337   | 51.4 |     | 34.3 |
| 22  | 91                                                 | 35.9 | 109                                               | 35.9                                                                                                                           |      | 05.4                                              | 70      | 45.7          |                                                  | 17.8  | 281     | 48.8                                              |           | 49.1           | 352   | 54.1 |     | 34.3 |
| 23  | 106                                                | 38.3 | 124                                               | 35.6                                                                                                                           |      | 04.2                                              | 85      | 46.7          |                                                  | 18.5  | 296     | 51.4                                              |           | 49.2           | 7     | 56.7 |     | 34.4 |
| 24  | 121                                                | 40.8 | 139                                               | 35.3                                                                                                                           | -9   | 03.0                                              | 100     | 47.7          | +9                                               | 19.1  | 311     | 54.0                                              | +5        | 49.2           | 22    | 59.4 | +22 | 34.4 |
| Dif | —                                                  |      | -3                                                |                                                                                                                                | +12  | +10                                               |         | +6            | +26                                              |       | +1      |                                                   | +27       |                | 0     |      |     |      |

| UT  | SOL                                                |      |     | ● LUNA                                                                                                                         |     |      | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna                                    |      |       |      |   |
|-----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|------|---------------------------------------------------|------|-------|------|---|
|     | SD: 16/3<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> 7 |      |     | Edad: 1 <sup>d</sup> PHE {<br>4 <sup>h</sup> : 59/1<br>12 <sup>h</sup> : 58/8<br>20 <sup>h</sup> : 58/6<br>R°: 51 <sup>m</sup> |     |      |                                                   |                          |         |                                                  |                |      |                                                   |      |       |      |   |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                           | Dif | Dec  |                                                   | Dif                      | Náutico |                                                  | Civil          | Hora | R°                                                | Hora | R°    |      |   |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '    | °                                                 | '                        | h       | m                                                | h              | m    | h                                                 | m    | h     | m    | m |
| 0   | 177                                                | 06.5 | -19 | 38.8                                                                                                                           | 160 | 13.7 | -20                                               | 24.3                     | 60 N    | 6 52                                             | 7 44           | 8 35 | 10 04                                             | 4    | 17 50 | 99   |   |
| 1   | 192                                                | 06.3 |     | 38.3                                                                                                                           | 174 | 40.2 | 75                                                | 13.1                     | 58      | 47                                               | 36             | 22   | 9 52                                              | 8    | 18 01 | 95   |   |
| 2   | 207                                                | 06.2 |     | 37.7                                                                                                                           | 189 | 06.8 | 76                                                | -20 01.8                 | 56      | 42                                               | 28             | 11   | 41 12                                             |      | 11 91 |      |   |
| 3   | 222                                                | 06.0 |     | 37.1                                                                                                                           | 203 | 33.6 | 78                                                | -19 50.4                 | 54      | 38                                               | 22             | 8 02 | 31 16                                             |      | 20 87 |      |   |
| 4   | 237                                                | 05.8 |     | 36.5                                                                                                                           | 218 | 00.4 | 78                                                | 39.0                     | 52      | 34                                               | 15             | 7 54 | 23 18                                             |      | 28 84 |      |   |
| 5   | 252                                                | 05.7 | -19 | 36.0                                                                                                                           | 232 | 27.4 | 80                                                | -19 27.4                 | 50      | 6 30                                             | 7 10           | 7 46 | 9 15                                              | 21   | 18 35 | 81   |   |
| 6   | 267                                                | 05.5 | -19 | 35.4                                                                                                                           | 246 | 54.5 | 81                                                | -19 15.7                 | 45      | 6 22                                             | 6 58           | 7 30 | 8 59                                              | 26   | 18 49 | 76   |   |
| 7   | 282                                                | 05.3 |     | 34.8                                                                                                                           | 261 | 21.8 | 83                                                | -19 03.9                 | 40      | 14                                               | 47             | 16   | 45 31                                             |      | 19 02 | 71   |   |
| 8   | 297                                                | 05.2 |     | 34.2                                                                                                                           | 275 | 49.1 | 83                                                | -18 52.0                 | 35      | 07                                               | 38             | 7 05 | 34 34                                             |      | 12 67 |      |   |
| 9   | 312                                                | 05.0 |     | 33.7                                                                                                                           | 290 | 16.6 | 85                                                | 40.0                     | 30      | 6 00                                             | 29             | 6 55 | 24 37                                             |      | 21 64 |      |   |
| 10  | 327                                                | 04.9 |     | 33.1                                                                                                                           | 304 | 44.2 | 86                                                | 27.9                     | 20      | 5 47                                             | 14             | 38   | 8 06                                              | 43   | 36 59 |      |   |
| 11  | 342                                                | 04.7 | -19 | 32.5                                                                                                                           | 319 | 11.9 | 87                                                | -18 15.7                 | 10 N    | 5 34                                             | 6 00           | 6 22 | 7 51                                              | 47   | 19 49 | 54   |   |
| 12  | 357                                                | 04.5 | -19 | 31.9                                                                                                                           | 333 | 39.8 | 89                                                | -18 03.4                 | 0       | 5 21                                             | 5 46           | 6 08 | 7 37                                              | 51   | 20 02 | 49   |   |
| 13  | 12                                                 | 04.4 |     | 31.3                                                                                                                           | 348 | 07.8 | 90                                                | -17 51.1                 | 10 S    | 5 05                                             | 31             | 5 54 | 22 56                                             |      | 14 45 |      |   |
| 14  | 27                                                 | 04.2 |     | 30.7                                                                                                                           | 2   | 35.8 | 90                                                | 38.6                     | 20      | 4 46                                             | 5 14           | 38   | 7 07                                              | 60   | 27 40 |      |   |
| 15  | 42                                                 | 04.0 |     | 30.2                                                                                                                           | 17  | 04.0 | 92                                                | 26.1                     | 30      | 22                                               | 4 54           | 20   | 6 49                                              | 66   | 42 35 |      |   |
| 16  | 57                                                 | 03.9 |     | 29.6                                                                                                                           | 31  | 32.4 | 94                                                | 13.5                     | 35      | 4 07                                             | 41             | 5 09 | 38 69                                             |      | 20 50 | 32   |   |
| 17  | 72                                                 | 03.7 | -19 | 29.0                                                                                                                           | 46  | 00.8 | 94                                                | -17 00.8                 | 40      | 3 48                                             | 4 26           | 4 57 | 6 26                                              | 73   | 21 00 | 28   |   |
| 18  | 87                                                 | 03.5 | -19 | 28.4                                                                                                                           | 60  | 29.4 | 96                                                | -16 48.0                 | 45      | 3 24                                             | 4 08           | 4 43 | 6 12                                              | 77   | 21 11 | 24   |   |
| 19  | 102                                                | 03.4 |     | 27.8                                                                                                                           | 74  | 58.1 | 97                                                | 35.2                     | 50      | 2 51                                             | 3 45           | 25   | 5 55                                              | 83   | 24 19 |      |   |
| 20  | 117                                                | 03.2 |     | 27.2                                                                                                                           | 89  | 26.9 | 98                                                | 22.3                     | 52      | 33                                               | 34             | 17   | 46 86                                             |      | 31 16 |      |   |
| 21  | 132                                                | 03.1 |     | 26.6                                                                                                                           | 103 | 55.8 | 99                                                | -16 09.3                 | 54      | 2 11                                             | 20             | 4 07 | 37 89                                             |      | 38 13 |      |   |
| 22  | 147                                                | 02.9 |     | 26.1                                                                                                                           | 118 | 24.8 | 100                                               | -15 56.2                 | 56      | 1 42                                             | 3 05           | 3 57 | 27 92                                             |      | 45 11 |      |   |
| 23  | 162                                                | 02.7 |     | 25.5                                                                                                                           | 132 | 54.0 | 102                                               | 43.0                     | 58      | 0 48                                             | 2 47           | 44   | 15 97                                             |      | 21 54 | 7    |   |
| 24  | 177                                                | 02.6 | -19 | 24.9                                                                                                                           | 147 | 23.2 | 102                                               | -15 29.8                 | 60 S    | ** **                                            | 2 23           | 3 30 | 5 01                                              | 102  | 22 04 | 3    |   |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                          |     |      | MARTE                                             |                          |         | JÚPITER                                          |                |      | SATURNO                                           |      |       |      |   |
|     | PMG: 15 <sup>h</sup> 50 <sup>m</sup> 7             |      |     | Mag: -4.0<br>PMG: 14 <sup>h</sup> 42 <sup>m</sup>                                                                              |     |      | Mag: +0.6<br>PMG: 17 <sup>h</sup> 16 <sup>m</sup> |                          |         | Mag: -2.4<br>PMG: 3 <sup>h</sup> 12 <sup>m</sup> |                |      | Mag: -0.3<br>PMG: 22 <sup>h</sup> 24 <sup>m</sup> |      |       |      |   |
|     | hG ♈                                               |      | Dec | hG ♀                                                                                                                           |     | Dec  | hG ♂                                              |                          | Dec     | hG ♃                                             |                | Dec  | hG ♄                                              |      | Dec   |      |   |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '    | °                                                 | '                        | °       | '                                                | °              | '    | °                                                 | '    | °     | '    |   |
| 0   | 121                                                | 40.8 | 139 | 35.3                                                                                                                           | -9  | 03.0 | 100                                               | 47.7                     | +9      | 19.1                                             | 311            | 54.0 | +5                                                | 49.2 | 22    | 59.4 |   |
| 1   | 136                                                | 43.3 | 154 | 34.9                                                                                                                           |     | 01.8 | 115                                               | 48.7                     |         | 19.7                                             | 326            | 56.6 |                                                   | 49.3 | 38    | 02.0 |   |
| 2   | 151                                                | 45.7 | 169 | 34.6                                                                                                                           | -9  | 00.5 | 130                                               | 49.7                     |         | 20.3                                             | 341            | 59.2 |                                                   | 49.4 | 53    | 04.7 |   |
| 3   | 166                                                | 48.2 | 184 | 34.3                                                                                                                           | -8  | 59.3 | 145                                               | 50.7                     |         | 20.9                                             | 357            | 01.8 |                                                   | 49.4 | 68    | 07.4 |   |
| 4   | 181                                                | 50.7 | 199 | 33.9                                                                                                                           |     | 58.1 | 160                                               | 51.7                     |         | 21.6                                             | 12             | 04.4 |                                                   | 49.5 | 83    | 10.0 |   |
| 5   | 196                                                | 53.1 | 214 | 33.6                                                                                                                           | -8  | 56.8 | 175                                               | 52.7                     | +9      | 22.2                                             | 27             | 07.0 | +5                                                | 49.6 | 98    | 12.7 |   |
| 6   | 211                                                | 55.6 | 229 | 33.3                                                                                                                           | -8  | 55.6 | 190                                               | 53.7                     | +9      | 22.8                                             | 42             | 09.6 | +5                                                | 49.7 | 113   | 15.3 |   |
| 7   | 226                                                | 58.1 | 244 | 33.0                                                                                                                           |     | 54.4 | 205                                               | 54.7                     |         | 23.4                                             | 57             | 12.2 |                                                   | 49.7 | 128   | 18.0 |   |
| 8   | 242                                                | 00.5 | 259 | 32.6                                                                                                                           |     | 53.1 | 220                                               | 55.7                     |         | 24.0                                             | 72             | 14.8 |                                                   | 49.8 | 143   | 20.6 |   |
| 9   | 257                                                | 03.0 | 274 | 32.3                                                                                                                           |     | 51.9 | 235                                               | 56.7                     |         | 24.7                                             | 87             | 17.4 |                                                   | 49.9 | 158   | 23.3 |   |
| 10  | 272                                                | 05.4 | 289 | 32.0                                                                                                                           |     | 50.7 | 250                                               | 57.7                     |         | 25.3                                             | 102            | 20.0 |                                                   | 49.9 | 173   | 25.9 |   |
| 11  | 287                                                | 07.9 | 304 | 31.6                                                                                                                           | -8  | 49.4 | 265                                               | 58.7                     | +9      | 25.9                                             | 117            | 22.6 | +5                                                | 50.0 | 188   | 28.6 |   |
| 12  | 302                                                | 10.4 | 319 | 31.3                                                                                                                           | -8  | 48.2 | 280                                               | 59.7                     | +9      | 26.5                                             | 132            | 25.2 | +5                                                | 50.1 | 203   | 31.3 |   |
| 13  | 317                                                | 12.8 | 334 | 31.0                                                                                                                           |     | 47.0 | 296                                               | 00.7                     |         | 27.2                                             | 147            | 27.8 |                                                   | 50.1 | 218   | 33.9 |   |
| 14  | 332                                                | 15.3 | 349 | 30.7                                                                                                                           |     | 45.7 | 311                                               | 01.7                     |         | 27.8                                             | 162            | 30.4 |                                                   | 50.2 | 233   | 36.6 |   |
| 15  | 347                                                | 17.8 | 4   | 30.3                                                                                                                           |     | 44.5 | 326                                               | 02.6                     |         | 28.4                                             | 177            | 33.0 |                                                   | 50.3 | 248   | 39.2 |   |
| 16  | 2                                                  | 20.2 | 19  | 30.0                                                                                                                           |     | 43.2 | 341                                               | 03.6                     |         | 29.0                                             | 192            | 35.6 |                                                   | 50.4 | 263   | 41.9 |   |
| 17  | 17                                                 | 22.7 | 34  | 29.7                                                                                                                           | -8  | 42.0 | 356                                               | 04.6                     | +9      | 29.6                                             | 207            | 38.2 | +5                                                | 50.4 | 278   | 44.5 |   |
| 18  | 32                                                 | 25.2 | 49  | 29.4                                                                                                                           | -8  | 40.8 | 11                                                | 05.6                     | +9      | 30.3                                             | 222            | 40.8 | +5                                                | 50.5 | 293   | 47.2 |   |
| 19  | 47                                                 | 27.6 | 64  | 29.1                                                                                                                           |     | 39.5 | 26                                                | 06.6                     |         | 30.9                                             | 237            | 43.4 |                                                   | 50.6 | 308   | 49.8 |   |
| 20  | 62                                                 | 30.1 | 79  | 28.7                                                                                                                           |     | 38.3 | 41                                                | 07.6                     |         | 31.5                                             | 252            | 46.0 |                                                   | 50.6 | 323   | 52.5 |   |
| 21  | 77                                                 | 32.6 | 94  | 28.4                                                                                                                           |     | 37.1 | 56                                                | 08.6                     |         | 32.1                                             | 267            | 48.6 |                                                   | 50.7 | 338   | 55.1 |   |
| 22  | 92                                                 | 35.0 | 109 | 28.1                                                                                                                           |     | 35.8 | 71                                                | 09.6                     |         | 32.7                                             | 282            | 51.2 |                                                   | 50.8 | 353   | 57.8 |   |
| 23  | 107                                                | 37.5 | 124 | 27.8                                                                                                                           |     | 34.6 | 86                                                | 10.6                     |         | 33.4                                             | 297            | 53.8 |                                                   | 50.8 | 9     | 00.5 |   |
| 24  | 122                                                | 39.9 | 139 | 27.5                                                                                                                           | -8  | 33.3 | 101                                               | 11.6                     | +9      | 34.0                                             | 312            | 56.4 | +5                                                | 50.9 | 24    | 03.1 |   |
| Dif | —                                                  |      |     | -3 +12                                                                                                                         |     |      | +10 +6                                            |                          |         | +26 +1                                           |                |      | +27 0                                             |      |       |      |   |

| UT  | SOL                                                |      | ● LUNA                                                                                                                                                             |      |                                                   |                         | Latitud                                          | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna |          | Puesta de Luna |    |
|-----|----------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|-------------------------|--------------------------------------------------|---------------|---------------------------------------------------|----------|----------------|----------|----------------|----|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 0 |      | Edad: 2 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 58/3<br>12 <sup>h</sup> : 58/0<br>20 <sup>h</sup> : 57/7<br>PMG: 14 <sup>h</sup> 40 <sup>m</sup> R°: 46 <sup>m</sup> |      |                                                   |                         |                                                  |               |                                                   |          |                |          |                |    |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                                                               | Dif  | Dec                                               | Dif                     |                                                  |               | Civil                                             | Náutico  | Hora           | R°       | Hora           | R° |
| h   | °                                                  | '    | °                                                                                                                                                                  | '    | °                                                 | '                       | °                                                | h m           | h m                                               | h m      | m              | h m      | m              |    |
| 0   | 177                                                | 02.6 | -19 24.9                                                                                                                                                           | 147  | 23.2                                              | -15 29.8                | 60 N                                             | 15 52         | 16 42                                             | 17 34    | 10 08 2        | 19 29 92 |                |    |
| 1   | 192                                                | 02.4 | 24.3                                                                                                                                                               | 161  | 52.6 <sup>104</sup>                               | 16.6 <sup>132</sup>     | 58                                               | 16 04         | 50                                                | 39       | 10 00 6        | 36 88    |                |    |
| 2   | 207                                                | 02.3 | 23.7                                                                                                                                                               | 176  | 22.1 <sup>105</sup>                               | -15 03.2 <sup>134</sup> | 56                                               | 15            | 16 57                                             | 44       | 9 53 9         | 42 85    |                |    |
| 3   | 222                                                | 02.1 | 23.1                                                                                                                                                               | 190  | 51.7 <sup>106</sup>                               | -14 49.8 <sup>134</sup> | 54                                               | 24            | 17 04                                             | 48       | 47 12          | 47 82    |                |    |
| 4   | 237                                                | 01.9 | 22.5                                                                                                                                                               | 205  | 21.4 <sup>107</sup>                               | 36.4 <sup>134</sup>     | 52                                               | 32            | 10                                                | 52       | 41 15          | 52 79    |                |    |
| 5   | 252                                                | 01.8 | -19 21.9                                                                                                                                                           | 219  | 51.2 <sup>108</sup>                               | -14 22.9 <sup>135</sup> | 50                                               | 16 40         | 17 16                                             | 17 55    | 9 36 17        | 19 56 77 |                |    |
| 6   | 267                                                | 01.6 | -19 21.3                                                                                                                                                           | 234  | 21.1 <sup>109</sup>                               | -14 09.3 <sup>136</sup> | 45                                               | 16 56         | 17 28                                             | 18 03    | 9 25 22        | 20 05 72 |                |    |
| 7   | 282                                                | 01.5 | 20.7                                                                                                                                                               | 248  | 51.1 <sup>110</sup>                               | -13 55.6 <sup>137</sup> | 40                                               | 17 09         | 38                                                | 11       | 16 26          | 13 67    |                |    |
| 8   | 297                                                | 01.3 | 20.1                                                                                                                                                               | 263  | 21.3 <sup>112</sup>                               | 42.0 <sup>136</sup>     | 35                                               | 20            | 47                                                | 18       | 08 30          | 19 64    |                |    |
| 9   | 312                                                | 01.2 | 19.6                                                                                                                                                               | 277  | 51.5 <sup>112</sup>                               | 28.2 <sup>138</sup>     | 30                                               | 30            | 17 55                                             | 24       | 9 01 33        | 25 60    |                |    |
| 10  | 327                                                | 01.0 | 19.0                                                                                                                                                               | 292  | 21.8 <sup>113</sup>                               | 14.4 <sup>138</sup>     | 20                                               | 17 47         | 18 10                                             | 37       | 8 49 38        | 35 54    |                |    |
| 11  | 342                                                | 00.8 | -19 18.4                                                                                                                                                           | 306  | 52.3 <sup>115</sup>                               | -13 00.6 <sup>138</sup> | 10 N                                             | 18 01         | 18 24                                             | 18 49    | 8 38 43        | 20 43 50 |                |    |
| 12  | 357                                                | 00.7 | -19 17.8                                                                                                                                                           | 321  | 22.8 <sup>115</sup>                               | -12 46.7 <sup>139</sup> | 0                                                | 18 16         | 18 37                                             | 19 03    | 8 28 47        | 20 51 46 |                |    |
| 13  | 12                                                 | 00.5 | 17.2                                                                                                                                                               | 335  | 53.5 <sup>117</sup>                               | 32.8 <sup>139</sup>     | 10 S                                             | 30            | 18 52                                             | 18       | 18 52          | 20 59 41 |                |    |
| 14  | 27                                                 | 00.4 | 16.6                                                                                                                                                               | 350  | 24.2 <sup>117</sup>                               | 18.8 <sup>140</sup>     | 20                                               | 18 45         | 19 09                                             | 19 37    | 8 07 57        | 21 07 37 |                |    |
| 15  | 42                                                 | 00.2 | 16.0                                                                                                                                                               | 4    | 55.0 <sup>118</sup>                               | -12 04.8 <sup>140</sup> | 30                                               | 19 03         | 29                                                | 20 00    | 7 55 62        | 17 31    |                |    |
| 16  | 57                                                 | 00.1 | 15.4                                                                                                                                                               | 19   | 26.0 <sup>120</sup>                               | -11 50.7 <sup>141</sup> | 35                                               | 13            | 41                                                | 15       | 47 66          | 22 28    |                |    |
| 17  | 71                                                 | 59.9 | -19 14.8                                                                                                                                                           | 33   | 57.0 <sup>120</sup>                               | -11 36.6 <sup>141</sup> | 40                                               | 19 25         | 19 56                                             | 20 34    | 7 39 69        | 21 28 25 |                |    |
| 18  | 86                                                 | 59.8 | -19 14.2                                                                                                                                                           | 48   | 28.2 <sup>122</sup>                               | -11 22.5 <sup>141</sup> | 45                                               | 19 39         | 20 13                                             | 20 57    | 7 29 74        | 21 35 21 |                |    |
| 19  | 101                                                | 59.6 | 13.6                                                                                                                                                               | 62   | 59.4 <sup>122</sup>                               | -11 08.3 <sup>142</sup> | 50                                               | 19 56         | 36                                                | 21 29    | 18 78          | 43 16    |                |    |
| 20  | 116                                                | 59.5 | 13.0                                                                                                                                                               | 77   | 30.7 <sup>123</sup>                               | -10 54.1 <sup>142</sup> | 52                                               | 20 04         | 20 47                                             | 21 46    | 12 81          | 47 14    |                |    |
| 21  | 131                                                | 59.3 | 12.4                                                                                                                                                               | 92   | 02.1 <sup>124</sup>                               | 39.9 <sup>142</sup>     | 54                                               | 14            | 21 00                                             | 22 07    | 7 06 84        | 51 11    |                |    |
| 22  | 146                                                | 59.1 | 11.8                                                                                                                                                               | 106  | 33.6 <sup>125</sup>                               | 25.6 <sup>143</sup>     | 56                                               | 24            | 14                                                | 22 34    | 6 59 88        | 21 56 8  |                |    |
| 23  | 161                                                | 59.0 | 11.2                                                                                                                                                               | 121  | 05.2 <sup>126</sup>                               | -10 11.3 <sup>143</sup> | 58                                               | 36            | 32                                                | 23 18    | 52 91          | 22 01 6  |                |    |
| 24  | 176                                                | 58.8 | -19 10.6                                                                                                                                                           | 135  | 36.9 <sup>127</sup>                               | -9 56.9 <sup>144</sup>  | 60 S                                             | 20 49         | 21 54                                             | ** **    | 6 43 95        | 22 07 2  |                |    |
| UT  | ARIES                                              |      | VENUS                                                                                                                                                              |      | MARTE                                             |                         | JÚPITER                                          |               | SATURNO                                           |          |                |          |                |    |
|     | PMG<br>15 <sup>h</sup> 46 <sup>m</sup> 7           |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 42 <sup>m</sup>                                                                                                                  |      | Mag: +0.6<br>PMG: 17 <sup>h</sup> 14 <sup>m</sup> |                         | Mag: -2.4<br>PMG: 3 <sup>h</sup> 08 <sup>m</sup> |               | Mag: -0.3<br>PMG: 22 <sup>h</sup> 20 <sup>m</sup> |          |                |          |                |    |
|     | hG ♈                                               |      | hG ♀                                                                                                                                                               | Dec  | hG ♂                                              | Dec                     | hG ♃                                             | Dec           | hG ♄                                              | Dec      |                |          |                |    |
| h   | °                                                  | '    | °                                                                                                                                                                  | '    | °                                                 | '                       | °                                                | '             | °                                                 | '        |                |          |                |    |
| 0   | 122                                                | 39.9 | 139                                                                                                                                                                | 27.5 | -8 33.3                                           | 101 11.6                | +9 34.0                                          | 312 56.4      | +5 50.9                                           | 24 03.1  | +22 34.8       |          |                |    |
| 1   | 137                                                | 42.4 | 154                                                                                                                                                                | 27.1 | 32.1                                              | 116 12.6                | 34.6                                             | 327 59.0      | 51.0                                              | 39 05.8  | 34.8           |          |                |    |
| 2   | 152                                                | 44.9 | 169                                                                                                                                                                | 26.8 | 30.9                                              | 131 13.6                | 35.2                                             | 343 01.6      | 51.1                                              | 54 08.4  | 34.8           |          |                |    |
| 3   | 167                                                | 47.3 | 184                                                                                                                                                                | 26.5 | 29.6                                              | 146 14.6                | 35.8                                             | 358 04.2      | 51.1                                              | 69 11.1  | 34.8           |          |                |    |
| 4   | 182                                                | 49.8 | 199                                                                                                                                                                | 26.2 | 28.4                                              | 161 15.6                | 36.5                                             | 13 06.8       | 51.2                                              | 84 13.7  | 34.8           |          |                |    |
| 5   | 197                                                | 52.3 | 214                                                                                                                                                                | 25.9 | -8 27.1                                           | 176 16.6                | +9 37.1                                          | 28 09.5       | +5 51.3                                           | 99 16.4  | +22 34.9       |          |                |    |
| 6   | 212                                                | 54.7 | 229                                                                                                                                                                | 25.5 | -8 25.9                                           | 191 17.6                | +9 37.7                                          | 43 12.1       | +5 51.4                                           | 114 19.0 | +22 34.9       |          |                |    |
| 7   | 227                                                | 57.2 | 244                                                                                                                                                                | 25.2 | 24.7                                              | 206 18.6                | 38.3                                             | 58 14.7       | 51.4                                              | 129 21.7 | 34.9           |          |                |    |
| 8   | 242                                                | 59.7 | 259                                                                                                                                                                | 24.9 | 23.4                                              | 221 19.6                | 38.9                                             | 73 17.3       | 51.5                                              | 144 24.3 | 34.9           |          |                |    |
| 9   | 258                                                | 02.1 | 274                                                                                                                                                                | 24.6 | 22.2                                              | 236 20.6                | 39.6                                             | 88 19.9       | 51.6                                              | 159 27.0 | 34.9           |          |                |    |
| 10  | 273                                                | 04.6 | 289                                                                                                                                                                | 24.3 | 20.9                                              | 251 21.6                | 40.2                                             | 103 22.5      | 51.6                                              | 174 29.6 | 34.9           |          |                |    |
| 11  | 288                                                | 07.1 | 304                                                                                                                                                                | 24.0 | -8 19.7                                           | 266 22.6                | +9 40.8                                          | 118 25.1      | +5 51.7                                           | 189 32.3 | +22 34.9       |          |                |    |
| 12  | 303                                                | 09.5 | 319                                                                                                                                                                | 23.6 | -8 18.4                                           | 281 23.6                | +9 41.4                                          | 133 27.7      | +5 51.8                                           | 204 34.9 | +22 35.0       |          |                |    |
| 13  | 318                                                | 12.0 | 334                                                                                                                                                                | 23.3 | 17.2                                              | 296 24.6                | 42.0                                             | 148 30.3      | 51.9                                              | 219 37.6 | 35.0           |          |                |    |
| 14  | 333                                                | 14.4 | 349                                                                                                                                                                | 23.0 | 15.9                                              | 311 25.6                | 42.6                                             | 163 32.9      | 51.9                                              | 234 40.2 | 35.0           |          |                |    |
| 15  | 348                                                | 16.9 | 4                                                                                                                                                                  | 22.7 | 14.7                                              | 326 26.6                | 43.3                                             | 178 35.5      | 52.0                                              | 249 42.9 | 35.0           |          |                |    |
| 16  | 3                                                  | 19.4 | 19                                                                                                                                                                 | 22.4 | 13.5                                              | 341 27.5                | 43.9                                             | 193 38.1      | 52.1                                              | 264 45.5 | 35.0           |          |                |    |
| 17  | 18                                                 | 21.8 | 34                                                                                                                                                                 | 22.1 | -8 12.2                                           | 356 28.5                | +9 44.5                                          | 208 40.8      | +5 52.2                                           | 279 48.2 | +22 35.0       |          |                |    |
| 18  | 33                                                 | 24.3 | 49                                                                                                                                                                 | 21.8 | -8 11.0                                           | 11 29.5                 | +9 45.1                                          | 223 43.4      | +5 52.2                                           | 294 50.8 | +22 35.1       |          |                |    |
| 19  | 48                                                 | 26.8 | 64                                                                                                                                                                 | 21.5 | 09.7                                              | 26 30.5                 | 45.7                                             | 238 46.0      | 52.3                                              | 309 53.5 | 35.1           |          |                |    |
| 20  | 63                                                 | 29.2 | 79                                                                                                                                                                 | 21.1 | 08.5                                              | 41 31.5                 | 46.4                                             | 253 48.6      | 52.4                                              | 324 56.1 | 35.1           |          |                |    |
| 21  | 78                                                 | 31.7 | 94                                                                                                                                                                 | 20.8 | 07.2                                              | 56 32.5                 | 47.0                                             | 268 51.2      | 52.4                                              | 339 58.8 | 35.1           |          |                |    |
| 22  | 93                                                 | 34.2 | 109                                                                                                                                                                | 20.5 | 06.0                                              | 71 33.5                 | 47.6                                             | 283 53.8      | 52.5                                              | 355 01.5 | 35.1           |          |                |    |
| 23  | 108                                                | 36.6 | 124                                                                                                                                                                | 20.2 | 04.7                                              | 86 34.5                 | 48.2                                             | 298 56.4      | 52.6                                              | 10 04.1  | 35.1           |          |                |    |
| 24  | 123                                                | 39.1 | 139                                                                                                                                                                | 19.9 | -8 03.5                                           | 101 35.5                | +9 48.8                                          | 313 59.0      | +5 52.7                                           | 25 06.8  | +22 35.2       |          |                |    |
| Dif | —                                                  |      | -3 +12                                                                                                                                                             |      | +10 +6                                            |                         | +26 +1                                           |               | +27 0                                             |          |                |          |                |    |

| UT  | SOL                                                |      |                                                   |      | ● LUNA                                                                                                                        |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 2 |      |                                                   |      | Edad: 3 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 57/4<br>12 <sup>h</sup> : 57/1<br>20 <sup>h</sup> : 56/9<br>R°: 44 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                  |               |                |      |                                                   |      |     |      |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾ Dif                                                                                                                      |                     | Dec Dif                                           |                     |         | Náutico                  | Civil                                            |               | Hora           | R°   | Hora                                              | R°   |     |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                             | '                   | °                                                 | '                   | °       | h                        | m                                                | h             | m              | h    | m                                                 | h    | m   |      |
| 0   | 176                                                | 58.8 | -19                                               | 10.6 | 135                                                                                                                           | 36.9                | -9                                                | 56.9                | 60 N    | 6 49                     | 7 41                                             | 8 31          | 10 10          | 2    | 21 01                                             | 88   |     |      |
| 1   | 191                                                | 58.7 |                                                   | 10.0 | 150                                                                                                                           | 08.6 <sup>127</sup> |                                                   | 42.6 <sup>143</sup> | 58      | 44                       | 33                                               | 19            | 06             | 5    | 04                                                | 84   |     |      |
| 2   | 206                                                | 58.5 |                                                   | 09.4 | 164                                                                                                                           | 40.5 <sup>129</sup> |                                                   | 28.2 <sup>144</sup> | 56      | 40                       | 26                                               | 8 08          | 10 02          | 8    | 07                                                | 80   |     |      |
| 3   | 221                                                | 58.4 |                                                   | 08.7 | 179                                                                                                                           | 12.4 <sup>129</sup> | -9                                                | 13.8 <sup>144</sup> | 54      | 36                       | 19                                               | 7 59          | 9 59           | 10   | 09                                                | 78   |     |      |
| 4   | 236                                                | 58.2 |                                                   | 08.1 | 193                                                                                                                           | 44.4 <sup>130</sup> | -8                                                | 59.3 <sup>145</sup> | 52      | 32                       | 13                                               | 51            | 56             | 12   | 11                                                | 75   |     |      |
| 5   | 251                                                | 58.1 | -19                                               | 07.5 | 208                                                                                                                           | 16.5 <sup>131</sup> | -8                                                | 44.9 <sup>144</sup> | 50      | 6 28                     | 7 08                                             | 7 44          | 9 53           | 15   | 21 13                                             | 73   |     |      |
| 6   | 266                                                | 57.9 | -19                                               | 06.9 | 222                                                                                                                           | 48.7 <sup>132</sup> | -8                                                | 30.4 <sup>145</sup> | 45      | 6 20                     | 6 56                                             | 7 28          | 9 47           | 19   | 21 17                                             | 68   |     |      |
| 7   | 281                                                | 57.8 |                                                   | 06.3 | 237                                                                                                                           | 20.9 <sup>132</sup> |                                                   | 15.9 <sup>145</sup> | 40      | 13                       | 46                                               | 15            | 42             | 23   | 20                                                | 64   |     |      |
| 8   | 296                                                | 57.6 |                                                   | 05.7 | 251                                                                                                                           | 53.2 <sup>133</sup> | -8                                                | 01.4 <sup>145</sup> | 35      | 06                       | 37                                               | 7 04          | 38             | 26   | 23                                                | 60   |     |      |
| 9   | 311                                                | 57.5 |                                                   | 05.1 | 266                                                                                                                           | 25.7 <sup>135</sup> | -7                                                | 46.8 <sup>146</sup> | 30      | 6 00                     | 29                                               | 6 54          | 34             | 29   | 25                                                | 58   |     |      |
| 10  | 326                                                | 57.3 |                                                   | 04.5 | 280                                                                                                                           | 58.1 <sup>134</sup> |                                                   | 32.3 <sup>145</sup> | 20      | 5 47                     | 14                                               | 37            | 27             | 35   | 29                                                | 53   |     |      |
| 11  | 341                                                | 57.2 | -19                                               | 03.9 | 295                                                                                                                           | 30.7 <sup>136</sup> | -7                                                | 17.7 <sup>146</sup> | 10 N    | 5 35                     | 6 00                                             | 6 23          | 9 21           | 40   | 21 33                                             | 48   |     |      |
| 12  | 356                                                | 57.1 | -19                                               | 03.3 | 310                                                                                                                           | 03.3 <sup>136</sup> | -7                                                | 03.1 <sup>146</sup> | 0       | 5 21                     | 5 47                                             | 6 09          | 9 15           | 44   | 21 37                                             | 43   |     |      |
| 13  | 11                                                 | 56.9 |                                                   | 02.7 | 324                                                                                                                           | 36.0 <sup>137</sup> | -6                                                | 48.5 <sup>146</sup> | 10 S    | 5 06                     | 32                                               | 5 55          | 10             | 48   | 40                                                | 39   |     |      |
| 14  | 26                                                 | 56.8 |                                                   | 02.0 | 339                                                                                                                           | 08.8 <sup>138</sup> |                                                   | 33.9 <sup>146</sup> | 20      | 4 48                     | 5 16                                             | 39            | 9 04           | 53   | 44                                                | 34   |     |      |
| 15  | 41                                                 | 56.6 |                                                   | 01.4 | 353                                                                                                                           | 41.6 <sup>138</sup> |                                                   | 19.3 <sup>146</sup> | 30      | 24                       | 4 56                                             | 22            | 8 57           | 58   | 48                                                | 29   |     |      |
| 16  | 56                                                 | 56.5 |                                                   | 00.8 | 8                                                                                                                             | 14.5 <sup>139</sup> | -6                                                | 04.7 <sup>146</sup> | 35      | 4 09                     | 43                                               | 11            | 53             | 61   | 50                                                | 26   |     |      |
| 17  | 71                                                 | 56.3 | -19                                               | 00.2 | 22                                                                                                                            | 47.5 <sup>140</sup> | -5                                                | 50.1 <sup>146</sup> | 40      | 3 51                     | 4 29                                             | 5 00          | 8 48           | 66   | 21 53                                             | 22   |     |      |
| 18  | 86                                                 | 56.2 | -18                                               | 59.6 | 37                                                                                                                            | 20.5 <sup>140</sup> | -5                                                | 35.4 <sup>147</sup> | 45      | 3 27                     | 4 11                                             | 4 46          | 8 43           | 69   | 21 56                                             | 18   |     |      |
| 19  | 101                                                | 56.0 |                                                   | 59.0 | 51                                                                                                                            | 53.6 <sup>141</sup> |                                                   | 20.8 <sup>146</sup> | 50      | 2 56                     | 3 49                                             | 28            | 36             | 75   | 21 59                                             | 14   |     |      |
| 20  | 116                                                | 55.9 |                                                   | 58.4 | 66                                                                                                                            | 26.8 <sup>142</sup> | -5                                                | 06.1 <sup>147</sup> | 52      | 39                       | 38                                               | 20            | 33             | 78   | 22 01                                             | 12   |     |      |
| 21  | 131                                                | 55.7 |                                                   | 57.7 | 81                                                                                                                            | 00.0 <sup>142</sup> | -4                                                | 51.5 <sup>146</sup> | 54      | 2 18                     | 25                                               | 11            | 30             | 80   | 02                                                | 10   |     |      |
| 22  | 146                                                | 55.6 |                                                   | 57.1 | 95                                                                                                                            | 33.3 <sup>143</sup> |                                                   | 36.8 <sup>147</sup> | 56      | 1 51                     | 3 10                                             | 4 01          | 27             | 82   | 04                                                | 8    |     |      |
| 23  | 161                                                | 55.5 |                                                   | 56.5 | 110                                                                                                                           | 06.6 <sup>143</sup> |                                                   | 22.2 <sup>146</sup> | 58      | 1 07                     | 2 53                                             | 3 49          | 23             | 85   | 07                                                | 4    |     |      |
| 24  | 176                                                | 55.3 | -18                                               | 55.9 | 124                                                                                                                           | 40.0 <sup>144</sup> | -4                                                | 07.5 <sup>147</sup> | 60 S    | ** **                    | 2 31                                             | 3 35          | 8 18           | 89   | 22 09                                             | 1    |     |      |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                               |                     | MARTE                                             |                     |         |                          | JÚPITER                                          |               |                |      | SATURNO                                           |      |     |      |
|     | PMG<br>15 <sup>h</sup> 42 <sup>m</sup> 8           |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 43 <sup>m</sup> |      |                                                                                                                               |                     | Mag: +0.6<br>PMG: 17 <sup>h</sup> 12 <sup>m</sup> |                     |         |                          | Mag: -2.4<br>PMG: 3 <sup>h</sup> 04 <sup>m</sup> |               |                |      | Mag: -0.3<br>PMG: 22 <sup>h</sup> 16 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              |      | Dec                                                                                                                           |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                             |               | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                             | '                   | °                                                 | '                   | °       | '                        | °                                                | '             | °              | '    | °                                                 | '    | °   | '    |
| 0   | 123                                                | 39.1 | 139                                               | 19.9 | -8                                                                                                                            | 03.5                | 101                                               | 35.5                | +9      | 48.8                     | 313                                              | 59.0          | +5             | 52.7 | 25                                                | 06.8 | +22 | 35.2 |
| 1   | 138                                                | 41.5 | 154                                               | 19.6 |                                                                                                                               | 02.2                | 116                                               | 36.5                |         | 49.4                     | 329                                              | 01.7          |                | 52.7 | 40                                                | 09.4 |     | 35.2 |
| 2   | 153                                                | 44.0 | 169                                               | 19.3 | -8                                                                                                                            | 01.0                | 131                                               | 37.5                |         | 50.1                     | 344                                              | 04.3          |                | 52.8 | 55                                                | 12.1 |     | 35.2 |
| 3   | 168                                                | 46.5 | 184                                               | 19.0 | -7                                                                                                                            | 59.7                | 146                                               | 38.5                |         | 50.7                     | 359                                              | 06.9          |                | 52.9 | 70                                                | 14.7 |     | 35.2 |
| 4   | 183                                                | 48.9 | 199                                               | 18.7 |                                                                                                                               | 58.5                | 161                                               | 39.5                |         | 51.3                     | 14                                               | 09.5          |                | 53.0 | 85                                                | 17.4 |     | 35.2 |
| 5   | 198                                                | 51.4 | 214                                               | 18.4 | -7                                                                                                                            | 57.2                | 176                                               | 40.5                | +9      | 51.9                     | 29                                               | 12.1          | +5             | 53.0 | 100                                               | 20.0 | +22 | 35.2 |
| 6   | 213                                                | 53.9 | 229                                               | 18.1 | -7                                                                                                                            | 56.0                | 191                                               | 41.4                | +9      | 52.5                     | 44                                               | 14.7          | +5             | 53.1 | 115                                               | 22.7 | +22 | 35.3 |
| 7   | 228                                                | 56.3 | 244                                               | 17.8 |                                                                                                                               | 54.7                | 206                                               | 42.4                |         | 53.1                     | 59                                               | 17.3          |                | 53.2 | 130                                               | 25.3 |     | 35.3 |
| 8   | 243                                                | 58.8 | 259                                               | 17.4 |                                                                                                                               | 53.5                | 221                                               | 43.4                |         | 53.8                     | 74                                               | 19.9          |                | 53.3 | 145                                               | 28.0 |     | 35.3 |
| 9   | 259                                                | 01.3 | 274                                               | 17.1 |                                                                                                                               | 52.2                | 236                                               | 44.4                |         | 54.4                     | 89                                               | 22.6          |                | 53.3 | 160                                               | 30.6 |     | 35.3 |
| 10  | 274                                                | 03.7 | 289                                               | 16.8 |                                                                                                                               | 51.0                | 251                                               | 45.4                |         | 55.0                     | 104                                              | 25.2          |                | 53.4 | 175                                               | 33.3 |     | 35.3 |
| 11  | 289                                                | 06.2 | 304                                               | 16.5 | -7                                                                                                                            | 49.7                | 266                                               | 46.4                | +9      | 55.6                     | 119                                              | 27.8          | +5             | 53.5 | 190                                               | 35.9 | +22 | 35.3 |
| 12  | 304                                                | 08.7 | 319                                               | 16.2 | -7                                                                                                                            | 48.5                | 281                                               | 47.4                | +9      | 56.2                     | 134                                              | 30.4          | +5             | 53.6 | 205                                               | 38.5 | +22 | 35.3 |
| 13  | 319                                                | 11.1 | 334                                               | 15.9 |                                                                                                                               | 47.2                | 296                                               | 48.4                |         | 56.8                     | 149                                              | 33.0          |                | 53.6 | 220                                               | 41.2 |     | 35.4 |
| 14  | 334                                                | 13.6 | 349                                               | 15.6 |                                                                                                                               | 46.0                | 311                                               | 49.4                |         | 57.5                     | 164                                              | 35.6          |                | 53.7 | 235                                               | 43.8 |     | 35.4 |
| 15  | 349                                                | 16.0 | 4                                                 | 15.3 |                                                                                                                               | 44.7                | 326                                               | 50.4                |         | 58.1                     | 179                                              | 38.3          |                | 53.8 | 250                                               | 46.5 |     | 35.4 |
| 16  | 4                                                  | 18.5 | 19                                                | 15.0 |                                                                                                                               | 43.5                | 341                                               | 51.4                |         | 58.7                     | 194                                              | 40.9          |                | 53.9 | 265                                               | 49.1 |     | 35.4 |
| 17  | 19                                                 | 21.0 | 34                                                | 14.7 | -7                                                                                                                            | 42.2                | 356                                               | 52.3                | +9      | 59.3                     | 209                                              | 43.5          | +5             | 53.9 | 280                                               | 51.8 | +22 | 35.4 |
| 18  | 34                                                 | 23.4 | 49                                                | 14.4 | -7                                                                                                                            | 41.0                | 11                                                | 53.3                | +9      | 59.9                     | 224                                              | 46.1          | +5             | 54.0 | 295                                               | 54.4 | +22 | 35.4 |
| 19  | 49                                                 | 25.9 | 64                                                | 14.1 |                                                                                                                               | 39.7                | 26                                                | 54.3                | +10     | 00.5                     | 239                                              | 48.7          |                | 54.1 | 310                                               | 57.1 |     | 35.5 |
| 20  | 64                                                 | 28.4 | 79                                                | 13.8 |                                                                                                                               | 38.5                | 41                                                | 55.3                |         | 01.2                     | 254                                              | 51.3          |                | 54.2 | 325                                               | 59.7 |     | 35.5 |
| 21  | 79                                                 | 30.8 | 94                                                | 13.5 |                                                                                                                               | 37.2                | 56                                                | 56.3                |         | 01.8                     | 269                                              | 54.0          |                | 54.3 | 341                                               | 02.4 |     | 35.5 |
| 22  | 94                                                 | 33.3 | 109                                               | 13.2 |                                                                                                                               | 35.9                | 71                                                | 57.3                |         | 02.4                     | 284                                              | 56.6          |                | 54.3 | 356                                               | 05.0 |     | 35.5 |
| 23  | 109                                                | 35.8 | 124                                               | 12.9 |                                                                                                                               | 34.7                | 86                                                | 58.3                |         | 03.0                     | 299                                              | 59.2          |                | 54.4 | 11                                                | 07.7 |     | 35.5 |
| 24  | 124                                                | 38.2 | 139                                               | 12.6 | -7                                                                                                                            | 33.4                | 101                                               | 59.3                | +10     | 03.6                     | 315                                              | 01.8          | +5             | 54.5 | 26                                                | 10.3 | +22 | 35.5 |
| Dif | —                                                  |      | -3                                                |      | +13                                                                                                                           |                     | +10                                               |                     | +6      |                          | +26                                              |               | +1             |      | +26                                               |      |     |      |

| UT | SOL                                                |      |     | ● LUNA                                                                                                                                                             |     |                     | Latitud                | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |      |
|----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|------------------------|---------------|----------------------|-------|----------------|----------|----------------|------|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 4 |      |     | Edad: 4 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 56:6<br>12 <sup>h</sup> : 56:3<br>20 <sup>h</sup> : 56:1<br>PMG: 16 <sup>h</sup> 10 <sup>m</sup> R°: 42 <sup>m</sup> |     |                     |                        |               |                      |       |                |          |                |      |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                               | Dif | Dec                 |                        |               | Dif                  | Civil | Náutico        | Hora     | R°             | Hora |
| h  | °                                                  | '    | °   | '                                                                                                                                                                  | °   | '                   | °                      | h m           | h m                  | h m   | h m m          | h m m    | h m m          |      |
| 0  | 176                                                | 55.3 | -18 | 55.9                                                                                                                                                               | 124 | 40.0                | -4 07.5                | 60 N          | 15 57                | 16 46 | 17 38          | 10 12 1  | 22 29 85       |      |
| 1  | 191                                                | 55.2 |     | 55.3                                                                                                                                                               | 139 | 13.5 <sup>145</sup> | -3 52.9 <sup>146</sup> | 58            | 16 09                | 16 54 | 43             | 11 4     | 28 81          |      |
| 2  | 206                                                | 55.0 |     | 54.6                                                                                                                                                               | 153 | 47.0 <sup>145</sup> | 38.2 <sup>147</sup>    | 56            | 19                   | 17 01 | 47             | 10 7     | 27 79          |      |
| 3  | 221                                                | 54.9 |     | 54.0                                                                                                                                                               | 168 | 20.6 <sup>146</sup> | 23.6 <sup>146</sup>    | 54            | 28                   | 08    | 51             | 09 9     | 27 76          |      |
| 4  | 236                                                | 54.7 |     | 53.4                                                                                                                                                               | 182 | 54.2 <sup>146</sup> | -3 08.9 <sup>147</sup> | 52            | 36                   | 13    | 55             | 08 12    | 26 74          |      |
| 5  | 251                                                | 54.6 | -18 | 52.8                                                                                                                                                               | 197 | 27.8 <sup>146</sup> | -2 54.3 <sup>146</sup> | 50            | 16 43                | 17 19 | 17 58          | 10 08 13 | 22 26 71       |      |
| 6  | 266                                                | 54.5 | -18 | 52.2                                                                                                                                                               | 212 | 01.5 <sup>147</sup> | -2 39.7 <sup>146</sup> | 45            | 16 58                | 17 30 | 18 06          | 10 06 19 | 22 25 66       |      |
| 7  | 281                                                | 54.3 |     | 51.5                                                                                                                                                               | 226 | 35.3 <sup>148</sup> | 25.1 <sup>146</sup>    | 40            | 17 11                | 40    | 13             | 05 22    | 24 62          |      |
| 8  | 296                                                | 54.2 |     | 50.9                                                                                                                                                               | 241 | 09.1 <sup>148</sup> | -2 10.4 <sup>147</sup> | 35            | 22                   | 49    | 19             | 04 26    | 23 59          |      |
| 9  | 311                                                | 54.0 |     | 50.3                                                                                                                                                               | 255 | 43.0 <sup>149</sup> | -1 55.8 <sup>146</sup> | 30            | 31                   | 17 57 | 26             | 03 29    | 23 56          |      |
| 10 | 326                                                | 53.9 |     | 49.7                                                                                                                                                               | 270 | 16.9 <sup>149</sup> | 41.2 <sup>146</sup>    | 20            | 17 48                | 18 11 | 38             | 02 33    | 22 50          |      |
| 11 | 341                                                | 53.8 | -18 | 49.0                                                                                                                                                               | 284 | 50.8 <sup>149</sup> | -1 26.7 <sup>145</sup> | 10 N          | 18 02                | 18 24 | 18 50          | 10 01 38 | 22 21 46       |      |
| 12 | 356                                                | 53.6 | -18 | 48.4                                                                                                                                                               | 299 | 24.8 <sup>150</sup> | -1 12.1 <sup>146</sup> | 0             | 18 16                | 18 38 | 19 03          | 9 59 43  | 22 20 42       |      |
| 13 | 11                                                 | 53.5 |     | 47.8                                                                                                                                                               | 313 | 58.8 <sup>150</sup> | -0 57.5 <sup>146</sup> | 10 S          | 30                   | 18 52 | 18             | 58 47    | 19 37          |      |
| 14 | 26                                                 | 53.3 |     | 47.2                                                                                                                                                               | 328 | 32.9 <sup>151</sup> | 43.0 <sup>145</sup>    | 20            | 18 45                | 19 08 | 36             | 57 51    | 18 33          |      |
| 15 | 41                                                 | 53.2 |     | 46.5                                                                                                                                                               | 343 | 07.0 <sup>151</sup> | 28.5 <sup>145</sup>    | 30            | 19 02                | 28    | 19 59          | 55 57    | 17 28          |      |
| 16 | 56                                                 | 53.1 |     | 45.9                                                                                                                                                               | 357 | 41.1 <sup>151</sup> | -0 13.9 <sup>146</sup> | 35            | 12                   | 40    | 20 14          | 54 60    | 16 25          |      |
| 17 | 71                                                 | 52.9 | -18 | 45.3                                                                                                                                                               | 12  | 15.3 <sup>152</sup> | +0 00.6 <sup>145</sup> | 40            | 19 23                | 19 54 | 20 32          | 9 54 63  | 22 15 22       |      |
| 18 | 86                                                 | 52.8 | -18 | 44.6                                                                                                                                                               | 26  | 49.5 <sup>152</sup> | +0 15.0 <sup>144</sup> | 45            | 19 37                | 20 11 | 20 54          | 9 52 67  | 22 14 19       |      |
| 19 | 101                                                | 52.7 |     | 44.0                                                                                                                                                               | 41  | 23.8 <sup>153</sup> | 29.5 <sup>145</sup>    | 50            | 19 54                | 33    | 21 25          | 51 72    | 13 14          |      |
| 20 | 116                                                | 52.5 |     | 43.4                                                                                                                                                               | 55  | 58.0 <sup>152</sup> | 43.9 <sup>144</sup>    | 52            | 20 02                | 44    | 21 41          | 51 74    | 13 11          |      |
| 21 | 131                                                | 52.4 |     | 42.8                                                                                                                                                               | 70  | 32.3 <sup>153</sup> | +0 58.4 <sup>145</sup> | 54            | 11                   | 20 56 | 22 01          | 50 76    | 12 10          |      |
| 22 | 146                                                | 52.2 |     | 42.1                                                                                                                                                               | 85  | 06.7 <sup>154</sup> | +1 12.8 <sup>144</sup> | 56            | 20                   | 21 10 | 22 26          | 49 79    | 12 7           |      |
| 23 | 161                                                | 52.1 |     | 41.5                                                                                                                                                               | 99  | 41.0 <sup>153</sup> | 27.1 <sup>143</sup>    | 58            | 32                   | 27    | 23 04          | 48 83    | 11 4           |      |
| 24 | 176                                                | 52.0 | -18 | 40.9                                                                                                                                                               | 114 | 15.4 <sup>154</sup> | +1 41.5 <sup>144</sup> | 60 S          | 20 45                | 21 48 | ** **          | 9 47 86  | 22 10 1        |      |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>15 <sup>h</sup> 38 <sup>m</sup> 9 |      | Mag: -4.0<br>PMG: 14 <sup>h</sup> 43 <sup>m</sup> |      | Mag: +0.6<br>PMG: 17 <sup>h</sup> 11 <sup>m</sup> |      | Mag: -2.4<br>PMG: 2 <sup>h</sup> 59 <sup>m</sup> |      | Mag: -0.3<br>PMG: 22 <sup>h</sup> 11 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                     |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 124                                      | 38.2 | 139                                               | 12.6 | -7                                                | 33.4 | 101                                              | 59.3 | +10                                               | 03.6 | 315 | 01.8 | +5 | 54.5 | 26  | 10.3 | +22 | 35.5 |
| 1   | 139                                      | 40.7 | 154                                               | 12.3 |                                                   | 32.2 | 117                                              | 00.3 |                                                   | 04.2 | 330 | 04.4 |    | 54.6 | 41  | 13.0 |     | 35.6 |
| 2   | 154                                      | 43.2 | 169                                               | 12.0 |                                                   | 30.9 | 132                                              | 01.3 |                                                   | 04.8 | 345 | 07.1 |    | 54.6 | 56  | 15.6 |     | 35.6 |
| 3   | 169                                      | 45.6 | 184                                               | 11.7 |                                                   | 29.7 | 147                                              | 02.2 |                                                   | 05.5 | 0   | 09.7 |    | 54.7 | 71  | 18.3 |     | 35.6 |
| 4   | 184                                      | 48.1 | 199                                               | 11.4 |                                                   | 28.4 | 162                                              | 03.2 |                                                   | 06.1 | 15  | 12.3 |    | 54.8 | 86  | 20.9 |     | 35.6 |
| 5   | 199                                      | 50.5 | 214                                               | 11.1 | -7                                                | 27.1 | 177                                              | 04.2 | +10                                               | 06.7 | 30  | 14.9 | +5 | 54.9 | 101 | 23.6 | +22 | 35.6 |
| 6   | 214                                      | 53.0 | 229                                               | 10.8 | -7                                                | 25.9 | 192                                              | 05.2 | +10                                               | 07.3 | 45  | 17.5 | +5 | 54.9 | 116 | 26.2 | +22 | 35.6 |
| 7   | 229                                      | 55.5 | 244                                               | 10.5 |                                                   | 24.6 | 207                                              | 06.2 |                                                   | 07.9 | 60  | 20.2 |    | 55.0 | 131 | 28.9 |     | 35.7 |
| 8   | 244                                      | 57.9 | 259                                               | 10.2 |                                                   | 23.4 | 222                                              | 07.2 |                                                   | 08.5 | 75  | 22.8 |    | 55.1 | 146 | 31.5 |     | 35.7 |
| 9   | 260                                      | 00.4 | 274                                               | 09.9 |                                                   | 22.1 | 237                                              | 08.2 |                                                   | 09.1 | 90  | 25.4 |    | 55.2 | 161 | 34.2 |     | 35.7 |
| 10  | 275                                      | 02.9 | 289                                               | 09.7 |                                                   | 20.9 | 252                                              | 09.2 |                                                   | 09.8 | 105 | 28.0 |    | 55.3 | 176 | 36.8 |     | 35.7 |
| 11  | 290                                      | 05.3 | 304                                               | 09.4 | -7                                                | 19.6 | 267                                              | 10.1 | +10                                               | 10.4 | 120 | 30.6 | +5 | 55.3 | 191 | 39.4 | +22 | 35.7 |
| 12  | 305                                      | 07.8 | 319                                               | 09.1 | -7                                                | 18.3 | 282                                              | 11.1 | +10                                               | 11.0 | 135 | 33.3 | +5 | 55.4 | 206 | 42.1 | +22 | 35.7 |
| 13  | 320                                      | 10.3 | 334                                               | 08.8 |                                                   | 17.1 | 297                                              | 12.1 |                                                   | 11.6 | 150 | 35.9 |    | 55.5 | 221 | 44.7 |     | 35.7 |
| 14  | 335                                      | 12.7 | 349                                               | 08.5 |                                                   | 15.8 | 312                                              | 13.1 |                                                   | 12.2 | 165 | 38.5 |    | 55.6 | 236 | 47.4 |     | 35.8 |
| 15  | 350                                      | 15.2 | 4                                                 | 08.2 |                                                   | 14.6 | 327                                              | 14.1 |                                                   | 12.8 | 180 | 41.1 |    | 55.6 | 251 | 50.0 |     | 35.8 |
| 16  | 5                                        | 17.6 | 19                                                | 07.9 |                                                   | 13.3 | 342                                              | 15.1 |                                                   | 13.4 | 195 | 43.8 |    | 55.7 | 266 | 52.7 |     | 35.8 |
| 17  | 20                                       | 20.1 | 34                                                | 07.6 | -7                                                | 12.0 | 357                                              | 16.1 | +10                                               | 14.1 | 210 | 46.4 | +5 | 55.8 | 281 | 55.3 | +22 | 35.8 |
| 18  | 35                                       | 22.6 | 49                                                | 07.3 | -7                                                | 10.8 | 12                                               | 17.0 | +10                                               | 14.7 | 225 | 49.0 | +5 | 55.9 | 296 | 58.0 | +22 | 35.8 |
| 19  | 50                                       | 25.0 | 64                                                | 07.0 |                                                   | 09.5 | 27                                               | 18.0 |                                                   | 15.3 | 240 | 51.6 |    | 56.0 | 312 | 00.6 |     | 35.8 |
| 20  | 65                                       | 27.5 | 79                                                | 06.7 |                                                   | 08.2 | 42                                               | 19.0 |                                                   | 15.9 | 255 | 54.3 |    | 56.0 | 327 | 03.3 |     | 35.9 |
| 21  | 80                                       | 30.0 | 94                                                | 06.4 |                                                   | 07.0 | 57                                               | 20.0 |                                                   | 16.5 | 270 | 56.9 |    | 56.1 | 342 | 05.9 |     | 35.9 |
| 22  | 95                                       | 32.4 | 109                                               | 06.2 |                                                   | 05.7 | 72                                               | 21.0 |                                                   | 17.1 | 285 | 59.5 |    | 56.2 | 357 | 08.5 |     | 35.9 |
| 23  | 110                                      | 34.9 | 124                                               | 05.9 |                                                   | 04.5 | 87                                               | 22.0 |                                                   | 17.7 | 301 | 02.1 |    | 56.3 | 12  | 11.2 |     | 35.9 |
| 24  | 125                                      | 37.4 | 139                                               | 05.6 | -7                                                | 03.2 | 102                                              | 23.0 | +10                                               | 18.3 | 316 | 04.8 | +5 | 56.4 | 27  | 13.8 | +22 | 35.9 |
| Dif | —                                        |      | -3                                                | +13  |                                                   | +10  | +6                                               |      | +26                                               | +1   |     | +26  |    | 0    |     |      |     |      |

| UT  | SOL                                                |      |          |  LUNA |                                                                                                           |                        | Latitud                                           | Principio del crepúsculo |       | Salida de Sol                                    | Salida de Luna |       | Puesta de Luna                                    |          |      |
|-----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------|--------------------------|-------|--------------------------------------------------|----------------|-------|---------------------------------------------------|----------|------|
|     | SD: 16/2<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 6 |      |          | Edad: 5 <sup>d</sup> 1                                                                 | PHE {<br>4 <sup>h</sup> : 55/8<br>12 <sup>h</sup> : 55/6<br>20 <sup>h</sup> : 55/4<br>R°: 41 <sup>m</sup> |                        |                                                   |                          |       |                                                  |                |       |                                                   |          |      |
|     | hG ☉                                               | Dec  |          | hG ☾                                                                                   |                                                                                                           | Dif                    |                                                   | Dec                      | Dif   |                                                  | Náutico        | Civil | Hora                                              | R°       | Hora |
| h   | °                                                  | '    | °        | °                                                                                      | '                                                                                                         | °                      | '                                                 | °                        | h m   | h m                                              | h m            | h m m | h m m                                             | h m m    |      |
| 0   | 176                                                | 52.0 | -18 40.9 | 114                                                                                    | 15.4                                                                                                      | +1 41.5                |                                                   | 60 N                     | 6 46  | 7 38                                             | 8 27           | 10 13 | 1                                                 | 23 54 84 |      |
| 1   | 191                                                | 51.8 |          | 128                                                                                    | 49.9 <sup>155</sup>                                                                                       | +1 55.8 <sup>143</sup> |                                                   | 58                       | 41    | 30                                               | 15             | 15    | 4                                                 | 49 81    |      |
| 2   | 206                                                | 51.7 |          | 143                                                                                    | 24.3 <sup>154</sup>                                                                                       | +2 10.1 <sup>143</sup> |                                                   | 56                       | 37    | 23                                               | 8 05           | 17    | 7                                                 | 46 77    |      |
| 3   | 221                                                | 51.6 |          | 157                                                                                    | 58.8 <sup>155</sup>                                                                                       |                        | 24.4 <sup>143</sup>                               | 54                       | 33    | 17                                               | 7 56           | 18    | 10                                                | 43 74    |      |
| 4   | 236                                                | 51.4 |          | 172                                                                                    | 33.2 <sup>154</sup>                                                                                       |                        | 38.7 <sup>143</sup>                               | 52                       | 30    | 11                                               | 48             | 20    | 12                                                | 40 72    |      |
| 5   | 251                                                | 51.3 | -18 37.7 | 187                                                                                    | 07.8 <sup>156</sup>                                                                                       | +2 52.9 <sup>142</sup> |                                                   | 50                       | 6 26  | 7 06                                             | 7 41           | 10 21 | 14                                                | 23 37 70 |      |
| 6   | 266                                                | 51.2 | -18 37.1 | 201                                                                                    | 42.3 <sup>155</sup>                                                                                       | +3 07.1 <sup>142</sup> |                                                   | 45                       | 6 19  | 6 54                                             | 7 26           | 10 25 | 18                                                | 23 31 65 |      |
| 7   | 281                                                | 51.0 |          | 216                                                                                    | 16.8 <sup>155</sup>                                                                                       |                        | 21.3 <sup>142</sup>                               | 40                       | 12    | 44                                               | 13             | 27    | 22                                                | 26 62    |      |
| 8   | 296                                                | 50.9 |          | 230                                                                                    | 51.4 <sup>156</sup>                                                                                       |                        | 35.4 <sup>141</sup>                               | 35                       | 6 05  | 36                                               | 7 03           | 30    | 25                                                | 22 58    |      |
| 9   | 311                                                | 50.8 |          | 245                                                                                    | 26.0 <sup>156</sup>                                                                                       | +3 49.6 <sup>142</sup> |                                                   | 30                       | 5 59  | 28                                               | 6 53           | 32    | 28                                                | 19 55    |      |
| 10  | 326                                                | 50.7 |          | 260                                                                                    | 00.6 <sup>156</sup>                                                                                       | +4 03.6 <sup>140</sup> |                                                   | 20                       | 47    | 14                                               | 37             | 35    | 33                                                | 12 50    |      |
| 11  | 341                                                | 50.5 | -18 33.9 | 274                                                                                    | 35.2 <sup>156</sup>                                                                                       | +4 17.7 <sup>141</sup> |                                                   | 10 N                     | 5 35  | 6 01                                             | 6 23           | 10 39 | 37                                                | 23 07 46 |      |
| 12  | 356                                                | 50.4 | -18 33.2 | 289                                                                                    | 09.8 <sup>156</sup>                                                                                       | +4 31.7 <sup>140</sup> |                                                   | 0                        | 5 22  | 5 47                                             | 6 09           | 10 42 | 41                                                | 23 02 41 |      |
| 13  | 11                                                 | 50.3 |          | 303                                                                                    | 44.5 <sup>157</sup>                                                                                       |                        | 45.7 <sup>140</sup>                               | 10 S                     | 5 07  | 33                                               | 5 55           | 45    | 45                                                | 22 56 38 |      |
| 14  | 26                                                 | 50.1 |          | 318                                                                                    | 19.1 <sup>156</sup>                                                                                       | +4 59.7 <sup>140</sup> |                                                   | 20                       | 4 49  | 5 17                                             | 41             | 48    | 50                                                | 51 34    |      |
| 15  | 41                                                 | 50.0 |          | 332                                                                                    | 53.8 <sup>157</sup>                                                                                       | +5 13.6 <sup>139</sup> |                                                   | 30                       | 26    | 4 57                                             | 24             | 52    | 55                                                | 45 28    |      |
| 16  | 56                                                 | 49.9 |          | 347                                                                                    | 28.4 <sup>156</sup>                                                                                       |                        | 27.5 <sup>139</sup>                               | 35                       | 4 12  | 46                                               | 14             | 54    | 58                                                | 41 26    |      |
| 17  | 71                                                 | 49.7 | -18 30.0 | 2                                                                                      | 03.1 <sup>157</sup>                                                                                       | +5 41.4 <sup>139</sup> |                                                   | 40                       | 3 54  | 4 31                                             | 5 02           | 10 57 | 61                                                | 22 37 23 |      |
| 18  | 86                                                 | 49.6 | -18 29.4 | 16                                                                                     | 37.8 <sup>157</sup>                                                                                       | +5 55.2 <sup>138</sup> |                                                   | 45                       | 3 31  | 4 14                                             | 4 48           | 10 59 | 66                                                | 22 33 19 |      |
| 19  | 101                                                | 49.5 |          | 31                                                                                     | 12.5 <sup>157</sup>                                                                                       | +6 09.0 <sup>138</sup> |                                                   | 50                       | 3 00  | 3 53                                             | 32             | 11 03 | 70                                                | 27 15    |      |
| 20  | 116                                                | 49.4 |          | 45                                                                                     | 47.1 <sup>156</sup>                                                                                       |                        | 22.7 <sup>137</sup>                               | 52                       | 2 44  | 42                                               | 24             | 05    | 72                                                | 24 13    |      |
| 21  | 131                                                | 49.2 |          | 60                                                                                     | 21.8 <sup>157</sup>                                                                                       |                        | 36.4 <sup>137</sup>                               | 54                       | 2 25  | 30                                               | 15             | 06    | 76                                                | 22 10    |      |
| 22  | 146                                                | 49.1 |          | 74                                                                                     | 56.5 <sup>157</sup>                                                                                       | +6 50.1 <sup>137</sup> |                                                   | 56                       | 1 59  | 3 16                                             | 4 05           | 08    | 78                                                | 19 7     |      |
| 23  | 161                                                | 49.0 |          | 89                                                                                     | 31.2 <sup>157</sup>                                                                                       | +7 03.7 <sup>136</sup> |                                                   | 58                       | 1 22  | 2 59                                             | 3 54           | 11    | 81                                                | 15 5     |      |
| 24  | 176                                                | 48.9 | -18 25.5 | 104                                                                                    | 05.9 <sup>157</sup>                                                                                       | +7 17.3 <sup>136</sup> |                                                   | 60 S                     | ** ** | 2 38                                             | 3 41           | 11 13 | 85                                                | 22 11 2  |      |
| UT  | ARIES                                              |      |          | VENUS                                                                                  |                                                                                                           |                        | MARTE                                             |                          |       | JÚPITER                                          |                |       | SATURNO                                           |          |      |
|     | PMG<br>15 <sup>h</sup> 34 <sup>m</sup> 9           |      |          | Mag: -4.1<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup>                                      |                                                                                                           |                        | Mag: +0.7<br>PMG: 17 <sup>h</sup> 09 <sup>m</sup> |                          |       | Mag: -2.4<br>PMG: 2 <sup>h</sup> 55 <sup>m</sup> |                |       | Mag: -0.3<br>PMG: 22 <sup>h</sup> 07 <sup>m</sup> |          |      |
|     | hG ♈                                               |      |          | hG ♀                                                                                   | Dec                                                                                                       |                        | hG ♂                                              | Dec                      |       | hG ♃                                             | Dec            |       | hG ♄                                              | Dec      |      |
| h   | °                                                  | '    | °        | °                                                                                      | '                                                                                                         | °                      | '                                                 | °                        | °     | '                                                | °              | '     | °                                                 | '        | °    |
| 0   | 125                                                | 37.4 | 139      | 05.6                                                                                   | -7 03.2                                                                                                   | 102                    | 23.0                                              | +10 18.3                 | 316   | 04.8                                             | +5 56.4        | 27    | 13.8                                              | +22 35.9 |      |
| 1   | 140                                                | 39.8 | 154      | 05.3                                                                                   | 01.9                                                                                                      | 117                    | 23.9                                              | 19.0                     | 331   | 07.4                                             | 56.4           | 42    | 16.5                                              | 35.9     |      |
| 2   | 155                                                | 42.3 | 169      | 05.0                                                                                   | -7 00.7                                                                                                   | 132                    | 24.9                                              | 19.6                     | 346   | 10.0                                             | 56.5           | 57    | 19.1                                              | 35.9     |      |
| 3   | 170                                                | 44.8 | 184      | 04.7                                                                                   | -6 59.4                                                                                                   | 147                    | 25.9                                              | 20.2                     | 1     | 12.6                                             | 56.6           | 72    | 21.8                                              | 36.0     |      |
| 4   | 185                                                | 47.2 | 199      | 04.4                                                                                   | 58.1                                                                                                      | 162                    | 26.9                                              | 20.8                     | 16    | 15.3                                             | 56.7           | 87    | 24.4                                              | 36.0     |      |
| 5   | 200                                                | 49.7 | 214      | 04.1                                                                                   | -6 56.9                                                                                                   | 177                    | 27.9                                              | +10 21.4                 | 31    | 17.9                                             | +5 56.8        | 102   | 27.1                                              | +22 36.0 |      |
| 6   | 215                                                | 52.1 | 229      | 03.9                                                                                   | -6 55.6                                                                                                   | 192                    | 28.9                                              | +10 22.0                 | 46    | 20.5                                             | +5 56.8        | 117   | 29.7                                              | +22 36.0 |      |
| 7   | 230                                                | 54.6 | 244      | 03.6                                                                                   | 54.3                                                                                                      | 207                    | 29.8                                              | 22.6                     | 61    | 23.2                                             | 56.9           | 132   | 32.3                                              | 36.0     |      |
| 8   | 245                                                | 57.1 | 259      | 03.3                                                                                   | 53.1                                                                                                      | 222                    | 30.8                                              | 23.2                     | 76    | 25.8                                             | 57.0           | 147   | 35.0                                              | 36.0     |      |
| 9   | 260                                                | 59.5 | 274      | 03.0                                                                                   | 51.8                                                                                                      | 237                    | 31.8                                              | 23.9                     | 91    | 28.4                                             | 57.1           | 162   | 37.6                                              | 36.1     |      |
| 10  | 276                                                | 02.0 | 289      | 02.7                                                                                   | 50.5                                                                                                      | 252                    | 32.8                                              | 24.5                     | 106   | 31.0                                             | 57.2           | 177   | 40.3                                              | 36.1     |      |
| 11  | 291                                                | 04.5 | 304      | 02.4                                                                                   | -6 49.3                                                                                                   | 267                    | 33.8                                              | +10 25.1                 | 121   | 33.7                                             | +5 57.2        | 192   | 42.9                                              | +22 36.1 |      |
| 12  | 306                                                | 06.9 | 319      | 02.1                                                                                   | -6 48.0                                                                                                   | 282                    | 34.8                                              | +10 25.7                 | 136   | 36.3                                             | +5 57.3        | 207   | 45.6                                              | +22 36.1 |      |
| 13  | 321                                                | 09.4 | 334      | 01.9                                                                                   | 46.7                                                                                                      | 297                    | 35.7                                              | 26.3                     | 151   | 38.9                                             | 57.4           | 222   | 48.2                                              | 36.1     |      |
| 14  | 336                                                | 11.9 | 349      | 01.6                                                                                   | 45.5                                                                                                      | 312                    | 36.7                                              | 26.9                     | 166   | 41.6                                             | 57.5           | 237   | 50.8                                              | 36.1     |      |
| 15  | 351                                                | 14.3 | 4        | 01.3                                                                                   | 44.2                                                                                                      | 327                    | 37.7                                              | 27.5                     | 181   | 44.2                                             | 57.6           | 252   | 53.5                                              | 36.1     |      |
| 16  | 6                                                  | 16.8 | 19       | 01.0                                                                                   | 42.9                                                                                                      | 342                    | 38.7                                              | 28.1                     | 196   | 46.8                                             | 57.6           | 267   | 56.1                                              | 36.2     |      |
| 17  | 21                                                 | 19.2 | 34       | 00.7                                                                                   | -6 41.7                                                                                                   | 357                    | 39.7                                              | +10 28.7                 | 211   | 49.4                                             | +5 57.7        | 282   | 58.8                                              | +22 36.2 |      |
| 18  | 36                                                 | 21.7 | 49       | 00.5                                                                                   | -6 40.4                                                                                                   | 12                     | 40.7                                              | +10 29.4                 | 226   | 52.1                                             | +5 57.8        | 298   | 01.4                                              | +22 36.2 |      |
| 19  | 51                                                 | 24.2 | 64       | 00.2                                                                                   | 39.1                                                                                                      | 27                     | 41.6                                              | 30.0                     | 241   | 54.7                                             | 57.9           | 313   | 04.1                                              | 36.2     |      |
| 20  | 66                                                 | 26.6 | 78       | 59.9                                                                                   | 37.9                                                                                                      | 42                     | 42.6                                              | 30.6                     | 256   | 57.3                                             | 58.0           | 328   | 06.7                                              | 36.2     |      |
| 21  | 81                                                 | 29.1 | 93       | 59.6                                                                                   | 36.6                                                                                                      | 57                     | 43.6                                              | 31.2                     | 272   | 00.0                                             | 58.1           | 343   | 09.3                                              | 36.2     |      |
| 22  | 96                                                 | 31.6 | 108      | 59.3                                                                                   | 35.3                                                                                                      | 72                     | 44.6                                              | 31.8                     | 287   | 02.6                                             | 58.1           | 358   | 12.0                                              | 36.3     |      |
| 23  | 111                                                | 34.0 | 123      | 59.1                                                                                   | 34.1                                                                                                      | 87                     | 45.6                                              | 32.4                     | 302   | 05.2                                             | 58.2           | 13    | 14.6                                              | 36.3     |      |
| 24  | 126                                                | 36.5 | 138      | 58.8                                                                                   | -6 32.8                                                                                                   | 102                    | 46.5                                              | +10 33.0                 | 317   | 07.9                                             | +5 58.3        | 28    | 17.3                                              | +22 36.3 |      |
| Dif | —                                                  |      | -3       | +13                                                                                    |                                                                                                           | +10                    | +6                                                |                          | +26   |                                                  | +1             |       | +26                                               |          | 0    |

| UT  | SOL                                                |      |                                                   |      | ☾ LUNA                                                                                                                                                                            |                     |                                                   |                     | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |      | Puesta de Luna                                    |      |  |  |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|---------------|--------------------------------------------------|-------|----------------|------|---------------------------------------------------|------|--|--|
|     | SD: 16/2<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 8 |      |                                                   |      | Edad: 6 <sup>d</sup> 1 PHE {<br>SD: 15/0<br>PMG: 17 <sup>h</sup> 33 <sup>m</sup> R°: 43 <sup>m</sup><br>4 <sup>h</sup> : 55/2<br>12 <sup>h</sup> : 55/0<br>20 <sup>h</sup> : 54/8 |                     |                                                   |                     |         |               |                                                  |       |                |      |                                                   |      |  |  |
|     | hG ☉                                               | Dec  | hG ☾                                              | Dif  | Dec                                                                                                                                                                               | Dif                 | Civil                                             | Náutico             |         |               | Hora                                             | R°    | Hora           | R°   |                                                   |      |  |  |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                 | '                   | °                                                 | '                   | °       | h m           | h m                                              | h m   | h m            | m    | h m                                               | m    |  |  |
| 0   | 176                                                | 48.9 | -18                                               | 25.5 | 104                                                                                                                                                                               | 05.9                | +7                                                | 17.3                | 60 N    | 16 02         | 16 51                                            | 17 42 | 10 14          | 2    | **                                                | **   |  |  |
| 1   | 191                                                | 48.7 |                                                   | 24.9 | 118                                                                                                                                                                               | 40.6 <sup>157</sup> |                                                   | 30.8 <sup>135</sup> | 58      | 13            | 16 58                                            | 47    | 19             | 6    | **                                                | **   |  |  |
| 2   | 206                                                | 48.6 |                                                   | 24.2 | 133                                                                                                                                                                               | 15.3 <sup>157</sup> |                                                   | 44.3 <sup>135</sup> | 56      | 23            | 17 05                                            | 51    | 24             | 8    | **                                                | **   |  |  |
| 3   | 221                                                | 48.5 |                                                   | 23.6 | 147                                                                                                                                                                               | 50.0 <sup>157</sup> | +7                                                | 57.8 <sup>135</sup> | 54      | 32            | 11                                               | 54    | 28             | 11   | **                                                | **   |  |  |
| 4   | 236                                                | 48.4 |                                                   | 22.9 | 162                                                                                                                                                                               | 24.7 <sup>157</sup> | +8                                                | 11.2 <sup>134</sup> | 52      | 39            | 17                                               | 17 58 | 32             | 13   | **                                                | **   |  |  |
| 5   | 251                                                | 48.2 | -18                                               | 22.3 | 176                                                                                                                                                                               | 59.3 <sup>156</sup> | +8                                                | 24.6 <sup>134</sup> | 50      | 16 46         | 17 22                                            | 18 01 | 10 35          | 16   | **                                                | **   |  |  |
| 6   | 266                                                | 48.1 | -18                                               | 21.6 | 191                                                                                                                                                                               | 34.0 <sup>157</sup> | +8                                                | 37.9 <sup>133</sup> | 45      | 17 01         | 17 33                                            | 18 08 | 10 43          | 20   | **                                                | **   |  |  |
| 7   | 281                                                | 48.0 |                                                   | 21.0 | 206                                                                                                                                                                               | 08.6 <sup>156</sup> | +8                                                | 51.2 <sup>133</sup> | 40      | 13            | 42                                               | 15    | 49             | 24   | **                                                | **   |  |  |
| 8   | 296                                                | 47.9 |                                                   | 20.3 | 220                                                                                                                                                                               | 43.3 <sup>157</sup> | +9                                                | 04.5 <sup>133</sup> | 35      | 24            | 51                                               | 21    | 10 55          | 27   | **                                                | **   |  |  |
| 9   | 311                                                | 47.7 |                                                   | 19.7 | 235                                                                                                                                                                               | 17.9 <sup>156</sup> |                                                   | 17.6 <sup>131</sup> | 30      | 33            | 17 58                                            | 27    | 11 00          | 29   | **                                                | **   |  |  |
| 10  | 326                                                | 47.6 |                                                   | 19.0 | 249                                                                                                                                                                               | 52.6 <sup>157</sup> |                                                   | 30.8 <sup>132</sup> | 20      | 17 49         | 18 12                                            | 39    | 08             | 35   | **                                                | **   |  |  |
| 11  | 341                                                | 47.5 | -18                                               | 18.3 | 264                                                                                                                                                                               | 27.2 <sup>156</sup> | +9                                                | 43.9 <sup>131</sup> | 10 N    | 18 03         | 18 25                                            | 18 51 | 11 16          | 38   | 23 53                                             | 46   |  |  |
| 12  | 356                                                | 47.4 | -18                                               | 17.7 | 279                                                                                                                                                                               | 01.8 <sup>156</sup> | +9                                                | 56.9 <sup>130</sup> | 0       | 18 16         | 18 38                                            | 19 03 | 11 23          | 42   | 23 43                                             | 43   |  |  |
| 13  | 11                                                 | 47.2 |                                                   | 17.0 | 293                                                                                                                                                                               | 36.4 <sup>156</sup> | +10                                               | 09.9 <sup>130</sup> | 10 S    | 30            | 18 52                                            | 18    | 30             | 47   | 34                                                | 39   |  |  |
| 14  | 26                                                 | 47.1 |                                                   | 16.4 | 308                                                                                                                                                                               | 10.9 <sup>155</sup> |                                                   | 22.9 <sup>130</sup> | 20      | 18 44         | 19 08                                            | 36    | 38             | 51   | 25                                                | 35   |  |  |
| 15  | 41                                                 | 47.0 |                                                   | 15.7 | 322                                                                                                                                                                               | 45.5 <sup>156</sup> |                                                   | 35.8 <sup>129</sup> | 30      | 19 01         | 27                                               | 19 58 | 47             | 55   | 13                                                | 31   |  |  |
| 16  | 56                                                 | 46.9 |                                                   | 15.1 | 337                                                                                                                                                                               | 20.0 <sup>155</sup> | +10                                               | 48.6 <sup>128</sup> | 35      | 11            | 38                                               | 20 12 | 52             | 58   | 07                                                | 28   |  |  |
| 17  | 71                                                 | 46.8 | -18                                               | 14.4 | 351                                                                                                                                                                               | 54.6 <sup>156</sup> | +11                                               | 01.4 <sup>128</sup> | 40      | 19 22         | 19 52                                            | 20 30 | 11 58          | 62   | 23 00                                             | 25   |  |  |
| 18  | 86                                                 | 46.6 | -18                                               | 13.8 | 6                                                                                                                                                                                 | 29.1 <sup>155</sup> | +11                                               | 14.2 <sup>128</sup> | 45      | 19 35         | 20 09                                            | 20 52 | 12 05          | 65   | 22 52                                             | 21   |  |  |
| 19  | 101                                                | 46.5 |                                                   | 13.1 | 21                                                                                                                                                                                | 03.6 <sup>155</sup> |                                                   | 26.9 <sup>127</sup> | 50      | 51            | 30                                               | 21 21 | 13             | 70   | 42                                                | 16   |  |  |
| 20  | 116                                                | 46.4 |                                                   | 12.4 | 35                                                                                                                                                                                | 38.0 <sup>154</sup> |                                                   | 39.5 <sup>126</sup> | 52      | 19 59         | 40                                               | 37    | 17             | 73   | 37                                                | 14   |  |  |
| 21  | 131                                                | 46.3 |                                                   | 11.8 | 50                                                                                                                                                                                | 12.5 <sup>155</sup> | +11                                               | 52.1 <sup>126</sup> | 54      | 20 07         | 20 52                                            | 21 55 | 22             | 74   | 32                                                | 12   |  |  |
| 22  | 146                                                | 46.2 |                                                   | 11.1 | 64                                                                                                                                                                                | 46.9 <sup>154</sup> | +12                                               | 04.6 <sup>125</sup> | 56      | 17            | 21 06                                            | 22 19 | 26             | 78   | 26                                                | 10   |  |  |
| 23  | 161                                                | 46.1 |                                                   | 10.5 | 79                                                                                                                                                                                | 21.3 <sup>154</sup> |                                                   | 17.1 <sup>125</sup> | 58      | 28            | 22                                               | 22 52 | 32             | 81   | 20                                                | 6    |  |  |
| 24  | 176                                                | 45.9 | -18                                               | 09.8 | 93                                                                                                                                                                                | 55.6 <sup>153</sup> | +12                                               | 29.5 <sup>124</sup> | 60 S    | 20 40         | 21 41                                            | ** ** | 12 38          | 84   | 22 13                                             | 3    |  |  |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                                                                                   |                     | MARTE                                             |                     |         |               | JÚPITER                                          |       |                |      | SATURNO                                           |      |  |  |
|     | PMG: 15 <sup>h</sup> 31 <sup>m</sup> 0             |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup> |      |                                                                                                                                                                                   |                     | Mag: +0.7<br>PMG: 17 <sup>h</sup> 08 <sup>m</sup> |                     |         |               | Mag: -2.4<br>PMG: 2 <sup>h</sup> 51 <sup>m</sup> |       |                |      | Mag: -0.3<br>PMG: 22 <sup>h</sup> 03 <sup>m</sup> |      |  |  |
|     | hG ♈                                               | Dec  | hG ♀                                              | Dec  | hG ♂                                                                                                                                                                              | Dec                 | hG ♃                                              | Dec                 | hG ♄    | Dec           | hG ♅                                             | Dec   |                |      |                                                   |      |  |  |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                 | '                   | °                                                 | '                   | °       | '             | °                                                | '     | °              | '    | °                                                 | '    |  |  |
| 0   | 126                                                | 36.5 | 138                                               | 58.8 | -6                                                                                                                                                                                | 32.8                | 102                                               | 46.5                | +10     | 33.0          | 317                                              | 07.9  | +5             | 58.3 | 28                                                | 17.3 |  |  |
| 1   | 141                                                | 39.0 | 153                                               | 58.5 |                                                                                                                                                                                   | 31.5                | 117                                               | 47.5                |         | 33.6          | 332                                              | 10.5  |                | 58.4 | 43                                                | 19.9 |  |  |
| 2   | 156                                                | 41.4 | 168                                               | 58.2 |                                                                                                                                                                                   | 30.3                | 132                                               | 48.5                |         | 34.2          | 347                                              | 13.1  |                | 58.5 | 58                                                | 22.5 |  |  |
| 3   | 171                                                | 43.9 | 183                                               | 57.9 |                                                                                                                                                                                   | 29.0                | 147                                               | 49.5                |         | 34.8          | 2                                                | 15.8  |                | 58.5 | 73                                                | 25.2 |  |  |
| 4   | 186                                                | 46.4 | 198                                               | 57.7 |                                                                                                                                                                                   | 27.7                | 162                                               | 50.5                |         | 35.5          | 17                                               | 18.4  |                | 58.6 | 88                                                | 27.8 |  |  |
| 5   | 201                                                | 48.8 | 213                                               | 57.4 | -6                                                                                                                                                                                | 26.4                | 177                                               | 51.4                | +10     | 36.1          | 32                                               | 21.0  | +5             | 58.7 | 103                                               | 30.5 |  |  |
| 6   | 216                                                | 51.3 | 228                                               | 57.1 | -6                                                                                                                                                                                | 25.2                | 192                                               | 52.4                | +10     | 36.7          | 47                                               | 23.7  | +5             | 58.8 | 118                                               | 33.1 |  |  |
| 7   | 231                                                | 53.7 | 243                                               | 56.8 |                                                                                                                                                                                   | 23.9                | 207                                               | 53.4                |         | 37.3          | 62                                               | 26.3  |                | 58.9 | 133                                               | 35.7 |  |  |
| 8   | 246                                                | 56.2 | 258                                               | 56.6 |                                                                                                                                                                                   | 22.6                | 222                                               | 54.4                |         | 37.9          | 77                                               | 28.9  |                | 59.0 | 148                                               | 38.4 |  |  |
| 9   | 261                                                | 58.7 | 273                                               | 56.3 |                                                                                                                                                                                   | 21.4                | 237                                               | 55.4                |         | 38.5          | 92                                               | 31.6  |                | 59.0 | 163                                               | 41.0 |  |  |
| 10  | 277                                                | 01.1 | 288                                               | 56.0 |                                                                                                                                                                                   | 20.1                | 252                                               | 56.3                |         | 39.1          | 107                                              | 34.2  |                | 59.1 | 178                                               | 43.7 |  |  |
| 11  | 292                                                | 03.6 | 303                                               | 55.7 | -6                                                                                                                                                                                | 18.8                | 267                                               | 57.3                | +10     | 39.7          | 122                                              | 36.8  | +5             | 59.2 | 193                                               | 46.3 |  |  |
| 12  | 307                                                | 06.1 | 318                                               | 55.5 | -6                                                                                                                                                                                | 17.5                | 282                                               | 58.3                | +10     | 40.3          | 137                                              | 39.5  | +5             | 59.3 | 208                                               | 48.9 |  |  |
| 13  | 322                                                | 08.5 | 333                                               | 55.2 |                                                                                                                                                                                   | 16.3                | 297                                               | 59.3                |         | 40.9          | 152                                              | 42.1  |                | 59.4 | 223                                               | 51.6 |  |  |
| 14  | 337                                                | 11.0 | 348                                               | 54.9 |                                                                                                                                                                                   | 15.0                | 313                                               | 00.3                |         | 41.5          | 167                                              | 44.7  |                | 59.5 | 238                                               | 54.2 |  |  |
| 15  | 352                                                | 13.5 | 3                                                 | 54.6 |                                                                                                                                                                                   | 13.7                | 328                                               | 01.2                |         | 42.2          | 182                                              | 47.4  |                | 59.5 | 253                                               | 56.9 |  |  |
| 16  | 7                                                  | 15.9 | 18                                                | 54.4 |                                                                                                                                                                                   | 12.4                | 343                                               | 02.2                |         | 42.8          | 197                                              | 50.0  |                | 59.6 | 268                                               | 59.5 |  |  |
| 17  | 22                                                 | 18.4 | 33                                                | 54.1 | -6                                                                                                                                                                                | 11.2                | 358                                               | 03.2                | +10     | 43.4          | 212                                              | 52.7  | +5             | 59.7 | 284                                               | 02.1 |  |  |
| 18  | 37                                                 | 20.9 | 48                                                | 53.8 | -6                                                                                                                                                                                | 09.9                | 13                                                | 04.2                | +10     | 44.0          | 227                                              | 55.3  | +5             | 59.8 | 299                                               | 04.8 |  |  |
| 19  | 52                                                 | 23.3 | 63                                                | 53.6 |                                                                                                                                                                                   | 08.6                | 28                                                | 05.2                |         | 44.6          | 242                                              | 57.9  | +5             | 59.9 | 314                                               | 07.4 |  |  |
| 20  | 67                                                 | 25.8 | 78                                                | 53.3 |                                                                                                                                                                                   | 07.3                | 43                                                | 06.1                |         | 45.2          | 258                                              | 00.6  | +6             | 00.0 | 329                                               | 10.1 |  |  |
| 21  | 82                                                 | 28.2 | 93                                                | 53.0 |                                                                                                                                                                                   | 06.1                | 58                                                | 07.1                |         | 45.8          | 273                                              | 03.2  | +6             | 00.1 | 344                                               | 12.7 |  |  |
| 22  | 97                                                 | 30.7 | 108                                               | 52.7 |                                                                                                                                                                                   | 04.8                | 73                                                | 08.1                |         | 46.4          | 288                                              | 05.8  |                | 00.1 | 359                                               | 15.3 |  |  |
| 23  | 112                                                | 33.2 | 123                                               | 52.5 |                                                                                                                                                                                   | 03.5                | 88                                                | 09.1                |         | 47.0          | 303                                              | 08.5  |                | 00.2 | 14                                                | 18.0 |  |  |
| 24  | 127                                                | 35.6 | 138                                               | 52.2 | -6                                                                                                                                                                                | 02.2                | 103                                               | 10.0                | +10     | 47.6          | 318                                              | 11.1  | +6             | 00.3 | 29                                                | 20.6 |  |  |
| Dif | —                                                  |      | -3 +13                                            |      | +10 +6                                                                                                                                                                            |                     | +26 +1                                            |                     | +26 +1  |               | +26 +1                                           |       | +26 +1         |      | +26 +1                                            |      |  |  |

| UT | SOL                                                |      |     |  LUNA                                           |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |    |    |    |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----|----|----|
|    | SD: 16'2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 0 |      |     | Edad: 7 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 54'7<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'4<br>R°: 44 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |    |    |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                             | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R° |    |    |
| h  | °                                                  | '    | °   | '                                                                                                                                | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m    | h  | m  |    |
| 0  | 176                                                | 45.9 | -18 | 09.8                                                                                                                             | 93  | 55.6                | +12     | 29.5                     | 60 N    | 6             | 42             | 7    | 34             | 8    | 22 | 10 | 16 |
| 1  | 191                                                | 45.8 |     | 09.1                                                                                                                             | 108 | 30.0 <sup>154</sup> |         | 41.9 <sup>124</sup>      | 58      |               | 38             |      | 26             |      | 11 | 25 | 7  |
| 2  | 206                                                | 45.7 |     | 08.5                                                                                                                             | 123 | 04.3 <sup>153</sup> | +12     | 54.2 <sup>123</sup>      | 56      |               | 34             |      | 20             | 8    | 02 | 32 | 11 |
| 3  | 221                                                | 45.6 |     | 07.8                                                                                                                             | 137 | 38.6 <sup>153</sup> | +13     | 06.4 <sup>122</sup>      | 54      |               | 31             |      | 14             | 7    | 53 | 39 | 14 |
| 4  | 236                                                | 45.5 |     | 07.2                                                                                                                             | 152 | 12.8 <sup>152</sup> |         | 18.6 <sup>122</sup>      | 52      |               | 27             |      | 08             |      | 46 | 45 | 16 |
| 5  | 251                                                | 45.4 | -18 | 06.5                                                                                                                             | 166 | 47.1 <sup>153</sup> | +13     | 30.8 <sup>122</sup>      | 50      | 6             | 24             | 7    | 03             | 7    | 39 | 10 | 51 |
| 6  | 266                                                | 45.2 | -18 | 05.8                                                                                                                             | 181 | 21.3 <sup>152</sup> | +13     | 42.8 <sup>120</sup>      | 45      | 6             | 17             | 6    | 52             | 7    | 24 | 11 | 03 |
| 7  | 281                                                | 45.1 |     | 05.2                                                                                                                             | 195 | 55.4 <sup>151</sup> | +13     | 54.8 <sup>120</sup>      | 40      |               | 10             |      | 43             |      | 12 | 13 | 26 |
| 8  | 296                                                | 45.0 |     | 04.5                                                                                                                             | 210 | 29.6 <sup>152</sup> | +14     | 06.8 <sup>120</sup>      | 35      | 6             | 04             |      | 35             | 7    | 01 | 22 | 29 |
| 9  | 311                                                | 44.9 |     | 03.8                                                                                                                             | 225 | 03.7 <sup>151</sup> |         | 18.7 <sup>119</sup>      | 30      | 5             | 58             |      | 27             | 6    | 52 | 29 | 32 |
| 10 | 326                                                | 44.8 |     | 03.2                                                                                                                             | 239 | 37.8 <sup>151</sup> |         | 30.5 <sup>118</sup>      | 20      |               | 47             |      | 13             |      | 37 | 43 | 36 |
| 11 | 341                                                | 44.7 | -18 | 02.5                                                                                                                             | 254 | 11.8 <sup>150</sup> | +14     | 42.2 <sup>117</sup>      | 10 N    | 5             | 35             |      | 6              | 01   | 6  | 23 | 11 |
| 12 | 356                                                | 44.6 | -18 | 01.8                                                                                                                             | 268 | 45.8 <sup>150</sup> | +14     | 53.9 <sup>117</sup>      | 0       | 5             | 22             |      | 5              | 48   | 6  | 09 | 12 |
| 13 | 11                                                 | 44.4 |     | 01.2                                                                                                                             | 283 | 19.8 <sup>150</sup> | +15     | 05.5 <sup>116</sup>      | 10 S    | 5             | 08             |      | 34             | 5    | 56 | 17 | 47 |
| 14 | 26                                                 | 44.3 | -18 | 00.5                                                                                                                             | 297 | 53.7 <sup>149</sup> |         | 17.1 <sup>116</sup>      | 20      | 4             | 51             | 5    | 18             |      | 42 | 29 | 51 |
| 15 | 41                                                 | 44.2 | -17 | 59.8                                                                                                                             | 312 | 27.6 <sup>149</sup> |         | 28.6 <sup>115</sup>      | 30      |               | 28             | 4    | 59             | 25   |    | 42 | 56 |
| 16 | 56                                                 | 44.1 |     | 59.2                                                                                                                             | 327 | 01.4 <sup>148</sup> |         | 40.0 <sup>114</sup>      | 35      | 4             | 14             |      | 48             | 16   |    | 12 | 50 |
| 17 | 71                                                 | 44.0 | -17 | 58.5                                                                                                                             | 341 | 35.2 <sup>148</sup> | +15     | 51.4 <sup>114</sup>      | 40      | 3             | 57             | 4    | 34             | 5    | 05 | 13 | 00 |
| 18 | 86                                                 | 43.9 | -17 | 57.8                                                                                                                             | 356 | 09.0 <sup>148</sup> | +16     | 02.7 <sup>113</sup>      | 45      | 3             | 35             | 4    | 18             | 4    | 51 | 13 | 10 |
| 19 | 101                                                | 43.8 |     | 57.2                                                                                                                             | 10  | 42.7 <sup>147</sup> |         | 13.9 <sup>112</sup>      | 50      | 3             | 05             |      | 3              | 56   | 35 | 23 | 70 |
| 20 | 116                                                | 43.7 |     | 56.5                                                                                                                             | 25  | 16.4 <sup>147</sup> |         | 25.1 <sup>112</sup>      | 52      | 2             | 50             |      | 46             | 28   |    | 30 | 72 |
| 21 | 131                                                | 43.5 |     | 55.8                                                                                                                             | 39  | 50.1 <sup>147</sup> |         | 36.1 <sup>110</sup>      | 54      |               | 31             |      | 35             | 19   |    | 36 | 75 |
| 22 | 146                                                | 43.4 |     | 55.1                                                                                                                             | 54  | 23.7 <sup>146</sup> |         | 47.2 <sup>111</sup>      | 56      | 2             | 08             |      | 21             | 4    | 10 | 44 | 78 |
| 23 | 161                                                | 43.3 |     | 54.5                                                                                                                             | 68  | 57.2 <sup>145</sup> | +16     | 58.1 <sup>109</sup>      | 58      | 1             | 34             | 3    | 05             | 3    | 59 | 13 | 53 |
| 24 | 176                                                | 43.2 | -17 | 53.8                                                                                                                             | 83  | 30.8 <sup>146</sup> | +17     | 09.0 <sup>109</sup>      | 60 S    | **            | **             | 2    | 45             | 3    | 46 | 14 | 02 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG<br>15 <sup>h</sup> 27 <sup>m</sup> 1 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 45 <sup>m</sup> |      | Mag: +0.7<br>PMG: 17 <sup>h</sup> 06 <sup>m</sup> |      | Mag: -2.4<br>PMG: 2 <sup>h</sup> 47 <sup>m</sup> |      | Mag: -0.3<br>PMG: 21 <sup>h</sup> 59 <sup>m</sup> |      |
|     | hG ♈                                     |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 127                                      | 35.6 | 138                                               | 52.2 | -6                                                | 02.2 | 103                                              | 10.0 | +10                                               | 47.6 |
| 1   | 142                                      | 38.1 | 153                                               | 51.9 | -6                                                | 01.0 | 118                                              | 11.0 |                                                   | 48.2 |
| 2   | 157                                      | 40.6 | 168                                               | 51.7 | -5                                                | 59.7 | 133                                              | 12.0 |                                                   | 48.8 |
| 3   | 172                                      | 43.0 | 183                                               | 51.4 |                                                   | 58.4 | 148                                              | 13.0 |                                                   | 49.4 |
| 4   | 187                                      | 45.5 | 198                                               | 51.1 |                                                   | 57.1 | 163                                              | 14.0 |                                                   | 50.0 |
| 5   | 202                                      | 48.0 | 213                                               | 50.9 | -5                                                | 55.8 | 178                                              | 14.9 | +10                                               | 50.7 |
| 6   | 217                                      | 50.4 | 228                                               | 50.6 | -5                                                | 54.6 | 193                                              | 15.9 | +10                                               | 51.3 |
| 7   | 232                                      | 52.9 | 243                                               | 50.3 |                                                   | 53.3 | 208                                              | 16.9 |                                                   | 51.9 |
| 8   | 247                                      | 55.3 | 258                                               | 50.1 |                                                   | 52.0 | 223                                              | 17.9 |                                                   | 52.5 |
| 9   | 262                                      | 57.8 | 273                                               | 49.8 |                                                   | 50.7 | 238                                              | 18.8 |                                                   | 53.1 |
| 10  | 278                                      | 00.3 | 288                                               | 49.5 |                                                   | 49.5 | 253                                              | 19.8 |                                                   | 53.7 |
| 11  | 293                                      | 02.7 | 303                                               | 49.3 | -5                                                | 48.2 | 268                                              | 20.8 | +10                                               | 54.3 |
| 12  | 308                                      | 05.2 | 318                                               | 49.0 | -5                                                | 46.9 | 283                                              | 21.8 | +10                                               | 54.9 |
| 13  | 323                                      | 07.7 | 333                                               | 48.7 |                                                   | 45.6 | 298                                              | 22.7 |                                                   | 55.5 |
| 14  | 338                                      | 10.1 | 348                                               | 48.5 |                                                   | 44.3 | 313                                              | 23.7 |                                                   | 56.1 |
| 15  | 353                                      | 12.6 |                                                   | 3    | 48.2                                              | 43.1 | 328                                              | 24.7 |                                                   | 56.7 |
| 16  | 8                                        | 15.1 | 18                                                | 48.0 |                                                   | 41.8 | 343                                              | 25.7 |                                                   | 57.3 |
| 17  | 23                                       | 17.5 | 33                                                | 47.7 | -5                                                | 40.5 | 358                                              | 26.6 | +10                                               | 57.9 |
| 18  | 38                                       | 20.0 | 48                                                | 47.4 | -5                                                | 39.2 | 13                                               | 27.6 | +10                                               | 58.5 |
| 19  | 53                                       | 22.5 | 63                                                | 47.2 |                                                   | 37.9 | 28                                               | 28.6 |                                                   | 59.1 |
| 20  | 68                                       | 24.9 | 78                                                | 46.9 |                                                   | 36.7 | 43                                               | 29.6 | +10                                               | 59.7 |
| 21  | 83                                       | 27.4 | 93                                                | 46.6 |                                                   | 35.4 | 58                                               | 30.5 | +11                                               | 00.3 |
| 22  | 98                                       | 29.8 | 108                                               | 46.4 |                                                   | 34.1 | 73                                               | 31.5 |                                                   | 00.9 |
| 23  | 113                                      | 32.3 | 123                                               | 46.1 |                                                   | 32.8 | 88                                               | 32.5 |                                                   | 01.6 |
| 24  | 128                                      | 34.8 | 138                                               | 45.9 | -5                                                | 31.5 | 103                                              | 33.5 | +11                                               | 02.2 |
| Dif | —                                        |      | -3                                                |      | +13                                               |      | +10                                              |      | +6                                                |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      | +26                                               |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      | +1                                                |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      | +26                                               |      |
|     |                                          |      |                                                   |      |                                                   |      |                                                  |      | 0                                                 |      |



| UT | SOL                                    |      | ☾ LUNA                 |       |                                                                           |                         | Latitud | Puesta de Sol | Final del crepúsculo |         |                | Salida de Luna |          | Puesta de Luna |  |
|----|----------------------------------------|------|------------------------|-------|---------------------------------------------------------------------------|-------------------------|---------|---------------|----------------------|---------|----------------|----------------|----------|----------------|--|
|    | SD: 16:2                               |      | Edad: 8 <sup>d</sup> 1 | PHE { | 4 <sup>h</sup> : 54:3<br>12 <sup>h</sup> : 54:3<br>20 <sup>h</sup> : 54:2 | Final del crepúsculo    |         |               | Salida de Luna       |         | Puesta de Luna |                |          |                |  |
|    | PMG: 12 <sup>h</sup> 13 <sup>m</sup> 2 |      |                        |       |                                                                           |                         |         |               |                      |         |                |                |          |                |  |
|    | hG ☉                                   | Dec  | hG ☾                   | Dif   | Dec                                                                       | Dif                     |         |               | Civil                | Náutico | Hora           | R°             | Hora     | R°             |  |
| h  | °                                      | '    | °                      | '     | °                                                                         | '                       | °       | h m           | h m                  | h m     | h m m          |                | h m m    |                |  |
| 0  | 176                                    | 43.2 | -17 53.8               |       | 83 30.8                                                                   | +17 09.0                | 60 N    | 16 07         | 16 55                | 17 47   | 10 19 7        |                | 2 43 87  |                |  |
| 1  | 191                                    | 43.1 |                        | 53.1  | 98 04.2 <sup>144</sup>                                                    | 19.8 <sup>108</sup>     | 58      | 18            | 17 02                | 51      | 32 11          |                | 32 82    |                |  |
| 2  | 206                                    | 43.0 |                        | 52.4  | 112 37.6 <sup>144</sup>                                                   | 30.5 <sup>107</sup>     | 56      | 27            | 09                   | 54      | 43 15          |                | 21 78    |                |  |
| 3  | 221                                    | 42.9 |                        | 51.8  | 127 11.0 <sup>144</sup>                                                   | 41.1 <sup>106</sup>     | 54      | 36            | 15                   | 17 58   | 10 53 18       |                | 12 75    |                |  |
| 4  | 236                                    | 42.8 |                        | 51.1  | 141 44.4 <sup>144</sup>                                                   | +17 51.7 <sup>106</sup> | 52      | 43            | 20                   | 18 01   | 11 01 21       |                | 2 04 72  |                |  |
| 5  | 251                                    | 42.7 | -17 50.4               |       | 156 17.6 <sup>142</sup>                                                   | +18 02.2 <sup>105</sup> | 50      | 16 50         | 17 25                | 18 04   | 11 09 23       |                | 1 57 70  |                |  |
| 6  | 266                                    | 42.6 | -17 49.7               |       | 170 50.9 <sup>143</sup>                                                   | +18 12.6 <sup>104</sup> | 45      | 17 04         | 17 36                | 18 11   | 11 26 27       |                | 1 42 65  |                |  |
| 7  | 281                                    | 42.5 |                        | 49.1  | 185 24.1 <sup>142</sup>                                                   | 23.0 <sup>104</sup>     | 40      | 16            | 45                   | 17      | 39 31          |                | 29 62    |                |  |
| 8  | 296                                    | 42.4 |                        | 48.4  | 199 57.2 <sup>141</sup>                                                   | 33.2 <sup>102</sup>     | 35      | 26            | 17 53                | 23      | 11 51 34       |                | 18 59    |                |  |
| 9  | 311                                    | 42.3 |                        | 47.7  | 214 30.3 <sup>141</sup>                                                   | 43.4 <sup>102</sup>     | 30      | 35            | 18 00                | 29      | 12 01 36       |                | 1 09 56  |                |  |
| 10 | 326                                    | 42.2 |                        | 47.0  | 229 03.3 <sup>140</sup>                                                   | +18 53.5 <sup>101</sup> | 20      | 17 50         | 13                   | 40      | 19 40          |                | 0 53 52  |                |  |
| 11 | 341                                    | 42.0 | -17 46.3               |       | 243 36.3 <sup>140</sup>                                                   | +19 03.5 <sup>100</sup> | 10 N    | 18 04         | 18 26                | 18 51   | 12 35 43       |                | 0 39 48  |                |  |
| 12 | 356                                    | 41.9 | -17 45.7               |       | 258 09.2 <sup>139</sup>                                                   | +19 13.5 <sup>100</sup> | 0       | 18 17         | 18 38                | 19 04   | 12 49 46       |                | 0 26 45  |                |  |
| 13 | 11                                     | 41.8 |                        | 45.0  | 272 42.1 <sup>139</sup>                                                   | 23.4 <sup>99</sup>      | 10 S    | 30            | 18 52                | 18      | 13 04 49       |                | 13 42    |                |  |
| 14 | 26                                     | 41.7 |                        | 44.3  | 287 14.9 <sup>138</sup>                                                   | 33.1 <sup>97</sup>      | 20      | 18 44         | 19 07                | 35      | 20 52          |                | 0 00 38  |                |  |
| 15 | 41                                     | 41.6 |                        | 43.6  | 301 47.7 <sup>138</sup>                                                   | 42.8 <sup>97</sup>      | 30      | 19 00         | 26                   | 19 57   | 38 56          |                | *** ** * |                |  |
| 16 | 56                                     | 41.5 |                        | 42.9  | 316 20.4 <sup>137</sup>                                                   | +19 52.5 <sup>97</sup>  | 35      | 09            | 37                   | 20 10   | 13 49 58       |                | *** ** * |                |  |
| 17 | 71                                     | 41.4 | -17 42.2               |       | 330 53.1 <sup>137</sup>                                                   | +20 02.0 <sup>95</sup>  | 40      | 19 20         | 19 50                | 20 27   | 14 01 61       |                | 23 53 33 |                |  |
| 18 | 86                                     | 41.3 | -17 41.6               |       | 345 25.7 <sup>136</sup>                                                   | +20 11.4 <sup>94</sup>  | 45      | 19 33         | 20 06                | 20 49   | 14 15 65       |                | 23 37 31 |                |  |
| 19 | 101                                    | 41.2 |                        | 40.9  | 359 58.2 <sup>135</sup>                                                   | 20.8 <sup>94</sup>      | 50      | 48            | 27                   | 21 17   | 33 70          |                | 18 26    |                |  |
| 20 | 116                                    | 41.1 |                        | 40.2  | 14 30.7 <sup>135</sup>                                                    | 30.1 <sup>93</sup>      | 52      | 19 56         | 37                   | 32      | 42 71          |                | 23 09 24 |                |  |
| 21 | 131                                    | 41.0 |                        | 39.5  | 29 03.2 <sup>135</sup>                                                    | 39.2 <sup>91</sup>      | 54      | 20 04         | 20 48                | 21 49   | 14 51 75       |                | 22 59 22 |                |  |
| 22 | 146                                    | 40.9 |                        | 38.8  | 43 35.6 <sup>134</sup>                                                    | 48.3 <sup>91</sup>      | 56      | 13            | 21 01                | 22 11   | 15 02 78       |                | 48 18    |                |  |
| 23 | 161                                    | 40.8 |                        | 38.1  | 58 07.9 <sup>133</sup>                                                    | +20 57.4 <sup>91</sup>  | 58      | 24            | 16                   | 22 41   | 14 82          |                | 35 14    |                |  |
| 24 | 176                                    | 40.7 | -17 37.4               |       | 72 40.2 <sup>133</sup>                                                    | +21 06.3 <sup>89</sup>  | 60 S    | 20 36         | 21 35                | 23 36   | 15 29 87       |                | 22 20 8  |                |  |

| UT  | ARIES                             |          | VENUS                                |          | MARTE                                |          | JÚPITER                             |          | SATURNO                              |  |
|-----|-----------------------------------|----------|--------------------------------------|----------|--------------------------------------|----------|-------------------------------------|----------|--------------------------------------|--|
|     | PMG                               |          | Mag: -4.1                            |          | Mag: +0.7                            |          | Mag: -2.4                           |          | Mag: -0.3                            |  |
|     | 15 <sup>h</sup> 23 <sup>m</sup> 2 |          | PMG: 14 <sup>h</sup> 45 <sup>m</sup> |          | PMG: 17 <sup>h</sup> 05 <sup>m</sup> |          | PMG: 2 <sup>h</sup> 43 <sup>m</sup> |          | PMG: 21 <sup>h</sup> 55 <sup>m</sup> |  |
|     | hG ♈                              | hG ♀     | Dec                                  | hG ♂     | Dec                                  | hG ♃     | Dec                                 | hG ♄     | Dec                                  |  |
| h   | °                                 | °        | °                                    | °        | °                                    | °        | °                                   | °        | °                                    |  |
| 0   | 128 34.8                          | 138 45.9 | -5 31.5                              | 103 33.5 | +11 02.2                             | 319 14.5 | +6 02.4                             | 30 23.9  | +22 37.0                             |  |
| 1   | 143 37.2                          | 153 45.6 | 30.2                                 | 118 34.4 | 02.8                                 | 334 17.2 | 02.5                                | 45 26.5  | 37.0                                 |  |
| 2   | 158 39.7                          | 168 45.4 | 29.0                                 | 133 35.4 | 03.4                                 | 349 19.8 | 02.5                                | 60 29.2  | 37.0                                 |  |
| 3   | 173 42.2                          | 183 45.1 | 27.7                                 | 148 36.4 | 04.0                                 | 4 22.5   | 02.6                                | 75 31.8  | 37.1                                 |  |
| 4   | 188 44.6                          | 198 44.8 | 26.4                                 | 163 37.3 | 04.6                                 | 19 25.1  | 02.7                                | 90 34.4  | 37.1                                 |  |
| 5   | 203 47.1                          | 213 44.6 | -5 25.1                              | 178 38.3 | +11 05.2                             | 34 27.8  | +6 02.8                             | 105 37.1 | +22 37.1                             |  |
| 6   | 218 49.6                          | 228 44.3 | -5 23.8                              | 193 39.3 | +11 05.8                             | 49 30.4  | +6 02.9                             | 120 39.7 | +22 37.1                             |  |
| 7   | 233 52.0                          | 243 44.1 | 22.5                                 | 208 40.3 | 06.4                                 | 64 33.1  | 03.0                                | 135 42.3 | 37.1                                 |  |
| 8   | 248 54.5                          | 258 43.8 | 21.3                                 | 223 41.2 | 07.0                                 | 79 35.7  | 03.1                                | 150 45.0 | 37.1                                 |  |
| 9   | 263 57.0                          | 273 43.5 | 20.0                                 | 238 42.2 | 07.6                                 | 94 38.3  | 03.2                                | 165 47.6 | 37.1                                 |  |
| 10  | 278 59.4                          | 288 43.3 | 18.7                                 | 253 43.2 | 08.2                                 | 109 41.0 | 03.2                                | 180 50.2 | 37.2                                 |  |
| 11  | 294 01.9                          | 303 43.0 | -5 17.4                              | 268 44.1 | +11 08.8                             | 124 43.6 | +6 03.3                             | 195 52.9 | +22 37.2                             |  |
| 12  | 309 04.3                          | 318 42.8 | -5 16.1                              | 283 45.1 | +11 09.4                             | 139 46.3 | +6 03.4                             | 210 55.5 | +22 37.2                             |  |
| 13  | 324 06.8                          | 333 42.5 | 14.8                                 | 298 46.1 | 10.0                                 | 154 48.9 | 03.5                                | 225 58.1 | 37.2                                 |  |
| 14  | 339 09.3                          | 348 42.3 | 13.6                                 | 313 47.1 | 10.6                                 | 169 51.6 | 03.6                                | 241 00.8 | 37.2                                 |  |
| 15  | 354 11.7                          | 3 42.0   | 12.3                                 | 328 48.0 | 11.2                                 | 184 54.2 | 03.7                                | 256 03.4 | 37.2                                 |  |
| 16  | 9 14.2                            | 18 41.8  | 11.0                                 | 343 49.0 | 11.8                                 | 199 56.9 | 03.8                                | 271 06.0 | 37.3                                 |  |
| 17  | 24 16.7                           | 33 41.5  | -5 09.7                              | 358 50.0 | +11 12.4                             | 214 59.5 | +6 03.9                             | 286 08.6 | +22 37.3                             |  |
| 18  | 39 19.1                           | 48 41.3  | -5 08.4                              | 13 50.9  | +11 13.0                             | 230 02.2 | +6 04.0                             | 301 11.3 | +22 37.3                             |  |
| 19  | 54 21.6                           | 63 41.0  | 07.1                                 | 28 51.9  | 13.6                                 | 245 04.8 | 04.0                                | 316 13.9 | 37.3                                 |  |
| 20  | 69 24.1                           | 78 40.8  | 05.8                                 | 43 52.9  | 14.2                                 | 260 07.5 | 04.1                                | 331 16.5 | 37.3                                 |  |
| 21  | 84 26.5                           | 93 40.5  | 04.6                                 | 58 53.9  | 14.8                                 | 275 10.1 | 04.2                                | 346 19.2 | 37.3                                 |  |
| 22  | 99 29.0                           | 108 40.2 | 03.3                                 | 73 54.8  | 15.4                                 | 290 12.8 | 04.3                                | 1 21.8   | 37.3                                 |  |
| 23  | 114 31.4                          | 123 40.0 | 02.0                                 | 88 55.8  | 16.0                                 | 305 15.4 | 04.4                                | 16 24.4  | 37.4                                 |  |
| 24  | 129 33.9                          | 138 39.7 | -5 00.7                              | 103 56.8 | +11 16.6                             | 320 18.1 | +6 04.5                             | 31 27.1  | +22 37.4                             |  |
| Dif | —                                 | -3       | +13                                  | +10      | +6                                   | +26      | +1                                  | +26      | 0                                    |  |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                  |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |          |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----------|----|
|    | SD: 16'2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 4 |      |     | Edad: 9 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'2<br>R°: 49 <sup>m</sup><br>PMG: 19 <sup>h</sup> 47 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |          |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                  | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°       |    |
| h  | °                                                  | '    | °   | '                                                                                                                                                                     | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m    | h        | m  |
| 0  | 176                                                | 40.7 | -17 | 37.4                                                                                                                                                                  | 72  | 40.2                | +21     | 06.3                     | 60 N    | 6 39          | 7 30           | 8 18 | 10 26          | 12   | 4 10     | 87 |
| 1  | 191                                                | 40.6 |     | 36.8                                                                                                                                                                  | 87  | 12.4 <sup>132</sup> |         | 15.1 <sup>88</sup>       | 58      | 35            | 23             | 8 07 | 43             | 18   | 3 54     | 80 |
| 2  | 206                                                | 40.5 |     | 36.1                                                                                                                                                                  | 101 | 44.5 <sup>131</sup> |         | 23.8 <sup>87</sup>       | 56      | 31            | 17             | 7 58 | 10 58          | 22   | 39       | 77 |
| 3  | 221                                                | 40.4 |     | 35.4                                                                                                                                                                  | 116 | 16.6 <sup>131</sup> |         | 32.5 <sup>87</sup>       | 54      | 28            | 11             | 50   | 11 11          | 25   | 27       | 73 |
| 4  | 236                                                | 40.3 |     | 34.7                                                                                                                                                                  | 130 | 48.7 <sup>131</sup> |         | 41.0 <sup>85</sup>       | 52      | 25            | 06             | 43   | 22             | 28   | 16       | 71 |
| 5  | 251                                                | 40.2 | -17 | 34.0                                                                                                                                                                  | 145 | 20.7 <sup>130</sup> | +21     | 49.5 <sup>85</sup>       | 50      | 6 22          | 7 01           | 7 36 | 11 32          | 30   | 3 07     | 68 |
| 6  | 266                                                | 40.1 | -17 | 33.3                                                                                                                                                                  | 159 | 52.6 <sup>129</sup> | +21     | 57.9 <sup>84</sup>       | 45      | 6 15          | 6 50           | 7 22 | 11 53          | 34   | 2 47     | 64 |
| 7  | 281                                                | 40.0 |     | 32.6                                                                                                                                                                  | 174 | 24.4 <sup>128</sup> | +22     | 06.2 <sup>83</sup>       | 40      | 09            | 41             | 10   | 12 10          | 37   | 31       | 60 |
| 8  | 296                                                | 39.9 |     | 31.9                                                                                                                                                                  | 188 | 56.2 <sup>128</sup> |         | 14.3 <sup>81</sup>       | 35      | 6 03          | 33             | 7 00 | 25             | 38   | 17       | 58 |
| 9  | 311                                                | 39.8 |     | 31.2                                                                                                                                                                  | 203 | 28.0 <sup>128</sup> |         | 22.4 <sup>81</sup>       | 30      | 5 57          | 26             | 6 51 | 37             | 41   | 2 05     | 56 |
| 10 | 326                                                | 39.7 |     | 30.5                                                                                                                                                                  | 217 | 59.7 <sup>127</sup> |         | 30.4 <sup>80</sup>       | 20      | 46            | 13             | 36   | 12 59          | 43   | 1 45     | 53 |
| 11 | 341                                                | 39.6 | -17 | 29.9                                                                                                                                                                  | 232 | 31.3 <sup>126</sup> | +22     | 38.3 <sup>79</sup>       | 10 N    | 5 35          | 6 01           | 6 23 | 13 18          | 46   | 1 27     | 50 |
| 12 | 356                                                | 39.5 | -17 | 29.2                                                                                                                                                                  | 247 | 02.9 <sup>126</sup> | +22     | 46.1 <sup>78</sup>       | 0       | 5 23          | 5 48           | 6 10 | 13 35          | 49   | 1 11     | 47 |
| 13 | 11                                                 | 39.4 |     | 28.5                                                                                                                                                                  | 261 | 34.4 <sup>125</sup> | +22     | 53.8 <sup>77</sup>       | 10 S    | 5 09          | 35             | 5 57 | 13 53          | 51   | 0 55     | 44 |
| 14 | 26                                                 | 39.4 |     | 27.8                                                                                                                                                                  | 276 | 05.8 <sup>124</sup> | +23     | 01.4 <sup>76</sup>       | 20      | 4 52          | 20             | 43   | 14 12          | 53   | 38       | 41 |
| 15 | 41                                                 | 39.3 |     | 27.1                                                                                                                                                                  | 290 | 37.2 <sup>124</sup> |         | 08.8 <sup>74</sup>       | 30      | 30            | 5 01           | 27   | 34             | 56   | 18       | 38 |
| 16 | 56                                                 | 39.2 |     | 26.4                                                                                                                                                                  | 305 | 08.5 <sup>123</sup> |         | 16.2 <sup>73</sup>       | 35      | 16            | 4 50           | 18   | 14 47          | 58   | 0 06     | 36 |
| 17 | 71                                                 | 39.1 | -17 | 25.7                                                                                                                                                                  | 319 | 39.8 <sup>123</sup> | +23     | 23.5 <sup>74</sup>       | 40      | 4 00          | 4 37           | 5 07 | 15 02          | 60   | *** ** * |    |
| 18 | 86                                                 | 39.0 | -17 | 25.0                                                                                                                                                                  | 334 | 11.0 <sup>122</sup> | +23     | 30.7 <sup>72</sup>       | 45      | 3 38          | 4 21           | 4 54 | 15 20          | 63   | *** ** * |    |
| 19 | 101                                                | 38.9 |     | 24.3                                                                                                                                                                  | 348 | 42.1 <sup>121</sup> |         | 37.8 <sup>71</sup>       | 50      | 3 10          | 4 00           | 39   | 43             | 66   | 23 44    | 34 |
| 20 | 116                                                | 38.8 |     | 23.6                                                                                                                                                                  | 3   | 13.2 <sup>121</sup> |         | 44.8 <sup>70</sup>       | 52      | 2 55          | 3 50           | 31   | 15 53          | 69   | 33       | 32 |
| 21 | 131                                                | 38.7 |     | 22.9                                                                                                                                                                  | 17  | 44.2 <sup>120</sup> |         | 51.6 <sup>68</sup>       | 54      | 38            | 39             | 23   | 16 06          | 71   | 21       | 30 |
| 22 | 146                                                | 38.6 |     | 22.2                                                                                                                                                                  | 32  | 15.2 <sup>120</sup> | +23     | 58.4 <sup>68</sup>       | 56      | 2 16          | 26             | 14   | 20             | 74   | 23 06    | 27 |
| 23 | 161                                                | 38.5 |     | 21.5                                                                                                                                                                  | 46  | 46.1 <sup>119</sup> | +24     | 05.0 <sup>66</sup>       | 58      | 1 46          | 3 11           | 4 04 | 36             | 79   | 22 49    | 23 |
| 24 | 176                                                | 38.4 | -17 | 20.8                                                                                                                                                                  | 61  | 16.9 <sup>118</sup> | +24     | 11.6 <sup>66</sup>       | 60 S    | 0 51          | 2 52           | 3 52 | 16 56          | 85   | 22 28    | 17 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG<br>15 <sup>h</sup> 19 <sup>m</sup> 2 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 46 <sup>m</sup> |      | Mag: +0.7<br>PMG: 17 <sup>h</sup> 03 <sup>m</sup> |      | Mag: -2.4<br>PMG: 2 <sup>h</sup> 38 <sup>m</sup> |      | Mag: -0.3<br>PMG: 21 <sup>h</sup> 50 <sup>m</sup> |      |
|     | hG ♈                                     |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 129                                      | 33.9 | 138                                               | 39.7 | -5                                                | 00.7 | 103                                              | 56.8 | +11                                               | 16.6 |
| 1   | 144                                      | 36.4 | 153                                               | 39.5 | -4                                                | 59.4 | 118                                              | 57.7 |                                                   | 17.2 |
| 2   | 159                                      | 38.8 | 168                                               | 39.2 |                                                   | 58.1 | 133                                              | 58.7 |                                                   | 17.8 |
| 3   | 174                                      | 41.3 | 183                                               | 39.0 |                                                   | 56.8 | 148                                              | 59.7 |                                                   | 18.4 |
| 4   | 189                                      | 43.8 | 198                                               | 38.7 |                                                   | 55.5 | 164                                              | 00.6 |                                                   | 19.0 |
| 5   | 204                                      | 46.2 | 213                                               | 38.5 | -4                                                | 54.3 | 179                                              | 01.6 | +11                                               | 19.6 |
| 6   | 219                                      | 48.7 | 228                                               | 38.2 | -4                                                | 53.0 | 194                                              | 02.6 | +11                                               | 20.2 |
| 7   | 234                                      | 51.2 | 243                                               | 38.0 |                                                   | 51.7 | 209                                              | 03.5 |                                                   | 20.8 |
| 8   | 249                                      | 53.6 | 258                                               | 37.8 |                                                   | 50.4 | 224                                              | 04.5 |                                                   | 21.4 |
| 9   | 264                                      | 56.1 | 273                                               | 37.5 |                                                   | 49.1 | 239                                              | 05.5 |                                                   | 22.0 |
| 10  | 279                                      | 58.6 | 288                                               | 37.3 |                                                   | 47.8 | 254                                              | 06.5 |                                                   | 22.6 |
| 11  | 295                                      | 01.0 | 303                                               | 37.0 | -4                                                | 46.5 | 269                                              | 07.4 | +11                                               | 23.2 |
| 12  | 310                                      | 03.5 | 318                                               | 36.8 | -4                                                | 45.2 | 284                                              | 08.4 | +11                                               | 23.8 |
| 13  | 325                                      | 05.9 | 333                                               | 36.5 |                                                   | 43.9 | 299                                              | 09.4 |                                                   | 24.4 |
| 14  | 340                                      | 08.4 | 348                                               | 36.3 |                                                   | 42.7 | 314                                              | 10.3 |                                                   | 25.0 |
| 15  | 355                                      | 10.9 | 3                                                 | 36.0 |                                                   | 41.4 | 329                                              | 11.3 |                                                   | 25.6 |
| 16  | 10                                       | 13.3 | 18                                                | 35.8 |                                                   | 40.1 | 344                                              | 12.3 |                                                   | 26.2 |
| 17  | 25                                       | 15.8 | 33                                                | 35.5 | -4                                                | 38.8 | 359                                              | 13.2 | +11                                               | 26.8 |
| 18  | 40                                       | 18.3 | 48                                                | 35.3 | -4                                                | 37.5 | 14                                               | 14.2 | +11                                               | 27.4 |
| 19  | 55                                       | 20.7 | 63                                                | 35.0 |                                                   | 36.2 | 29                                               | 15.2 |                                                   | 28.0 |
| 20  | 70                                       | 23.2 | 78                                                | 34.8 |                                                   | 34.9 | 44                                               | 16.1 |                                                   | 28.6 |
| 21  | 85                                       | 25.7 | 93                                                | 34.6 |                                                   | 33.6 | 59                                               | 17.1 |                                                   | 29.2 |
| 22  | 100                                      | 28.1 | 108                                               | 34.3 |                                                   | 32.3 | 74                                               | 18.1 |                                                   | 29.8 |
| 23  | 115                                      | 30.6 | 123                                               | 34.1 |                                                   | 31.0 | 89                                               | 19.0 |                                                   | 30.4 |
| 24  | 130                                      | 33.1 | 138                                               | 33.8 | -4                                                | 29.7 | 104                                              | 20.0 | +11                                               | 31.0 |
| Dif | —                                        |      | -2 +13                                            |      | +10 +6                                            |      | +27 +1                                           |      | +26 0                                             |      |

| UT | SOL                                                |      |          | LUNA                    |                                                                                                           |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------------------|------|----------|-------------------------|-----------------------------------------------------------------------------------------------------------|----------|---------|---------------|----------------------|-------|----------------|----------|----------------|-------|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 5 |      |          | Edad: 10 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54:2<br>12 <sup>h</sup> : 54:2<br>20 <sup>h</sup> : 54:3<br>R°: 51 <sup>m</sup> |          |         |               |                      |       |                |          |                |       |
|    | hG ☉                                               | Dec  |          | hG ☾                    |                                                                                                           | Dif      |         |               | Dec                  | Dif   | Civil          | Náutico  | Hora           | R°    |
| h  | °                                                  | '    | °        | °                       | '                                                                                                         | °        | '       | °             | h m                  | h m   | h m            | h m m    | h m m          | h m m |
| 0  | 176                                                | 38.4 | -17 20.8 | 61                      | 16.9                                                                                                      | +24 11.6 | 64      | 60 N          | 16 12                | 17 00 | 17 51          | 10 38 25 | 5 37 79        |       |
| 1  | 191                                                | 38.3 | 20.1     | 75                      | 47.7 <sup>118</sup>                                                                                       | 18.0     | 64      | 58            | 23                   | 07    | 55             | 11 01 31 | 5 14 74        |       |
| 2  | 206                                                | 38.2 | 19.4     | 90                      | 18.5 <sup>118</sup>                                                                                       | 24.4     | 64      | 56            | 32                   | 13    | 17 58          | 20 34    | 4 56 70        |       |
| 3  | 221                                                | 38.1 | 18.7     | 104                     | 49.1 <sup>116</sup>                                                                                       | 30.6     | 62      | 54            | 40                   | 18    | 18 01          | 36 36    | 40 68          |       |
| 4  | 236                                                | 38.1 | 18.0     | 119                     | 19.7 <sup>116</sup>                                                                                       | 36.7     | 61      | 52            | 47                   | 23    | 04             | 11 50 38 | 27 65          |       |
| 5  | 251                                                | 38.0 | -17 17.3 | 133                     | 50.3 <sup>116</sup>                                                                                       | +24 42.7 | 60      | 50            | 16 53                | 17 28 | 18 07          | 12 02 39 | 4 15 64        |       |
| 6  | 266                                                | 37.9 | -17 16.6 | 148                     | 20.8 <sup>115</sup>                                                                                       | +24 48.6 | 59      | 45            | 17 07                | 17 38 | 18 13          | 12 27 42 | 3 51 61        |       |
| 7  | 281                                                | 37.8 | 15.9     | 162                     | 51.2 <sup>114</sup>                                                                                       | +24 54.4 | 58      | 40            | 18                   | 47    | 19             | 12 47 43 | 31 59          |       |
| 8  | 296                                                | 37.7 | 15.2     | 177                     | 21.6 <sup>114</sup>                                                                                       | +25 00.1 | 57      | 35            | 28                   | 17 55 | 25             | 13 03 45 | 15 57          |       |
| 9  | 311                                                | 37.6 | 14.5     | 191                     | 51.9 <sup>113</sup>                                                                                       | 05.6     | 55      | 30            | 37                   | 18 02 | 30             | 18 46    | 3 01 56        |       |
| 10 | 326                                                | 37.5 | 13.8     | 206                     | 22.1 <sup>112</sup>                                                                                       | 11.0     | 54      | 20            | 17 51                | 15    | 41             | 13 42 48 | 2 38 53        |       |
| 11 | 341                                                | 37.4 | -17 13.1 | 220                     | 52.3 <sup>112</sup>                                                                                       | +25 16.4 | 54      | 10 N          | 18 05                | 18 27 | 18 52          | 14 04 49 | 2 17 52        |       |
| 12 | 356                                                | 37.4 | -17 12.4 | 235                     | 22.5 <sup>112</sup>                                                                                       | +25 21.6 | 52      | 0             | 18 17                | 18 39 | 19 04          | 14 24 50 | 1 58 50        |       |
| 13 | 11                                                 | 37.3 | 11.6     | 249                     | 52.6 <sup>111</sup>                                                                                       | 26.7     | 51      | 10 S          | 30                   | 18 52 | 17             | 14 44 52 | 39 48          |       |
| 14 | 26                                                 | 37.2 | 10.9     | 264                     | 22.6 <sup>110</sup>                                                                                       | 31.6     | 49      | 20            | 43                   | 19 06 | 34             | 15 05 54 | 1 19 46        |       |
| 15 | 41                                                 | 37.1 | 10.2     | 278                     | 52.6 <sup>110</sup>                                                                                       | 36.5     | 49      | 30            | 18 59                | 24    | 19 55          | 30 55    | 0 56 43        |       |
| 16 | 56                                                 | 37.0 | 09.5     | 293                     | 22.5 <sup>109</sup>                                                                                       | 41.2     | 47      | 35            | 19 08                | 35    | 20 09          | 15 45 56 | 42 42          |       |
| 17 | 71                                                 | 36.9 | -17 08.8 | 307                     | 52.4 <sup>109</sup>                                                                                       | +25 45.9 | 47      | 40            | 19 18                | 19 48 | 20 25          | 16 02 57 | 0 26 40        |       |
| 18 | 86                                                 | 36.8 | -17 08.1 | 322                     | 22.2 <sup>108</sup>                                                                                       | +25 50.4 | 45      | 45            | 19 30                | 20 04 | 20 45          | 16 23 59 | 0 08 37        |       |
| 19 | 101                                                | 36.8 | 07.4     | 336                     | 52.0 <sup>108</sup>                                                                                       | 54.7     | 43      | 50            | 46                   | 23    | 21 13          | 16 49 61 | ** ** *        |       |
| 20 | 116                                                | 36.7 | 06.7     | 351                     | 21.7 <sup>107</sup>                                                                                       | +25 59.0 | 43      | 52            | 19 53                | 33    | 27             | 17 02 62 | ** ** *        |       |
| 21 | 131                                                | 36.6 | 06.0     | 5                       | 51.4 <sup>107</sup>                                                                                       | +26 03.1 | 41      | 54            | 20 00                | 44    | 21 44          | 17 63    | 23 51 42       |       |
| 22 | 146                                                | 36.5 | 05.3     | 20                      | 21.0 <sup>106</sup>                                                                                       | 07.1     | 40      | 56            | 09                   | 20 56 | 22 04          | 34 65    | 33 41          |       |
| 23 | 161                                                | 36.4 | 04.6     | 34                      | 50.5 <sup>105</sup>                                                                                       | 11.0     | 39      | 58            | 19                   | 21 11 | 22 31          | 17 55 67 | 23 12 38       |       |
| 24 | 176                                                | 36.3 | -17 03.8 | 49                      | 20.0 <sup>105</sup>                                                                                       | +26 14.8 | 38      | 60 S          | 20 31                | 21 28 | 23 14          | 18 21 72 | 22 45 34       |       |

| UT  | ARIES                                  |      | VENUS                                             |         | MARTE                                             |          | JÚPITER                                          |         | SATURNO                                           |          |
|-----|----------------------------------------|------|---------------------------------------------------|---------|---------------------------------------------------|----------|--------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 15 <sup>h</sup> 15 <sup>m</sup> 3 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 46 <sup>m</sup> |         | Mag: +0.7<br>PMG: 17 <sup>h</sup> 02 <sup>m</sup> |          | Mag: -2.4<br>PMG: 2 <sup>h</sup> 34 <sup>m</sup> |         | Mag: -0.3<br>PMG: 21 <sup>h</sup> 46 <sup>m</sup> |          |
|     | hG ♈                                   |      | hG ♀                                              | Dec     | hG ♂                                              | Dec      | hG ♃                                             | Dec     | hG ♄                                              | Dec      |
| h   | °                                      | '    | °                                                 | '       | °                                                 | '        | °                                                | '       | °                                                 | '        |
| 0   | 130                                    | 33.1 | 138 33.8                                          | -4 29.7 | 104 20.0                                          | +11 31.0 | 321 21.8                                         | +6 06.7 | 32 30.2                                           | +22 37.7 |
| 1   | 145                                    | 35.5 | 153 33.6                                          | 28.4    | 119 21.0                                          | 31.6     | 336 24.5                                         | 06.8    | 47 32.8                                           | 37.7     |
| 2   | 160                                    | 38.0 | 168 33.4                                          | 27.2    | 134 21.9                                          | 32.2     | 351 27.1                                         | 06.9    | 62 35.4                                           | 37.7     |
| 3   | 175                                    | 40.4 | 183 33.1                                          | 25.9    | 149 22.9                                          | 32.8     | 6 29.8                                           | 06.9    | 77 38.1                                           | 37.8     |
| 4   | 190                                    | 42.9 | 198 32.9                                          | 24.6    | 164 23.9                                          | 33.4     | 21 32.4                                          | 07.0    | 92 40.7                                           | 37.8     |
| 5   | 205                                    | 45.4 | 213 32.6                                          | -4 23.3 | 179 24.8                                          | +11 34.0 | 36 35.1                                          | +6 07.1 | 107 43.3                                          | +22 37.8 |
| 6   | 220                                    | 47.8 | 228 32.4                                          | -4 22.0 | 194 25.8                                          | +11 34.6 | 51 37.7                                          | +6 07.2 | 122 45.9                                          | +22 37.8 |
| 7   | 235                                    | 50.3 | 243 32.1                                          | 20.7    | 209 26.7                                          | 35.2     | 66 40.4                                          | 07.3    | 137 48.6                                          | 37.8     |
| 8   | 250                                    | 52.8 | 258 31.9                                          | 19.4    | 224 27.7                                          | 35.8     | 81 43.1                                          | 07.4    | 152 51.2                                          | 37.8     |
| 9   | 265                                    | 55.2 | 273 31.7                                          | 18.1    | 239 28.7                                          | 36.4     | 96 45.7                                          | 07.5    | 167 53.8                                          | 37.9     |
| 10  | 280                                    | 57.7 | 288 31.4                                          | 16.8    | 254 29.6                                          | 37.0     | 111 48.4                                         | 07.6    | 182 56.4                                          | 37.9     |
| 11  | 296                                    | 00.2 | 303 31.2                                          | -4 15.5 | 269 30.6                                          | +11 37.6 | 126 51.0                                         | +6 07.7 | 197 59.1                                          | +22 37.9 |
| 12  | 311                                    | 02.6 | 318 31.0                                          | -4 14.2 | 284 31.6                                          | +11 38.2 | 141 53.7                                         | +6 07.8 | 213 01.7                                          | +22 37.9 |
| 13  | 326                                    | 05.1 | 333 30.7                                          | 12.9    | 299 32.5                                          | 38.8     | 156 56.4                                         | 07.9    | 228 04.3                                          | 37.9     |
| 14  | 341                                    | 07.6 | 348 30.5                                          | 11.6    | 314 33.5                                          | 39.4     | 171 59.0                                         | 08.0    | 243 06.9                                          | 37.9     |
| 15  | 356                                    | 10.0 | 3 30.2                                            | 10.3    | 329 34.5                                          | 40.0     | 187 01.7                                         | 08.1    | 258 09.6                                          | 37.9     |
| 16  | 11                                     | 12.5 | 18 30.0                                           | 09.0    | 344 35.4                                          | 40.6     | 202 04.3                                         | 08.2    | 273 12.2                                          | 38.0     |
| 17  | 26                                     | 14.9 | 33 29.8                                           | -4 07.8 | 359 36.4                                          | +11 41.2 | 217 07.0                                         | +6 08.2 | 288 14.8                                          | +22 38.0 |
| 18  | 41                                     | 17.4 | 48 29.5                                           | -4 06.5 | 14 37.4                                           | +11 41.8 | 232 09.7                                         | +6 08.3 | 303 17.4                                          | +22 38.0 |
| 19  | 56                                     | 19.9 | 63 29.3                                           | 05.2    | 29 38.3                                           | 42.4     | 247 12.3                                         | 08.4    | 318 20.1                                          | 38.0     |
| 20  | 71                                     | 22.3 | 78 29.1                                           | 03.9    | 44 39.3                                           | 43.0     | 262 15.0                                         | 08.5    | 333 22.7                                          | 38.0     |
| 21  | 86                                     | 24.8 | 93 28.8                                           | 02.6    | 59 40.2                                           | 43.6     | 277 17.7                                         | 08.6    | 348 25.3                                          | 38.0     |
| 22  | 101                                    | 27.3 | 108 28.6                                          | -4 01.3 | 74 41.2                                           | 44.2     | 292 20.3                                         | 08.7    | 3 27.9                                            | 38.0     |
| 23  | 116                                    | 29.7 | 123 28.4                                          | -4 00.0 | 89 42.2                                           | 44.8     | 307 23.0                                         | 08.8    | 18 30.6                                           | 38.1     |
| 24  | 131                                    | 32.2 | 138 28.1                                          | -3 58.7 | 104 43.1                                          | +11 45.3 | 322 25.6                                         | +6 08.9 | 33 33.2                                           | +22 38.1 |
| Dif | —                                      |      | -2 +13                                            |         | +10 +6                                            |          | +27 +1                                           |         | +26 0                                             |          |

| UT | SOL                                                |      |     | O LUNA                                                                                                                            |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |       |    |         |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|-------|----|---------|----|
|    | SD: 16'2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 6 |      |     | Edad: 11 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 54'4<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'5<br>Rº: 52 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |       |    |         |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                              | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | Rº             | Hora  | Rº |         |    |
| h  | °                                                  | '    | °   | °                                                                                                                                 | '   | °                   | °       | h                        | m       | h             | m              | h    | m              | h     | m  |         |    |
| 0  | 176                                                | 36.3 | -17 | 03.8                                                                                                                              | 49  | 20.0                | +26     | 14.8                     | 36      | 60 N          | 6 35           | 7 26 | 8 13           | 11 03 | 47 | 6 56    | 61 |
| 1  | 191                                                | 36.3 |     | 03.1                                                                                                                              | 63  | 49.5 <sup>105</sup> |         | 18.4                     | 36      | 58            | 32             | 19   | 8 03           | 32    | 48 | 28      | 59 |
| 2  | 206                                                | 36.2 |     | 02.4                                                                                                                              | 78  | 18.9 <sup>104</sup> |         | 22.0                     | 36      | 56            | 28             | 13   | 7 54           | 11 54 | 49 | 6 06    | 58 |
| 3  | 221                                                | 36.1 |     | 01.7                                                                                                                              | 92  | 48.3 <sup>104</sup> |         | 25.3                     | 33      | 54            | 25             | 08   | 46             | 12 12 | 50 | 5 48    | 57 |
| 4  | 236                                                | 36.0 |     | 01.0                                                                                                                              | 107 | 17.6 <sup>103</sup> |         | 28.6                     | 33      | 52            | 22             | 7 03 | 39             | 28    | 50 | 32      | 57 |
| 5  | 251                                                | 35.9 | -17 | 00.3                                                                                                                              | 121 | 46.9 <sup>103</sup> | +26     | 31.7                     | 31      | 50            | 6 20           | 6 58 | 7 33           | 12 41 | 51 | 5 19    | 56 |
| 6  | 266                                                | 35.8 | -16 | 59.6                                                                                                                              | 136 | 16.1 <sup>102</sup> | +26     | 34.8                     | 31      | 45            | 6 13           | 6 48 | 7 20           | 13 09 | 51 | 4 52    | 55 |
| 7  | 281                                                | 35.8 |     | 58.8                                                                                                                              | 150 | 45.3 <sup>102</sup> |         | 37.6                     | 28      | 40            | 07             | 40   | 7 08           | 30    | 52 | 30      | 55 |
| 8  | 296                                                | 35.7 |     | 58.1                                                                                                                              | 165 | 14.5 <sup>102</sup> |         | 40.4                     | 28      | 35            | 6 02           | 32   | 6 59           | 13 48 | 52 | 4 12    | 55 |
| 9  | 311                                                | 35.6 |     | 57.4                                                                                                                              | 179 | 43.6 <sup>101</sup> |         | 43.0                     | 26      | 30            | 5 56           | 25   | 50             | 14 04 | 52 | 3 57    | 54 |
| 10 | 326                                                | 35.5 |     | 56.7                                                                                                                              | 194 | 12.6 <sup>100</sup> |         | 45.5                     | 25      | 20            | 46             | 12   | 35             | 30    | 52 | 31      | 53 |
| 11 | 341                                                | 35.4 | -16 | 56.0                                                                                                                              | 208 | 41.6 <sup>100</sup> | +26     | 47.9                     | 24      | 10 N          | 5 35           | 6 01 | 6 22           | 14 53 | 52 | 3 09    | 52 |
| 12 | 356                                                | 35.4 | -16 | 55.2                                                                                                                              | 223 | 10.6 <sup>100</sup> | +26     | 50.1                     | 22      | 0             | 5 23           | 5 49 | 6 10           | 15 14 | 53 | 2 48    | 52 |
| 13 | 11                                                 | 35.3 |     | 54.5                                                                                                                              | 237 | 39.6 <sup>100</sup> |         | 52.2                     | 21      | 10 S          | 5 10           | 36   | 5 58           | 36    | 52 | 27      | 51 |
| 14 | 26                                                 | 35.2 |     | 53.8                                                                                                                              | 252 | 08.5 <sup>99</sup>  |         | 54.2                     | 20      | 20            | 4 53           | 21   | 44             | 15 59 | 52 | 2 05    | 50 |
| 15 | 41                                                 | 35.1 |     | 53.1                                                                                                                              | 266 | 37.3 <sup>98</sup>  |         | 56.1                     | 19      | 30            | 32             | 5 03 | 29             | 16 25 | 52 | 1 39    | 49 |
| 16 | 56                                                 | 35.1 |     | 52.4                                                                                                                              | 281 | 06.2 <sup>99</sup>  |         | 57.8                     | 17      | 35            | 19             | 4 52 | 20             | 41    | 52 | 24      | 48 |
| 17 | 71                                                 | 35.0 | -16 | 51.6                                                                                                                              | 295 | 35.0 <sup>98</sup>  | +26     | 59.3                     | 15      | 40            | 4 03           | 4 39 | 5 09           | 16 59 | 52 | 1 06    | 48 |
| 18 | 86                                                 | 34.9 | -16 | 50.9                                                                                                                              | 310 | 03.7 <sup>97</sup>  | +27     | 00.8                     | 15      | 45            | 3 42           | 4 24 | 4 57           | 17 22 | 51 | 0 45    | 47 |
| 19 | 101                                                | 34.8 |     | 50.2                                                                                                                              | 324 | 32.5 <sup>98</sup>  |         | 02.1                     | 13      | 50            | 15             | 4 04 | 42             | 17 50 | 51 | 18      | 45 |
| 20 | 116                                                | 34.8 |     | 49.5                                                                                                                              | 339 | 01.2 <sup>97</sup>  |         | 03.3                     | 12      | 52            | 3 01           | 3 55 | 35             | 18 04 | 51 | 0 05    | 44 |
| 21 | 131                                                | 34.7 |     | 48.8                                                                                                                              | 353 | 29.8 <sup>96</sup>  |         | 04.3                     | 10      | 54            | 2 44           | 44   | 27             | 20    | 51 | ** ** * | ** |
| 22 | 146                                                | 34.6 |     | 48.0                                                                                                                              | 7   | 58.5 <sup>97</sup>  |         | 05.2                     | 9       | 56            | 2 24           | 32   | 19             | 18 39 | 50 | ** ** * | ** |
| 23 | 161                                                | 34.5 |     | 47.3                                                                                                                              | 22  | 27.1 <sup>96</sup>  |         | 06.0                     | 8       | 58            | 1 56           | 17   | 4 09           | 19 02 | 50 | 23 50   | 60 |
| 24 | 176                                                | 34.5 | -16 | 46.6                                                                                                                              | 36  | 55.7 <sup>96</sup>  | +27     | 06.7                     | 7       | 60 S          | 1 13           | 3 00 | 3 57           | 19 33 | 49 | 23 19   | 61 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>15 <sup>h</sup> 11 <sup>m</sup> 4 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 46 <sup>m</sup> |      | Mag: +0.8<br>PMG: 17 <sup>h</sup> 00 <sup>m</sup> |      | Mag: -2.4<br>PMG: 2 <sup>h</sup> 30 <sup>m</sup> |      | Mag: -0.3<br>PMG: 21 <sup>h</sup> 42 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 131                                      | 32.2 | 138                                               | 28.1 | -3                                                | 58.7 | 104                                              | 43.1 | +11                                               | 45.3 | 322 | 25.6 | +6 | 08.9 | 33  | 33.2 | +22 | 38.1 |
| 1   | 146                                      | 34.7 | 153                                               | 27.9 |                                                   | 57.4 | 119                                              | 44.1 |                                                   | 45.9 | 337 | 28.3 |    | 09.0 | 48  | 35.8 |     | 38.1 |
| 2   | 161                                      | 37.1 | 168                                               | 27.7 |                                                   | 56.1 | 134                                              | 45.1 |                                                   | 46.5 | 352 | 31.0 |    | 09.1 | 63  | 38.4 |     | 38.1 |
| 3   | 176                                      | 39.6 | 183                                               | 27.4 |                                                   | 54.8 | 149                                              | 46.0 |                                                   | 47.1 | 7   | 33.6 |    | 09.2 | 78  | 41.1 |     | 38.1 |
| 4   | 191                                      | 42.0 | 198                                               | 27.2 |                                                   | 53.5 | 164                                              | 47.0 |                                                   | 47.7 | 22  | 36.3 |    | 09.3 | 93  | 43.7 |     | 38.1 |
| 5   | 206                                      | 44.5 | 213                                               | 27.0 | -3                                                | 52.2 | 179                                              | 47.9 | +11                                               | 48.3 | 37  | 39.0 | +6 | 09.4 | 108 | 46.3 | +22 | 38.1 |
| 6   | 221                                      | 47.0 | 228                                               | 26.7 | -3                                                | 50.9 | 194                                              | 48.9 | +11                                               | 48.9 | 52  | 41.6 | +6 | 09.5 | 123 | 48.9 | +22 | 38.2 |
| 7   | 236                                      | 49.4 | 243                                               | 26.5 |                                                   | 49.6 | 209                                              | 49.9 |                                                   | 49.5 | 67  | 44.3 |    | 09.6 | 138 | 51.6 |     | 38.2 |
| 8   | 251                                      | 51.9 | 258                                               | 26.3 |                                                   | 48.3 | 224                                              | 50.8 |                                                   | 50.1 | 82  | 47.0 |    | 09.7 | 153 | 54.2 |     | 38.2 |
| 9   | 266                                      | 54.4 | 273                                               | 26.0 |                                                   | 47.0 | 239                                              | 51.8 |                                                   | 50.7 | 97  | 49.6 |    | 09.8 | 168 | 56.8 |     | 38.2 |
| 10  | 281                                      | 56.8 | 288                                               | 25.8 |                                                   | 45.7 | 254                                              | 52.7 |                                                   | 51.3 | 112 | 52.3 |    | 09.9 | 183 | 59.4 |     | 38.2 |
| 11  | 296                                      | 59.3 | 303                                               | 25.6 | -3                                                | 44.4 | 269                                              | 53.7 | +11                                               | 51.9 | 127 | 55.0 | +6 | 09.9 | 199 | 02.0 | +22 | 38.2 |
| 12  | 312                                      | 01.8 | 318                                               | 25.3 | -3                                                | 43.1 | 284                                              | 54.7 | +11                                               | 52.5 | 142 | 57.6 | +6 | 10.0 | 214 | 04.7 | +22 | 38.2 |
| 13  | 327                                      | 04.2 | 333                                               | 25.1 |                                                   | 41.8 | 299                                              | 55.6 |                                                   | 53.1 | 158 | 00.3 |    | 10.1 | 229 | 07.3 |     | 38.3 |
| 14  | 342                                      | 06.7 | 348                                               | 24.9 |                                                   | 40.5 | 314                                              | 56.6 |                                                   | 53.7 | 173 | 03.0 |    | 10.2 | 244 | 09.9 |     | 38.3 |
| 15  | 357                                      | 09.2 | 3                                                 | 24.7 |                                                   | 39.2 | 329                                              | 57.5 |                                                   | 54.3 | 188 | 05.6 |    | 10.3 | 259 | 12.5 |     | 38.3 |
| 16  | 12                                       | 11.6 | 18                                                | 24.4 |                                                   | 37.9 | 344                                              | 58.5 |                                                   | 54.9 | 203 | 08.3 |    | 10.4 | 274 | 15.2 |     | 38.3 |
| 17  | 27                                       | 14.1 | 33                                                | 24.2 | -3                                                | 36.6 | 359                                              | 59.5 | +11                                               | 55.5 | 218 | 11.0 | +6 | 10.5 | 289 | 17.8 | +22 | 38.3 |
| 18  | 42                                       | 16.5 | 48                                                | 24.0 | -3                                                | 35.3 | 15                                               | 00.4 | +11                                               | 56.0 | 233 | 13.6 | +6 | 10.6 | 304 | 20.4 | +22 | 38.3 |
| 19  | 57                                       | 19.0 | 63                                                | 23.7 |                                                   | 34.0 | 30                                               | 01.4 |                                                   | 56.6 | 248 | 16.3 |    | 10.7 | 319 | 23.0 |     | 38.3 |
| 20  | 72                                       | 21.5 | 78                                                | 23.5 |                                                   | 32.7 | 45                                               | 02.3 |                                                   | 57.2 | 263 | 19.0 |    | 10.8 | 334 | 25.6 |     | 38.3 |
| 21  | 87                                       | 23.9 | 93                                                | 23.3 |                                                   | 31.4 | 60                                               | 03.3 |                                                   | 57.8 | 278 | 21.6 |    | 10.9 | 349 | 28.3 |     | 38.4 |
| 22  | 102                                      | 26.4 | 108                                               | 23.1 |                                                   | 30.1 | 75                                               | 04.3 |                                                   | 58.4 | 293 | 24.3 |    | 11.0 | 4   | 30.9 |     | 38.4 |
| 23  | 117                                      | 28.9 | 123                                               | 22.8 |                                                   | 28.8 | 90                                               | 05.2 |                                                   | 59.0 | 308 | 27.0 |    | 11.1 | 19  | 33.5 |     | 38.4 |
| 24  | 132                                      | 31.3 | 138                                               | 22.6 | -3                                                | 27.5 | 105                                              | 06.2 | +11                                               | 59.6 | 323 | 29.6 | +6 | 11.2 | 34  | 36.1 | +22 | 38.4 |
| Dif | —                                        |      | -2                                                | +13  |                                                   |      | +10                                              | +6   |                                                   |      | +27 | +1   |    |      | +26 |      |     |      |

| UT  | SOL                                    |      |                                                | LUNA                                                                                                                                                                  |     |                                                | Latitud | Puesta de Sol | Final del crepúsculo                          |       | Salida de Luna |                                                | Puesta de Luna |         |         |      |     |      |
|-----|----------------------------------------|------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------------------------------------------------|---------|---------------|-----------------------------------------------|-------|----------------|------------------------------------------------|----------------|---------|---------|------|-----|------|
|     | SD: 16 <sup>h</sup> 2                  |      |                                                | Edad: 12 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 6<br>12 <sup>h</sup> : 54 <sup>m</sup> 8<br>20 <sup>h</sup> : 54 <sup>m</sup> 9<br>R°: 53 <sup>m</sup> |     |                                                |         |               |                                               |       |                |                                                |                |         |         |      |     |      |
|     | PMG: 12 <sup>h</sup> 13 <sup>m</sup> 8 |      |                                                | SD: 14 <sup>h</sup> 9 PMG: 22 <sup>h</sup> 19 <sup>m</sup>                                                                                                            |     |                                                |         |               |                                               |       |                |                                                |                |         |         |      |     |      |
|     | hG ☉                                   |      | Dec                                            | hG ☾                                                                                                                                                                  |     | Dif                                            | Dec     | Dif           |                                               | Civil | Náutico        | Hora                                           | R°             | Hora    | R°      |      |     |      |
| h   | °                                      | '    | °                                              | '                                                                                                                                                                     | °   | '                                              | °       | '             | h                                             | m     | h              | m                                              | h              | m       | m       |      |     |      |
| 0   | 176                                    | 34.5 | -16                                            | 46.6                                                                                                                                                                  | 36  | 55.7                                           | +27     | 06.7          | 60 N                                          | 16 18 | 17 05          | 17 55                                          | 11 50 73       | 7 57 36 |         |      |     |      |
| 1   | 191                                    | 34.4 |                                                | 45.9                                                                                                                                                                  | 51  | 24.3                                           | 96      | 07.2          | 58                                            | 27    | 11             | 17 59                                          | 12 20 69       | 27 40   |         |      |     |      |
| 2   | 206                                    | 34.3 |                                                | 45.1                                                                                                                                                                  | 65  | 52.8                                           | 95      | 07.5          | 56                                            | 36    | 17             | 18 02                                          | 12 43 67       | 7 04 42 |         |      |     |      |
| 3   | 221                                    | 34.2 |                                                | 44.4                                                                                                                                                                  | 80  | 21.3                                           | 95      | 07.8          | 54                                            | 44    | 22             | 05                                             | 13 02 65       | 6 45 44 |         |      |     |      |
| 4   | 236                                    | 34.2 |                                                | 43.7                                                                                                                                                                  | 94  | 49.8                                           | 95      | 07.9          | 52                                            | 50    | 27             | 07                                             | 18 63          | 29 45   |         |      |     |      |
| 5   | 251                                    | 34.1 | -16                                            | 43.0                                                                                                                                                                  | 109 | 18.3                                           | 95      | +27 07.8      | 50                                            | 16 56 | 17 31          | 18 10                                          | 13 32 62       | 6 15 46 |         |      |     |      |
| 6   | 266                                    | 34.0 | -16                                            | 42.2                                                                                                                                                                  | 123 | 46.7                                           | 94      | +27 07.6      | 45                                            | 17 10 | 17 41          | 18 16                                          | 14 00 60       | 5 47 48 |         |      |     |      |
| 7   | 281                                    | 33.9 |                                                | 41.5                                                                                                                                                                  | 138 | 15.1                                           | 94      | 07.3          | 40                                            | 21    | 49             | 22                                             | 22 59          | 25 49   |         |      |     |      |
| 8   | 296                                    | 33.9 |                                                | 40.8                                                                                                                                                                  | 152 | 43.6                                           | 95      | 06.9          | 35                                            | 30    | 17 57          | 27                                             | 40 58          | 5 07 49 |         |      |     |      |
| 9   | 311                                    | 33.8 |                                                | 40.0                                                                                                                                                                  | 167 | 12.0                                           | 94      | 06.3          | 30                                            | 38    | 18 03          | 32                                             | 14 56 56       | 4 51 50 |         |      |     |      |
| 10  | 326                                    | 33.7 |                                                | 39.3                                                                                                                                                                  | 181 | 40.3                                           | 93      | 05.6          | 20                                            | 17 53 | 16             | 42                                             | 15 22 55       | 24 51   |         |      |     |      |
| 11  | 341                                    | 33.7 | -16                                            | 38.6                                                                                                                                                                  | 196 | 08.7                                           | 94      | +27 04.7      | 10 N                                          | 18 05 | 18 27          | 18 52                                          | 15 45 54       | 4 01 52 |         |      |     |      |
| 12  | 356                                    | 33.6 | -16                                            | 37.8                                                                                                                                                                  | 210 | 37.1                                           | 94      | +27 03.7      | 0                                             | 18 17 | 18 39          | 19 04                                          | 16 07 52       | 3 40 52 |         |      |     |      |
| 13  | 11                                     | 33.5 |                                                | 37.1                                                                                                                                                                  | 225 | 05.4                                           | 93      | 02.5          | 10 S                                          | 29    | 18 51          | 17                                             | 28 51          | 3 18 53 |         |      |     |      |
| 14  | 26                                     | 33.5 |                                                | 36.4                                                                                                                                                                  | 239 | 33.7                                           | 93      | +27 01.3      | 20                                            | 42    | 19 06          | 33                                             | 16 51 50       | 2 55 54 |         |      |     |      |
| 15  | 41                                     | 33.4 |                                                | 35.7                                                                                                                                                                  | 254 | 02.1                                           | 94      | +26 59.8      | 30                                            | 18 57 | 23             | 19 54                                          | 17 17 48       | 28 55   |         |      |     |      |
| 16  | 56                                     | 33.3 |                                                | 34.9                                                                                                                                                                  | 268 | 30.4                                           | 93      | 58.3          | 35                                            | 19 06 | 34             | 20 07                                          | 33 47          | 2 12 55 |         |      |     |      |
| 17  | 71                                     | 33.2 | -16                                            | 34.2                                                                                                                                                                  | 282 | 58.7                                           | 93      | +26 56.6      | 40                                            | 19 16 | 19 46          | 20 22                                          | 17 51 46       | 1 54 55 |         |      |     |      |
| 18  | 86                                     | 33.2 | -16                                            | 33.5                                                                                                                                                                  | 297 | 27.0                                           | 93      | +26 54.8      | 45                                            | 19 28 | 20 01          | 20 42                                          | 18 13 44       | 1 32 55 |         |      |     |      |
| 19  | 101                                    | 33.1 |                                                | 32.7                                                                                                                                                                  | 311 | 55.3                                           | 93      | 52.8          | 50                                            | 42    | 20             | 21 09                                          | 41 41          | 1 03 57 |         |      |     |      |
| 20  | 116                                    | 33.0 |                                                | 32.0                                                                                                                                                                  | 326 | 23.6                                           | 93      | 50.7          | 52                                            | 49    | 29             | 22                                             | 18 55 39       | 0 49 57 |         |      |     |      |
| 21  | 131                                    | 33.0 |                                                | 31.2                                                                                                                                                                  | 340 | 51.9                                           | 93      | 48.4          | 54                                            | 19 57 | 40             | 38                                             | 19 11 37       | 33 58   |         |      |     |      |
| 22  | 146                                    | 32.9 |                                                | 30.5                                                                                                                                                                  | 355 | 20.2                                           | 93      | 46.0          | 56                                            | 20 05 | 20 51          | 21 57                                          | 29 35          | 0 14 58 |         |      |     |      |
| 23  | 161                                    | 32.8 |                                                | 29.8                                                                                                                                                                  | 9   | 48.5                                           | 93      | 43.5          | 58                                            | 15    | 21 05          | 22 22                                          | 19 52 31       | ** ** * | ** ** * |      |     |      |
| 24  | 176                                    | 32.8 | -16                                            | 29.0                                                                                                                                                                  | 24  | 16.8                                           | 93      | +26 40.8      | 60 S                                          | 20 26 | 21 22          | 22 59                                          | 20 22 25       | ** ** * | ** ** * |      |     |      |
| UT  | ARIES                                  |      | VENUS                                          |                                                                                                                                                                       |     | MARTE                                          |         |               | JÚPITER                                       |       |                | SATURNO                                        |                |         |         |      |     |      |
|     | PMG: 15 <sup>h</sup> 07 <sup>m</sup> 4 |      | Mag: -4.1 PMG: 14 <sup>h</sup> 47 <sup>m</sup> |                                                                                                                                                                       |     | Mag: +0.8 PMG: 16 <sup>h</sup> 59 <sup>m</sup> |         |               | Mag: -2.4 PMG: 2 <sup>h</sup> 26 <sup>m</sup> |       |                | Mag: -0.3 PMG: 21 <sup>h</sup> 38 <sup>m</sup> |                |         |         |      |     |      |
|     | hG ♈                                   |      | hG ♀                                           |                                                                                                                                                                       | Dec | hG ♂                                           |         | Dec           | hG ♃                                          |       | Dec            | hG ♎                                           |                | Dec     |         |      |     |      |
| h   | °                                      | '    | °                                              | '                                                                                                                                                                     | °   | '                                              | °       | '             | °                                             | '     | °              | '                                              | °              | '       |         |      |     |      |
| 0   | 132                                    | 31.3 | 138                                            | 22.6                                                                                                                                                                  | -3  | 27.5                                           | 105     | 06.2          | +11                                           | 59.6  | 323            | 29.6                                           | +6             | 11.2    | 34      | 36.1 | +22 | 38.4 |
| 1   | 147                                    | 33.8 | 153                                            | 22.4                                                                                                                                                                  |     | 26.2                                           | 120     | 07.1          | +12                                           | 00.2  | 338            | 32.3                                           |                | 11.3    | 49      | 38.7 |     | 38.4 |
| 2   | 162                                    | 36.3 | 168                                            | 22.2                                                                                                                                                                  |     | 24.9                                           | 135     | 08.1          |                                               | 00.8  | 353            | 35.0                                           |                | 11.4    | 64      | 41.4 |     | 38.4 |
| 3   | 177                                    | 38.7 | 183                                            | 21.9                                                                                                                                                                  |     | 23.6                                           | 150     | 09.0          |                                               | 01.4  | 8              | 37.6                                           |                | 11.5    | 79      | 44.0 |     | 38.4 |
| 4   | 192                                    | 41.2 | 198                                            | 21.7                                                                                                                                                                  |     | 22.3                                           | 165     | 10.0          |                                               | 02.0  | 23             | 40.3                                           |                | 11.6    | 94      | 46.6 |     | 38.5 |
| 5   | 207                                    | 43.7 | 213                                            | 21.5                                                                                                                                                                  | -3  | 21.0                                           | 180     | 11.0          | +12                                           | 02.6  | 38             | 43.0                                           | +6             | 11.7    | 109     | 49.2 | +22 | 38.5 |
| 6   | 222                                    | 46.1 | 228                                            | 21.3                                                                                                                                                                  | -3  | 19.7                                           | 195     | 11.9          | +12                                           | 03.1  | 53             | 45.7                                           | +6             | 11.8    | 124     | 51.8 | +22 | 38.5 |
| 7   | 237                                    | 48.6 | 243                                            | 21.0                                                                                                                                                                  |     | 18.4                                           | 210     | 12.9          |                                               | 03.7  | 68             | 48.3                                           |                | 11.9    | 139     | 54.5 |     | 38.5 |
| 8   | 252                                    | 51.0 | 258                                            | 20.8                                                                                                                                                                  |     | 17.1                                           | 225     | 13.8          |                                               | 04.3  | 83             | 51.0                                           |                | 12.0    | 154     | 57.1 |     | 38.5 |
| 9   | 267                                    | 53.5 | 273                                            | 20.6                                                                                                                                                                  |     | 15.8                                           | 240     | 14.8          |                                               | 04.9  | 98             | 53.7                                           |                | 12.1    | 169     | 59.7 |     | 38.5 |
| 10  | 282                                    | 56.0 | 288                                            | 20.4                                                                                                                                                                  |     | 14.5                                           | 255     | 15.8          |                                               | 05.5  | 113            | 56.3                                           |                | 12.2    | 185     | 02.3 |     | 38.5 |
| 11  | 297                                    | 58.4 | 303                                            | 20.1                                                                                                                                                                  | -3  | 13.2                                           | 270     | 16.7          | +12                                           | 06.1  | 128            | 59.0                                           | +6             | 12.3    | 200     | 04.9 | +22 | 38.6 |
| 12  | 313                                    | 00.9 | 318                                            | 19.9                                                                                                                                                                  | -3  | 11.9                                           | 285     | 17.7          | +12                                           | 06.7  | 144            | 01.7                                           | +6             | 12.4    | 215     | 07.6 | +22 | 38.6 |
| 13  | 328                                    | 03.4 | 333                                            | 19.7                                                                                                                                                                  |     | 10.6                                           | 300     | 18.6          |                                               | 07.3  | 159            | 04.4                                           |                | 12.5    | 230     | 10.2 |     | 38.6 |
| 14  | 343                                    | 05.8 | 348                                            | 19.5                                                                                                                                                                  |     | 09.3                                           | 315     | 19.6          |                                               | 07.9  | 174            | 07.0                                           |                | 12.6    | 245     | 12.8 |     | 38.6 |
| 15  | 358                                    | 08.3 | 3                                              | 19.3                                                                                                                                                                  |     | 08.0                                           | 330     | 20.5          |                                               | 08.5  | 189            | 09.7                                           |                | 12.7    | 260     | 15.4 |     | 38.6 |
| 16  | 13                                     | 10.8 | 18                                             | 19.0                                                                                                                                                                  |     | 06.7                                           | 345     | 21.5          |                                               | 09.1  | 204            | 12.4                                           |                | 12.8    | 275     | 18.0 |     | 38.6 |
| 17  | 28                                     | 13.2 | 33                                             | 18.8                                                                                                                                                                  | -3  | 05.4                                           | 0       | 22.4          | +12                                           | 09.6  | 219            | 15.1                                           | +6             | 12.9    | 290     | 20.6 | +22 | 38.6 |
| 18  | 43                                     | 15.7 | 48                                             | 18.6                                                                                                                                                                  | -3  | 04.1                                           | 15      | 23.4          | +12                                           | 10.2  | 234            | 17.7                                           | +6             | 13.0    | 305     | 23.3 | +22 | 38.7 |
| 19  | 58                                     | 18.2 | 63                                             | 18.4                                                                                                                                                                  |     | 02.8                                           | 30      | 24.4          |                                               | 10.8  | 249            | 20.4                                           |                | 13.0    | 320     | 25.9 |     | 38.7 |
| 20  | 73                                     | 20.6 | 78                                             | 18.2                                                                                                                                                                  |     | 01.5                                           | 45      | 25.3          |                                               | 11.4  | 264            | 23.1                                           |                | 13.1    | 335     | 28.5 |     | 38.7 |
| 21  | 88                                     | 23.1 | 93                                             | 17.9                                                                                                                                                                  | -3  | 00.2                                           | 60      | 26.3          |                                               | 12.0  | 279            | 25.7                                           |                | 13.2    | 350     | 31.1 |     | 38.7 |
| 22  | 103                                    | 25.5 | 108                                            | 17.7                                                                                                                                                                  | -2  | 58.9                                           | 75      | 27.2          |                                               | 12.6  | 294            | 28.4                                           |                | 13.3    | 5       | 33.7 |     | 38.7 |
| 23  | 118                                    | 28.0 | 123                                            | 17.5                                                                                                                                                                  |     | 57.6                                           | 90      | 28.2          |                                               | 13.2  | 309            | 31.1                                           |                | 13.4    | 20      | 36.3 |     | 38.7 |
| 24  | 133                                    | 30.5 | 138                                            | 17.3                                                                                                                                                                  | -2  | 56.3                                           | 105     | 29.1          | +12                                           | 13.8  | 324            | 33.8                                           | +6             | 13.5    | 35      | 39.0 | +22 | 38.7 |
| Dif | —                                      |      | -2                                             |                                                                                                                                                                       | +13 |                                                | +10     |               | +6                                            |       | +27            |                                                | +1             |         | +26     |      |     |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                |     |      |     |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |    |    |
|----|----------------------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|---------|---------|--------------------------|------|---------------|----------------|------|----------------|----|----|
|    | SD: 16/2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 9 |      |     | Edad: 13 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 55/0<br>12 <sup>h</sup> : 55/2<br>20 <sup>h</sup> : 55/3<br>PMG: 23 <sup>h</sup> 12 <sup>m</sup> R°: 51 <sup>m</sup> |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                | Dif | Dec  | Dif | Náutico |         | Civil                    | Hora |               | R°             | Hora | R°             |    |    |
| h  | °                                                  | '    | °   | °                                                                                                                                                                   | '   | °    | '   | °       | h       | m                        | h    | m             | h              | m    | h              | m  |    |
| 0  | 176                                                | 32.8 | -16 | 29.0                                                                                                                                                                | 24  | 16.8 | +26 | 40.8    | 60 N    | 6                        | 31   | 7             | 22             | 8    | 08             | 13 | 03 |
| 1  | 191                                                | 32.7 |     | 28.3                                                                                                                                                                | 38  | 45.1 |     | 38.0    | 58      |                          | 28   |               | 15             | 7    | 59             |    | 29 |
| 2  | 206                                                | 32.7 |     | 27.6                                                                                                                                                                | 53  | 13.4 |     | 35.1    | 56      |                          | 25   |               | 10             |      | 50             | 13 | 50 |
| 3  | 221                                                | 32.6 |     | 26.8                                                                                                                                                                | 67  | 41.7 |     | 32.0    | 54      |                          | 22   |               | 05             |      | 43             | 14 | 07 |
| 4  | 236                                                | 32.5 |     | 26.1                                                                                                                                                                | 82  | 10.0 |     | 28.8    | 52      |                          | 20   |               | 7              | 00   | 36             |    | 21 |
| 5  | 251                                                | 32.5 | -16 | 25.3                                                                                                                                                                | 96  | 38.3 | +26 | 25.4    | 50      | 6                        | 17   | 6             | 56             | 7    | 30             | 14 | 34 |
| 6  | 266                                                | 32.4 | -16 | 24.6                                                                                                                                                                | 111 | 06.7 | +26 | 21.9    | 45      | 6                        | 11   | 6             | 46             | 7    | 17             | 15 | 00 |
| 7  | 281                                                | 32.3 |     | 23.9                                                                                                                                                                | 125 | 35.0 |     | 18.3    | 40      |                          | 06   |               | 38             | 7    | 06             |    | 21 |
| 8  | 296                                                | 32.3 |     | 23.1                                                                                                                                                                | 140 | 03.4 |     | 14.5    | 38      |                          | 6    | 00            | 31             | 6    | 57             |    | 38 |
| 9  | 311                                                | 32.2 |     | 22.4                                                                                                                                                                | 154 | 31.7 |     | 10.6    | 35      |                          | 5    | 55            | 24             |      | 49             | 15 | 52 |
| 10 | 326                                                | 32.1 |     | 21.6                                                                                                                                                                | 169 | 00.1 |     | 06.6    | 30      |                          |      | 45            | 12             |      | 35             | 16 | 17 |
| 11 | 341                                                | 32.1 | -16 | 20.9                                                                                                                                                                | 183 | 28.5 | +26 | 02.4    | 20      | 5                        | 35   | 6             | 00             | 6    | 22             | 16 | 39 |
| 12 | 356                                                | 32.0 | -16 | 20.2                                                                                                                                                                | 197 | 56.9 | +25 | 58.1    | 10 N    | 5                        | 24   | 5             | 49             | 6    | 10             | 16 | 59 |
| 13 | 11                                                 | 32.0 |     | 19.4                                                                                                                                                                | 212 | 25.4 |     | 53.6    | 0       | 5                        | 11   |               | 36             | 5    | 10             | 17 | 19 |
| 14 | 26                                                 | 31.9 |     | 18.7                                                                                                                                                                | 226 | 53.8 |     | 49.0    | 10 S    | 4                        | 55   |               | 22             | 45   | 17             | 41 |    |
| 15 | 41                                                 | 31.8 |     | 17.9                                                                                                                                                                | 241 | 22.3 |     | 44.3    | 20      |                          | 4    | 55            | 22             | 45   | 17             | 41 |    |
| 16 | 56                                                 | 31.8 |     | 17.2                                                                                                                                                                | 255 | 50.8 |     | 39.4    | 30      | 34                       | 5    | 05            | 31             |      | 18             | 05 |    |
| 17 | 71                                                 | 31.7 | -16 | 16.4                                                                                                                                                                | 270 | 19.3 | +25 | 34.4    | 35      | 21                       | 4    | 54            | 22             |      | 20             | 41 |    |
| 18 | 86                                                 | 31.7 | -16 | 15.7                                                                                                                                                                | 284 | 47.8 | +25 | 29.3    | 40      | 4                        | 06   | 4             | 42             | 5    | 12             | 18 | 37 |
| 19 | 101                                                | 31.6 |     | 14.9                                                                                                                                                                | 299 | 16.4 |     | 24.0    | 45      | 3                        | 46   | 4             | 27             | 5    | 00             | 18 | 57 |
| 20 | 116                                                | 31.5 |     | 14.2                                                                                                                                                                | 313 | 44.9 |     | 18.6    | 50      | 20                       | 4    | 08            | 4              | 46   | 19             | 22 |    |
| 21 | 131                                                | 31.5 |     | 13.4                                                                                                                                                                | 328 | 13.5 |     | 13.1    | 52      | 3                        | 06   | 3             | 59             | 39   |                | 34 | 30 |
| 22 | 146                                                | 31.4 |     | 12.7                                                                                                                                                                | 342 | 42.2 |     | 07.4    | 54      | 2                        | 51   |               | 49             | 32   |                | 19 | 48 |
| 23 | 161                                                | 31.4 |     | 12.0                                                                                                                                                                | 357 | 10.8 | +25 | 01.6    | 55      |                          | 31   |               | 37             | 23   |                | 20 | 04 |
| 24 | 176                                                | 31.3 | -16 | 11.2                                                                                                                                                                | 11  | 39.5 | +24 | 55.7    | 56      | 2                        | 06   | 23            | 14             |      | 23             | 19 |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         | 57      | 1                        | 30   | 3             | 07             | 4    | 03             | 20 | 47 |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         | 58      |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         | 59      |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         | 60 S    |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |
|    |                                                    |      |     |                                                                                                                                                                     |     |      |     |         |         |                          |      |               |                |      |                |    |    |

| UT  | SOL                                                |      |      |      | ☉ LUNA                                                                                                              |      |      |      | Latitud                                           | Puesta de Sol | Final del crepúsculo |       |                                                  | Salida de Luna |       | Puesta de Luna |                                                   |      |      |    |
|-----|----------------------------------------------------|------|------|------|---------------------------------------------------------------------------------------------------------------------|------|------|------|---------------------------------------------------|---------------|----------------------|-------|--------------------------------------------------|----------------|-------|----------------|---------------------------------------------------|------|------|----|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 0 |      |      |      | Edad: 14 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 55/5<br>12 <sup>h</sup> : 55/7<br>20 <sup>h</sup> : 55/8<br>R°: ***m |      |      |      |                                                   |               |                      |       |                                                  |                |       |                |                                                   |      |      |    |
|     | hG ☉                                               |      | Dec  |      | hG ☾                                                                                                                |      | Dif  |      |                                                   |               | Dec                  |       | Dif                                              |                | Civil | Náutico        | Hora                                              | R°   | Hora | R° |
| h   | °                                                  | '    | °    | '    | °                                                                                                                   | '    | °    | '    | °                                                 | '             | h m                  | h m   | h m                                              | h m m          | h m m | h m m          | h m m                                             |      |      |    |
| 0   | 176                                                | 31.3 | -16  | 11.2 | 11                                                                                                                  | 39.5 |      | +24  | 55.7                                              | 61            | 60 N                 | 16 23 | 17 09                                            | 18 00          | 14 33 | 94             | 8 52                                              | 9    |      |    |
| 1   | 191                                                | 31.3 |      | 10.5 | 26                                                                                                                  | 08.2 | 97   |      | 49.6                                              | 61            | 58                   | 32    | 15                                               | 03             | 14 52 | 89             | 32                                                | 15   |      |    |
| 2   | 206                                                | 31.2 |      | 09.7 | 40                                                                                                                  | 37.0 | 98   |      | 43.4                                              | 62            | 56                   | 40    | 21                                               | 05             | 15 08 | 85             | 15                                                | 19   |      |    |
| 3   | 221                                                | 31.1 |      | 09.0 | 55                                                                                                                  | 05.7 | 97   |      | 37.1                                              | 63            | 54                   | 48    | 26                                               | 08             | 22    | 81             | 8 01                                              | 22   |      |    |
| 4   | 236                                                | 31.1 |      | 08.2 | 69                                                                                                                  | 34.6 | 99   |      | 30.6                                              | 65            | 52                   | 16 54 | 30                                               | 11             | 34    | 78             | 7 48                                              | 26   |      |    |
| 5   | 251                                                | 31.0 | -16  | 07.5 | 84                                                                                                                  | 03.4 | 98   | +24  | 24.0                                              | 66            | 50                   | 17 00 | 17 34                                            | 18 13          | 15 45 | 75             | 7 37                                              | 28   |      |    |
| 6   | 266                                                | 31.0 | -16  | 06.7 | 98                                                                                                                  | 32.3 | 99   | +24  | 17.3                                              | 67            | 45                   | 17 13 | 17 44                                            | 18 19          | 16 07 | 70             | 7 14                                              | 32   |      |    |
| 7   | 281                                                | 30.9 |      | 06.0 | 113                                                                                                                 | 01.2 | 99   |      | 10.5                                              | 68            | 40                   | 23    | 51                                               | 24             | 25    | 66             | 6 56                                              | 35   |      |    |
| 8   | 296                                                | 30.9 |      | 05.2 | 127                                                                                                                 | 30.1 | 99   | +24  | 03.5                                              | 70            | 35                   | 32    | 17 58                                            | 29             | 39    | 64             | 40                                                | 38   |      |    |
| 9   | 311                                                | 30.8 |      | 04.4 | 141                                                                                                                 | 59.1 | 100  | +23  | 56.4                                              | 71            | 30                   | 40    | 18 05                                            | 33             | 16 52 | 61             | 26                                                | 41   |      |    |
| 10  | 326                                                | 30.8 |      | 03.7 | 156                                                                                                                 | 28.1 | 100  |      | 49.2                                              | 72            | 20                   | 17 54 | 17                                               | 43             | 17 14 | 57             | 6 03                                              | 45   |      |    |
| 11  | 341                                                | 30.7 | -16  | 02.9 | 170                                                                                                                 | 57.1 | 100  | +23  | 41.8                                              | 74            | 10 N                 | 18 06 | 18 28                                            | 18 53          | 17 33 | 53             | 5 43                                              | 48   |      |    |
| 12  | 356                                                | 30.7 | -16  | 02.2 | 185                                                                                                                 | 26.2 | 101  | +23  | 34.3                                              | 75            | 0                    | 18 17 | 18 39                                            | 19 04          | 17 51 | 50             | 5 24                                              | 51   |      |    |
| 13  | 11                                                 | 30.6 |      | 01.4 | 199                                                                                                                 | 55.4 | 102  |      | 26.7                                              | 76            | 10 S                 | 29    | 18 51                                            | 17             | 18 08 | 47             | 5 05                                              | 54   |      |    |
| 14  | 26                                                 | 30.5 | -16  | 00.7 | 214                                                                                                                 | 24.5 | 101  |      | 19.0                                              | 77            | 20                   | 42    | 19 05                                            | 32             | 27    | 43             | 4 45                                              | 57   |      |    |
| 15  | 41                                                 | 30.5 | -15  | 59.9 | 228                                                                                                                 | 53.7 | 102  |      | 11.1                                              | 79            | 30                   | 18 56 | 22                                               | 19 52          | 18 49 | 38             | 21                                                | 61   |      |    |
| 16  | 56                                                 | 30.4 |      | 59.2 | 243                                                                                                                 | 23.0 | 103  | +23  | 03.2                                              | 79            | 35                   | 19 04 | 32                                               | 20 05          | 19 01 | 36             | 4 07                                              | 63   |      |    |
| 17  | 71                                                 | 30.4 | -15  | 58.4 | 257                                                                                                                 | 52.3 | 103  | +22  | 55.1                                              | 81            | 40                   | 19 14 | 19 44                                            | 20 20          | 19 16 | 33             | 3 51                                              | 65   |      |    |
| 18  | 86                                                 | 30.3 | -15  | 57.6 | 272                                                                                                                 | 21.6 | 103  | +22  | 46.8                                              | 83            | 45                   | 19 26 | 19 58                                            | 20 39          | 19 33 | 29             | 3 31                                              | 69   |      |    |
| 19  | 101                                                | 30.3 |      | 56.9 | 286                                                                                                                 | 50.9 | 103  |      | 38.5                                              | 83            | 50                   | 39    | 20 16                                            | 21 04          | 19 54 | 24             | 3 07                                              | 73   |      |    |
| 20  | 116                                                | 30.2 |      | 56.1 | 301                                                                                                                 | 20.4 | 105  |      | 30.0                                              | 85            | 52                   | 46    | 25                                               | 17             | 20 04 | 22             | 2 55                                              | 76   |      |    |
| 21  | 131                                                | 30.2 |      | 55.4 | 315                                                                                                                 | 49.8 | 104  |      | 21.5                                              | 85            | 54                   | 19 53 | 35                                               | 32             | 15    | 19             | 41                                                | 79   |      |    |
| 22  | 146                                                | 30.1 |      | 54.6 | 330                                                                                                                 | 19.3 | 105  |      | 12.8                                              | 87            | 56                   | 20 01 | 20 46                                            | 21 50          | 28    | 15             | 26                                                | 82   |      |    |
| 23  | 161                                                | 30.1 |      | 53.9 | 344                                                                                                                 | 48.8 | 105  | +22  | 04.0                                              | 88            | 58                   | 10    | 21 00                                            | 22 13          | 20 42 | 12             | 2 07                                              | 87   |      |    |
| 24  | 176                                                | 30.0 | -15  | 53.1 | 359                                                                                                                 | 18.4 | 106  | +21  | 55.0                                              | 90            | 60 S                 | 20 21 | 21 15                                            | 22 45          | 21 00 | 6              | 1 43                                              | 94   |      |    |
| UT  | ARIES                                              |      |      |      | VENUS                                                                                                               |      |      |      | MARTE                                             |               |                      |       | JÚPITER                                          |                |       |                | SATURNO                                           |      |      |    |
|     | PMG: 14 <sup>h</sup> 59 <sup>m</sup> 6             |      |      |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 47 <sup>m</sup>                                                                   |      |      |      | Mag: +0.8<br>PMG: 16 <sup>h</sup> 55 <sup>m</sup> |               |                      |       | Mag: -2.4<br>PMG: 2 <sup>h</sup> 17 <sup>m</sup> |                |       |                | Mag: -0.2<br>PMG: 21 <sup>h</sup> 29 <sup>m</sup> |      |      |    |
|     | hG ♈                                               |      | hG ♀ |      | Dec                                                                                                                 |      | hG ♂ |      | Dec                                               |               | hG ♃                 |       | Dec                                              |                | hG ♄  |                | Dec                                               |      |      |    |
| h   | °                                                  | '    | °    | '    | °                                                                                                                   | '    | °    | '    | °                                                 | '             | °                    | '     | °                                                | '              | °     | '              | °                                                 | '    |      |    |
| 0   | 134                                                | 29.6 | 138  | 12.1 | -2                                                                                                                  | 25.0 | 105  | 52.0 | +12                                               | 27.9          | 325                  | 38.0  | +6                                               | 15.9           | 36    | 41.7           | +22                                               | 39.1 |      |    |
| 1   | 149                                                | 32.1 | 153  | 11.9 |                                                                                                                     | 23.7 | 120  | 53.0 |                                                   | 28.4          | 340                  | 40.7  |                                                  | 16.0           | 51    | 44.3           |                                                   | 39.1 |      |    |
| 2   | 164                                                | 34.5 | 168  | 11.7 |                                                                                                                     | 22.4 | 135  | 53.9 |                                                   | 29.0          | 355                  | 43.4  |                                                  | 16.1           | 66    | 46.9           |                                                   | 39.1 |      |    |
| 3   | 179                                                | 37.0 | 183  | 11.5 |                                                                                                                     | 21.1 | 150  | 54.9 |                                                   | 29.6          | 10                   | 46.1  |                                                  | 16.2           | 81    | 49.5           |                                                   | 39.1 |      |    |
| 4   | 194                                                | 39.5 | 198  | 11.3 |                                                                                                                     | 19.8 | 165  | 55.8 |                                                   | 30.2          | 25                   | 48.8  |                                                  | 16.3           | 96    | 52.2           |                                                   | 39.1 |      |    |
| 5   | 209                                                | 41.9 | 213  | 11.1 | -2                                                                                                                  | 18.5 | 180  | 56.8 | +12                                               | 30.8          | 40                   | 51.4  | +6                                               | 16.4           | 111   | 54.8           | +22                                               | 39.1 |      |    |
| 6   | 224                                                | 44.4 | 228  | 10.9 | -2                                                                                                                  | 17.2 | 195  | 57.7 | +12                                               | 31.4          | 55                   | 54.1  | +6                                               | 16.5           | 126   | 57.4           | +22                                               | 39.2 |      |    |
| 7   | 239                                                | 46.9 | 243  | 10.7 |                                                                                                                     | 15.9 | 210  | 58.7 |                                                   | 32.0          | 70                   | 56.8  |                                                  | 16.6           | 142   | 00.0           |                                                   | 39.2 |      |    |
| 8   | 254                                                | 49.3 | 258  | 10.5 |                                                                                                                     | 14.5 | 225  | 59.6 |                                                   | 32.5          | 85                   | 59.5  |                                                  | 16.8           | 157   | 02.6           |                                                   | 39.2 |      |    |
| 9   | 269                                                | 51.8 | 273  | 10.2 |                                                                                                                     | 13.2 | 241  | 00.6 |                                                   | 33.1          | 101                  | 02.2  |                                                  | 16.9           | 172   | 05.2           |                                                   | 39.2 |      |    |
| 10  | 284                                                | 54.3 | 288  | 10.0 |                                                                                                                     | 11.9 | 256  | 01.5 |                                                   | 33.7          | 116                  | 04.9  |                                                  | 17.0           | 187   | 07.8           |                                                   | 39.2 |      |    |
| 11  | 299                                                | 56.7 | 303  | 09.8 | -2                                                                                                                  | 10.6 | 271  | 02.5 | +12                                               | 34.3          | 131                  | 07.5  | +6                                               | 17.1           | 202   | 10.4           | +22                                               | 39.2 |      |    |
| 12  | 314                                                | 59.2 | 318  | 09.6 | -2                                                                                                                  | 09.3 | 286  | 03.4 | +12                                               | 34.9          | 146                  | 10.2  | +6                                               | 17.2           | 217   | 13.0           | +22                                               | 39.2 |      |    |
| 13  | 330                                                | 01.6 | 333  | 09.4 |                                                                                                                     | 08.0 | 301  | 04.4 |                                                   | 35.5          | 161                  | 12.9  |                                                  | 17.3           | 232   | 15.7           |                                                   | 39.2 |      |    |
| 14  | 345                                                | 04.1 | 348  | 09.2 |                                                                                                                     | 06.7 | 316  | 05.3 |                                                   | 36.0          | 176                  | 15.6  |                                                  | 17.4           | 247   | 18.3           |                                                   | 39.3 |      |    |
| 15  | 0                                                  | 06.6 | 3    | 09.0 |                                                                                                                     | 05.4 | 331  | 06.3 |                                                   | 36.6          | 191                  | 18.3  |                                                  | 17.5           | 262   | 20.9           |                                                   | 39.3 |      |    |
| 16  | 15                                                 | 09.0 | 18   | 08.8 |                                                                                                                     | 04.1 | 346  | 07.2 |                                                   | 37.2          | 206                  | 21.0  |                                                  | 17.6           | 277   | 23.5           |                                                   | 39.3 |      |    |
| 17  | 30                                                 | 11.5 | 33   | 08.6 | -2                                                                                                                  | 02.8 | 1    | 08.1 | +12                                               | 37.8          | 221                  | 23.6  | +6                                               | 17.7           | 292   | 26.1           | +22                                               | 39.3 |      |    |
| 18  | 45                                                 | 14.0 | 48   | 08.4 | -2                                                                                                                  | 01.5 | 16   | 09.1 | +12                                               | 38.4          | 236                  | 26.3  | +6                                               | 17.8           | 307   | 28.7           | +22                                               | 39.3 |      |    |
| 19  | 60                                                 | 16.4 | 63   | 08.2 | -2                                                                                                                  | 00.2 | 31   | 10.0 |                                                   | 39.0          | 251                  | 29.0  |                                                  | 17.9           | 322   | 31.3           |                                                   | 39.3 |      |    |
| 20  | 75                                                 | 18.9 | 78   | 08.0 | -1                                                                                                                  | 58.9 | 46   | 11.0 |                                                   | 39.5          | 266                  | 31.7  |                                                  | 18.0           | 337   | 33.9           |                                                   | 39.3 |      |    |
| 21  | 90                                                 | 21.4 | 93   | 07.8 |                                                                                                                     | 57.6 | 61   | 11.9 |                                                   | 40.1          | 281                  | 34.4  |                                                  | 18.1           | 352   | 36.5           |                                                   | 39.4 |      |    |
| 22  | 105                                                | 23.8 | 108  | 07.6 |                                                                                                                     | 56.2 | 76   | 12.9 |                                                   | 40.7          | 296                  | 37.1  |                                                  | 18.2           | 7     | 39.1           |                                                   | 39.4 |      |    |
| 23  | 120                                                | 26.3 | 123  | 07.4 |                                                                                                                     | 54.9 | 91   | 13.8 |                                                   | 41.3          | 311                  | 39.8  |                                                  | 18.3           | 22    | 41.8           |                                                   | 39.4 |      |    |
| 24  | 135                                                | 28.8 | 138  | 07.1 | -1                                                                                                                  | 53.6 | 106  | 14.8 | +12                                               | 41.9          | 326                  | 42.4  | +6                                               | 18.4           | 37    | 44.4           | +22                                               | 39.4 |      |    |
| Dif | —                                                  |      |      |      | -2                                                                                                                  |      | +13  |      | +9                                                |               | +6                   |       | +27                                              |                | +1    |                | +26                                               |      | 0    |    |

| UT | SOL                                                |      |     |      | LUNA                                                                                                                                                               |                     |     |                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       |      | Puesta de Luna |   |    |   |
|----|----------------------------------------------------|------|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------|--------------------------|------|---------------|----------------|-------|------|----------------|---|----|---|
|    | SD: 16/2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 0 |      |     |      | Edad: 15 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 56/0<br>12 <sup>h</sup> : 56/2<br>20 <sup>h</sup> : 56/3<br>PMG: 0 <sup>h</sup> 03 <sup>m</sup> R°: 49 <sup>m</sup> |                     |     |                     |         |                          |      |               |                |       |      |                |   |    |   |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                               |                     | Dif |                     |         | Dec                      |      |               | Dif            |       | Hora |                |   | R° |   |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                  | '                   | °   | '                   | °       | '                        | h    | m             | h              | m     | h    | m              | h | m  | m |
| 0  | 176                                                | 30.0 | -15 | 53.1 | 359                                                                                                                                                                | 18.4                | +21 | 55.0                | 60 N    | 58                       | 6 27 | 7 17          | 8 03           | 16 07 | 95   | 9 01           | 5 |    |   |
| 1  | 191                                                | 30.0 |     | 52.3 | 13                                                                                                                                                                 | 48.0 <sup>106</sup> |     | 46.0 <sup>90</sup>  | 58      | 24                       | 11   | 7 54          | 21 90          | 8 47  | 9    |                |   |    |   |
| 2  | 206                                                | 30.0 |     | 51.6 | 28                                                                                                                                                                 | 17.7 <sup>107</sup> |     | 36.8 <sup>92</sup>  | 56      | 22                       | 06   | 46            | 33 86          | 34    | 14   |                |   |    |   |
| 3  | 221                                                | 29.9 |     | 50.8 | 42                                                                                                                                                                 | 47.4 <sup>107</sup> |     | 27.5 <sup>93</sup>  | 54      | 19                       | 7 01 | 39            | 43 83          | 23    | 17   |                |   |    |   |
| 4  | 236                                                | 29.9 |     | 50.1 | 57                                                                                                                                                                 | 17.2 <sup>108</sup> |     | 18.1 <sup>94</sup>  | 52      | 17                       | 6 57 | 33            | 16 52          | 80    | 14   | 19             |   |    |   |
| 5  | 251                                                | 29.8 | -15 | 49.3 | 71                                                                                                                                                                 | 47.0 <sup>108</sup> | +21 | 08.6 <sup>95</sup>  | 50      | 6 14                     | 6 53 | 7 27          | 17 00          | 77    | 8 05 | 22             |   |    |   |
| 6  | 266                                                | 29.8 | -15 | 48.5 | 86                                                                                                                                                                 | 16.8 <sup>108</sup> | +20 | 59.0 <sup>96</sup>  | 45      | 6 09                     | 6 44 | 7 15          | 17 17          | 72    | 7 46 | 27             |   |    |   |
| 7  | 281                                                | 29.7 |     | 47.8 | 100                                                                                                                                                                | 46.7 <sup>109</sup> |     | 49.3 <sup>97</sup>  | 40      | 6 04                     | 36   | 7 04          | 31 68          | 31    | 31   |                |   |    |   |
| 8  | 296                                                | 29.7 |     | 47.0 | 115                                                                                                                                                                | 16.6 <sup>110</sup> |     | 39.4 <sup>99</sup>  | 35      | 5 59                     | 29   | 6 55          | 43 64          | 18    | 34   |                |   |    |   |
| 9  | 311                                                | 29.6 |     | 46.2 | 129                                                                                                                                                                | 46.6 <sup>109</sup> |     | 29.5 <sup>99</sup>  | 30      | 54                       | 23   | 48            | 17 53          | 62    | 7 07 | 37             |   |    |   |
| 10 | 326                                                | 29.6 |     | 45.5 | 144                                                                                                                                                                | 16.7 <sup>111</sup> |     | 19.4 <sup>101</sup> | 20      | 45                       | 11   | 34            | 18 11          | 56    | 6 48 | 41             |   |    |   |
| 11 | 341                                                | 29.5 | -15 | 44.7 | 158                                                                                                                                                                | 46.7 <sup>110</sup> | +20 | 09.3 <sup>101</sup> | 10 N    | 5 35                     | 6 00 | 6 22          | 18 26          | 52    | 6 31 | 45             |   |    |   |
| 12 | 356                                                | 29.5 | -15 | 43.9 | 173                                                                                                                                                                | 16.9 <sup>112</sup> | +19 | 59.0 <sup>103</sup> | 0       | 5 24                     | 5 49 | 6 11          | 18 41          | 48    | 6 15 | 49             |   |    |   |
| 13 | 11                                                 | 29.4 |     | 43.2 | 187                                                                                                                                                                | 47.0 <sup>111</sup> |     | 48.6 <sup>104</sup> | 10 S    | 5 12                     | 37   | 5 59          | 18 55          | 44    | 5 59 | 52             |   |    |   |
| 14 | 26                                                 | 29.4 |     | 42.4 | 202                                                                                                                                                                | 17.3 <sup>113</sup> |     | 38.1 <sup>105</sup> | 20      | 4 56                     | 23   | 47            | 19 10          | 40    | 42   | 56             |   |    |   |
| 15 | 41                                                 | 29.4 |     | 41.6 | 216                                                                                                                                                                | 47.5 <sup>112</sup> |     | 27.5 <sup>106</sup> | 30      | 36                       | 5 07 | 32            | 27 35          | 22    | 61   |                |   |    |   |
| 16 | 56                                                 | 29.3 |     | 40.9 | 231                                                                                                                                                                | 17.8 <sup>113</sup> |     | 16.9 <sup>106</sup> | 35      | 24                       | 4 57 | 24            | 37 32          | 5 10  | 64   |                |   |    |   |
| 17 | 71                                                 | 29.3 | -15 | 40.1 | 245                                                                                                                                                                | 48.2 <sup>114</sup> | +19 | 06.1 <sup>108</sup> | 40      | 4 09                     | 4 45 | 5 14          | 19 49          | 28    | 4 56 | 68             |   |    |   |
| 18 | 86                                                 | 29.2 | -15 | 39.3 | 260                                                                                                                                                                | 18.6 <sup>114</sup> | +18 | 55.2 <sup>109</sup> | 45      | 3 50                     | 4 30 | 5 03          | 20 02          | 24    | 4 40 | 72             |   |    |   |
| 19 | 101                                                | 29.2 |     | 38.6 | 274                                                                                                                                                                | 49.0 <sup>114</sup> |     | 44.2 <sup>110</sup> | 50      | 24                       | 12   | 4 49          | 18 20          | 20    | 20   | 77             |   |    |   |
| 20 | 116                                                | 29.1 |     | 37.8 | 289                                                                                                                                                                | 19.5 <sup>115</sup> |     | 33.1 <sup>111</sup> | 52      | 3 12                     | 4 03 | 43            | 26 17          | 11    | 79   |                |   |    |   |
| 21 | 131                                                | 29.1 |     | 37.0 | 303                                                                                                                                                                | 50.1 <sup>116</sup> |     | 21.9 <sup>112</sup> | 54      | 2 57                     | 3 54 | 36            | 34 15          | 4 00  | 82   |                |   |    |   |
| 22 | 146                                                | 29.1 |     | 36.3 | 318                                                                                                                                                                | 20.7 <sup>116</sup> | +18 | 10.6 <sup>113</sup> | 56      | 39                       | 42   | 28            | 43 12          | 3 48  | 86   |                |   |    |   |
| 23 | 161                                                | 29.0 |     | 35.5 | 332                                                                                                                                                                | 51.3 <sup>116</sup> | +17 | 59.2 <sup>114</sup> | 58      | 2 16                     | 29   | 19            | 20 54          | 8     | 34   | 90             |   |    |   |
| 24 | 176                                                | 29.0 | -15 | 34.7 | 347                                                                                                                                                                | 22.0 <sup>117</sup> | +17 | 47.7 <sup>115</sup> | 60 S    | 1 44                     | 3 13 | 4 08          | 21 06          | 4     | 3 17 | 95             |   |    |   |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG 14 <sup>h</sup> 55 <sup>m</sup> 6 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |      | Mag: +0.8<br>PMG: 16 <sup>h</sup> 54 <sup>m</sup> |      | Mag: -2.4<br>PMG: 2 <sup>h</sup> 13 <sup>m</sup> |      | Mag: -0.2<br>PMG: 21 <sup>h</sup> 25 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  |      | hG ♀ Dec                                          |      | hG ♂ Dec                                          |      | hG ♃ Dec                                         |      | hG ♄ Dec                                          |      |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 135                                   | 28.8 | 138                                               | 07.1 | -1                                                | 53.6 | 106                                              | 14.8 | +12                                               | 41.9 | 326 | 42.4 | +6 | 18.4 | 37  | 44.4 | +22 | 39.4 |
| 1   | 150                                   | 31.2 | 153                                               | 06.9 |                                                   | 52.3 | 121                                              | 15.7 |                                                   | 42.5 | 341 | 45.1 |    | 18.5 | 52  | 47.0 |     | 39.4 |
| 2   | 165                                   | 33.7 | 168                                               | 06.7 |                                                   | 51.0 | 136                                              | 16.7 |                                                   | 43.0 | 356 | 47.8 |    | 18.6 | 67  | 49.6 |     | 39.4 |
| 3   | 180                                   | 36.1 | 183                                               | 06.5 |                                                   | 49.7 | 151                                              | 17.6 |                                                   | 43.6 | 11  | 50.5 |    | 18.7 | 82  | 52.2 |     | 39.4 |
| 4   | 195                                   | 38.6 | 198                                               | 06.3 |                                                   | 48.4 | 166                                              | 18.6 |                                                   | 44.2 | 26  | 53.2 |    | 18.8 | 97  | 54.8 |     | 39.4 |
| 5   | 210                                   | 41.1 | 213                                               | 06.1 | -1                                                | 47.1 | 181                                              | 19.5 | +12                                               | 44.8 | 41  | 55.9 | +6 | 18.9 | 112 | 57.4 | +22 | 39.5 |
| 6   | 225                                   | 43.5 | 228                                               | 05.9 | -1                                                | 45.8 | 196                                              | 20.5 | +12                                               | 45.4 | 56  | 58.6 | +6 | 19.0 | 128 | 00.0 | +22 | 39.5 |
| 7   | 240                                   | 46.0 | 243                                               | 05.7 |                                                   | 44.5 | 211                                              | 21.4 |                                                   | 45.9 | 72  | 01.2 |    | 19.1 | 143 | 02.6 |     | 39.5 |
| 8   | 255                                   | 48.5 | 258                                               | 05.5 |                                                   | 43.2 | 226                                              | 22.4 |                                                   | 46.5 | 87  | 03.9 |    | 19.2 | 158 | 05.2 |     | 39.5 |
| 9   | 270                                   | 50.9 | 273                                               | 05.3 |                                                   | 41.9 | 241                                              | 23.3 |                                                   | 47.1 | 102 | 06.6 |    | 19.3 | 173 | 07.8 |     | 39.5 |
| 10  | 285                                   | 53.4 | 288                                               | 05.1 |                                                   | 40.6 | 256                                              | 24.2 |                                                   | 47.7 | 117 | 09.3 |    | 19.4 | 188 | 10.4 |     | 39.5 |
| 11  | 300                                   | 55.9 | 303                                               | 04.9 | -1                                                | 39.2 | 271                                              | 25.2 | +12                                               | 48.3 | 132 | 12.0 | +6 | 19.5 | 203 | 13.1 | +22 | 39.5 |
| 12  | 315                                   | 58.3 | 318                                               | 04.7 | -1                                                | 37.9 | 286                                              | 26.1 | +12                                               | 48.8 | 147 | 14.7 | +6 | 19.6 | 218 | 15.7 | +22 | 39.6 |
| 13  | 331                                   | 00.8 | 333                                               | 04.5 |                                                   | 36.6 | 301                                              | 27.1 |                                                   | 49.4 | 162 | 17.4 |    | 19.7 | 233 | 18.3 |     | 39.6 |
| 14  | 346                                   | 03.3 | 348                                               | 04.3 |                                                   | 35.3 | 316                                              | 28.0 |                                                   | 50.0 | 177 | 20.1 |    | 19.8 | 248 | 20.9 |     | 39.6 |
| 15  | 1                                     | 05.7 | 3                                                 | 04.1 |                                                   | 34.0 | 331                                              | 29.0 |                                                   | 50.6 | 192 | 22.8 |    | 19.9 | 263 | 23.5 |     | 39.6 |
| 16  | 16                                    | 08.2 | 18                                                | 03.9 |                                                   | 32.7 | 346                                              | 29.9 |                                                   | 51.2 | 207 | 25.4 |    | 20.0 | 278 | 26.1 |     | 39.6 |
| 17  | 31                                    | 10.6 | 33                                                | 03.7 | -1                                                | 31.4 | 1                                                | 30.9 | +12                                               | 51.7 | 222 | 28.1 | +6 | 20.2 | 293 | 28.7 | +22 | 39.6 |
| 18  | 46                                    | 13.1 | 48                                                | 03.5 | -1                                                | 30.1 | 16                                               | 31.8 | +12                                               | 52.3 | 237 | 30.8 | +6 | 20.3 | 308 | 31.3 | +22 | 39.6 |
| 19  | 61                                    | 15.6 | 63                                                | 03.3 |                                                   | 28.8 | 31                                               | 32.8 |                                                   | 52.9 | 252 | 33.5 |    | 20.4 | 323 | 33.9 |     | 39.6 |
| 20  | 76                                    | 18.0 | 78                                                | 03.1 |                                                   | 27.5 | 46                                               | 33.7 |                                                   | 53.5 | 267 | 36.2 |    | 20.5 | 338 | 36.5 |     | 39.7 |
| 21  | 91                                    | 20.5 | 93                                                | 02.9 |                                                   | 26.2 | 61                                               | 34.6 |                                                   | 54.1 | 282 | 38.9 |    | 20.6 | 353 | 39.1 |     | 39.7 |
| 22  | 106                                   | 23.0 | 108                                               | 02.7 |                                                   | 24.8 | 76                                               | 35.6 |                                                   | 54.6 | 297 | 41.6 |    | 20.7 | 8   | 41.7 |     | 39.7 |
| 23  | 121                                   | 25.4 | 123                                               | 02.5 |                                                   | 23.5 | 91                                               | 36.5 |                                                   | 55.2 | 312 | 44.3 |    | 20.8 | 23  | 44.3 |     | 39.7 |
| 24  | 136                                   | 27.9 | 138                                               | 02.3 | -1                                                | 22.2 | 106                                              | 37.5 | +12                                               | 55.8 | 327 | 47.0 | +6 | 20.9 | 38  | 46.9 | +22 | 39.7 |
| Dif | —                                     |      | -2                                                |      | +13                                               |      | +9                                               |      | +6                                                |      | +27 |      | +1 |      | +26 |      | 0   |      |



| UT  | SOL                                                |      |                                                   | ☉ LUNA                                                                                                                                                                |     |                                                   | Latitud | Puesta de Sol       | Final del crepúsculo                             |       |         | Salida de Luna                                    |          | Puesta de Luna |     |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|---------------------|--------------------------------------------------|-------|---------|---------------------------------------------------|----------|----------------|-----|------|-----|------|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 1 |      |                                                   | Edad: 16 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 56 <sup>s</sup> 5<br>12 <sup>h</sup> : 56 <sup>s</sup> 7<br>20 <sup>h</sup> : 56 <sup>s</sup> 9<br>R°: 48 <sup>m</sup> |     |                                                   |         |                     |                                                  |       |         |                                                   |          |                |     |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                  | Dif | Dec                                               |         |                     | Dif                                              | Civil | Náutico | Hora                                              | R°       | Hora           | R°  |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                     | °   | '                                                 | °       | '                   | h m                                              | h m   | h m     | h m m                                             | h m m    | h m m          |     |      |     |      |
| 0   | 176                                                | 29.0 | -15                                               | 34.7                                                                                                                                                                  | 347 | 22.0                                              | +17     | 47.7                | 60 N                                             | 16 28 | 17 14   | 18 04                                             | 17 42 93 | 9 06 3         |     |      |     |      |
| 1   | 191                                                | 28.9 |                                                   | 33.9                                                                                                                                                                  | 1   | 52.7 <sup>117</sup>                               |         | 36.2 <sup>115</sup> | 58                                               | 37    | 20      | 07                                                | 51 89    | 8 56 7         |     |      |     |      |
| 2   | 206                                                | 28.9 |                                                   | 33.2                                                                                                                                                                  | 16  | 23.4 <sup>117</sup>                               |         | 24.5 <sup>117</sup> | 56                                               | 45    | 25      | 09                                                | 17 59 85 | 48 10          |     |      |     |      |
| 3   | 221                                                | 28.9 |                                                   | 32.4                                                                                                                                                                  | 30  | 54.3 <sup>119</sup>                               |         | 12.7 <sup>118</sup> | 54                                               | 52    | 29      | 12                                                | 18 06 82 | 40 13          |     |      |     |      |
| 4   | 236                                                | 28.8 |                                                   | 31.6                                                                                                                                                                  | 45  | 25.1 <sup>118</sup>                               | +17     | 00.9 <sup>118</sup> | 52                                               | 16 58 | 34      | 14                                                | 12 80    | 33 16          |     |      |     |      |
| 5   | 251                                                | 28.8 | -15                                               | 30.8                                                                                                                                                                  | 59  | 56.0 <sup>119</sup>                               | +16     | 49.0 <sup>119</sup> | 50                                               | 17 03 | 17 38   | 18 16                                             | 18 17 78 | 8 27 18        |     |      |     |      |
| 6   | 266                                                | 28.8 | -15                                               | 30.1                                                                                                                                                                  | 74  | 27.0 <sup>120</sup>                               | +16     | 36.9 <sup>121</sup> | 45                                               | 17 15 | 17 46   | 18 21                                             | 18 29 72 | 8 13 23        |     |      |     |      |
| 7   | 281                                                | 28.7 |                                                   | 29.3                                                                                                                                                                  | 88  | 57.9 <sup>119</sup>                               |         | 24.8 <sup>121</sup> | 40                                               | 25    | 17 54   | 26                                                | 39 68    | 8 02 27        |     |      |     |      |
| 8   | 296                                                | 28.7 |                                                   | 28.5                                                                                                                                                                  | 103 | 29.0 <sup>121</sup>                               |         | 12.6 <sup>122</sup> | 35                                               | 34    | 18 00   | 30                                                | 47 64    | 7 52 31        |     |      |     |      |
| 9   | 311                                                | 28.6 |                                                   | 27.8                                                                                                                                                                  | 118 | 00.0 <sup>120</sup>                               | +16     | 00.3 <sup>123</sup> | 30                                               | 42    | 06      | 35                                                | 18 55 61 | 44 33          |     |      |     |      |
| 10  | 326                                                | 28.6 |                                                   | 27.0                                                                                                                                                                  | 132 | 31.2 <sup>122</sup>                               | +15     | 47.9 <sup>124</sup> | 20                                               | 17 55 | 18      | 44                                                | 19 07 56 | 29 38          |     |      |     |      |
| 11  | 341                                                | 28.6 | -15                                               | 26.2                                                                                                                                                                  | 147 | 02.3 <sup>121</sup>                               | +15     | 35.5 <sup>124</sup> | 10 N                                             | 18 07 | 18 28   | 18 53                                             | 19 18 51 | 7 16 43        |     |      |     |      |
| 12  | 356                                                | 28.5 | -15                                               | 25.4                                                                                                                                                                  | 161 | 33.5 <sup>122</sup>                               | +15     | 22.9 <sup>126</sup> | 0                                                | 18 18 | 18 39   | 19 04                                             | 19 29 46 | 7 04 47        |     |      |     |      |
| 13  | 11                                                 | 28.5 |                                                   | 24.6                                                                                                                                                                  | 176 | 04.8 <sup>123</sup>                               | +15     | 10.3 <sup>126</sup> | 10 S                                             | 29    | 18 51   | 16                                                | 39 42    | 6 51 52        |     |      |     |      |
| 14  | 26                                                 | 28.5 |                                                   | 23.9                                                                                                                                                                  | 190 | 36.0 <sup>122</sup>                               | +14     | 57.6 <sup>127</sup> | 20                                               | 41    | 19 04   | 31                                                | 19 50 37 | 38 56          |     |      |     |      |
| 15  | 41                                                 | 28.4 |                                                   | 23.1                                                                                                                                                                  | 205 | 07.4 <sup>124</sup>                               |         | 44.8 <sup>128</sup> | 30                                               | 18 55 | 20      | 19 50                                             | 20 02 32 | 23 61          |     |      |     |      |
| 16  | 56                                                 | 28.4 |                                                   | 22.3                                                                                                                                                                  | 219 | 38.7 <sup>123</sup>                               |         | 31.9 <sup>129</sup> | 35                                               | 19 03 | 30      | 20 02                                             | 09 29    | 14 64          |     |      |     |      |
| 17  | 71                                                 | 28.4 | -15                                               | 21.5                                                                                                                                                                  | 234 | 10.1 <sup>124</sup>                               | +14     | 19.0 <sup>129</sup> | 40                                               | 19 12 | 19 41   | 20 17                                             | 20 17 26 | 6 04 67        |     |      |     |      |
| 18  | 86                                                 | 28.3 | -15                                               | 20.8                                                                                                                                                                  | 248 | 41.6 <sup>125</sup>                               | +14     | 06.0 <sup>130</sup> | 45                                               | 19 23 | 19 55   | 20 36                                             | 20 26 22 | 5 52 72        |     |      |     |      |
| 19  | 101                                                | 28.3 |                                                   | 20.0                                                                                                                                                                  | 263 | 13.0 <sup>124</sup>                               | +13     | 52.9 <sup>131</sup> | 50                                               | 36    | 20 13   | 21 00                                             | 38 16    | 37 77          |     |      |     |      |
| 20  | 116                                                | 28.3 |                                                   | 19.2                                                                                                                                                                  | 277 | 44.6 <sup>126</sup>                               |         | 39.7 <sup>132</sup> | 52                                               | 42    | 21      | 12                                                | 43 14    | 30 80          |     |      |     |      |
| 21  | 131                                                | 28.2 |                                                   | 18.4                                                                                                                                                                  | 292 | 16.1 <sup>125</sup>                               |         | 26.5 <sup>132</sup> | 54                                               | 49    | 31      | 26                                                | 49 11    | 22 83          |     |      |     |      |
| 22  | 146                                                | 28.2 |                                                   | 17.6                                                                                                                                                                  | 306 | 47.7 <sup>126</sup>                               | +13     | 13.2 <sup>133</sup> | 56                                               | 19 57 | 42      | 21 43                                             | 20 55 9  | 14 86          |     |      |     |      |
| 23  | 161                                                | 28.2 |                                                   | 16.8                                                                                                                                                                  | 321 | 19.3 <sup>126</sup>                               | +12     | 59.8 <sup>134</sup> | 58                                               | 20 05 | 20 54   | 22 05                                             | 21 02 6  | 5 04 90        |     |      |     |      |
| 24  | 176                                                | 28.1 | -15                                               | 16.1                                                                                                                                                                  | 335 | 51.0 <sup>127</sup>                               | +12     | 46.3 <sup>135</sup> | 60 S                                             | 20 15 | 21 09   | 22 33                                             | 21 10 2  | 4 52 95        |     |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                       |     | MARTE                                             |         |                     | JÚPITER                                          |       |         | SATURNO                                           |          |                |     |      |     |      |
|     | PMG: 14 <sup>h</sup> 51 <sup>m</sup> 7             |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |                                                                                                                                                                       |     | Mag: +0.8<br>PMG: 16 <sup>h</sup> 52 <sup>m</sup> |         |                     | Mag: -2.5<br>PMG: 2 <sup>h</sup> 08 <sup>m</sup> |       |         | Mag: -0.2<br>PMG: 21 <sup>h</sup> 21 <sup>m</sup> |          |                |     |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                   |     | hG ♂                                              | Dec     |                     | hG ♃                                             | Dec   |         | hG ♄                                              | Dec      |                |     |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                     | °   | '                                                 | °       | '                   | °                                                | '     | °       | '                                                 | °        | '              |     |      |     |      |
| 0   | 136                                                | 27.9 | 138                                               | 02.3                                                                                                                                                                  | -1  | 22.2                                              | 106     | 37.5                | +12                                              | 55.8  | 327     | 47.0                                              | +6       | 20.9           | 38  | 46.9 | +22 | 39.7 |
| 1   | 151                                                | 30.4 | 153                                               | 02.1                                                                                                                                                                  |     | 20.9                                              | 121     | 38.4                |                                                  | 56.4  | 342     | 49.7                                              |          | 21.0           | 53  | 49.5 |     | 39.7 |
| 2   | 166                                                | 32.8 | 168                                               | 01.9                                                                                                                                                                  |     | 19.6                                              | 136     | 39.4                |                                                  | 57.0  | 357     | 52.4                                              |          | 21.1           | 68  | 52.1 |     | 39.7 |
| 3   | 181                                                | 35.3 | 183                                               | 01.7                                                                                                                                                                  |     | 18.3                                              | 151     | 40.3                |                                                  | 57.5  | 12      | 55.0                                              |          | 21.2           | 83  | 54.7 |     | 39.8 |
| 4   | 196                                                | 37.7 | 198                                               | 01.5                                                                                                                                                                  |     | 17.0                                              | 166     | 41.3                |                                                  | 58.1  | 27      | 57.7                                              |          | 21.3           | 98  | 57.3 |     | 39.8 |
| 5   | 211                                                | 40.2 | 213                                               | 01.3                                                                                                                                                                  | -1  | 15.7                                              | 181     | 42.2                | +12                                              | 58.7  | 43      | 00.4                                              | +6       | 21.4           | 113 | 59.9 | +22 | 39.8 |
| 6   | 226                                                | 42.7 | 228                                               | 01.1                                                                                                                                                                  | -1  | 14.4                                              | 196     | 43.1                | +12                                              | 59.3  | 58      | 03.1                                              | +6       | 21.5           | 129 | 02.5 | +22 | 39.8 |
| 7   | 241                                                | 45.1 | 243                                               | 00.9                                                                                                                                                                  |     | 13.1                                              | 211     | 44.1                | +12                                              | 59.8  | 73      | 05.8                                              |          | 21.6           | 144 | 05.2 |     | 39.8 |
| 8   | 256                                                | 47.6 | 258                                               | 00.8                                                                                                                                                                  |     | 11.8                                              | 226     | 45.0                | +13                                              | 00.4  | 88      | 08.5                                              |          | 21.7           | 159 | 07.8 |     | 39.8 |
| 9   | 271                                                | 50.1 | 273                                               | 00.6                                                                                                                                                                  |     | 10.4                                              | 241     | 46.0                |                                                  | 01.0  | 103     | 11.2                                              |          | 21.8           | 174 | 10.4 |     | 39.8 |
| 10  | 286                                                | 52.5 | 288                                               | 00.4                                                                                                                                                                  |     | 09.1                                              | 256     | 46.9                |                                                  | 01.6  | 118     | 13.9                                              |          | 21.9           | 189 | 13.0 |     | 39.8 |
| 11  | 301                                                | 55.0 | 303                                               | 00.2                                                                                                                                                                  | -1  | 07.8                                              | 271     | 47.8                | +13                                              | 02.2  | 133     | 16.6                                              | +6       | 22.0           | 204 | 15.6 | +22 | 39.9 |
| 12  | 316                                                | 57.5 | 318                                               | 00.0                                                                                                                                                                  | -1  | 06.5                                              | 286     | 48.8                | +13                                              | 02.7  | 148     | 19.3                                              | +6       | 22.2           | 219 | 18.2 | +22 | 39.9 |
| 13  | 331                                                | 59.9 | 332                                               | 59.8                                                                                                                                                                  |     | 05.2                                              | 301     | 49.7                |                                                  | 03.3  | 163     | 22.0                                              |          | 22.3           | 234 | 20.8 |     | 39.9 |
| 14  | 347                                                | 02.4 | 347                                               | 59.6                                                                                                                                                                  |     | 03.9                                              | 316     | 50.7                |                                                  | 03.9  | 178     | 24.7                                              |          | 22.4           | 249 | 23.4 |     | 39.9 |
| 15  | 2                                                  | 04.9 | 2                                                 | 59.4                                                                                                                                                                  |     | 02.6                                              | 331     | 51.6                |                                                  | 04.5  | 193     | 27.4                                              |          | 22.5           | 264 | 26.0 |     | 39.9 |
| 16  | 17                                                 | 07.3 | 17                                                | 59.2                                                                                                                                                                  | -1  | 01.3                                              | 346     | 52.6                |                                                  | 05.0  | 208     | 30.1                                              |          | 22.6           | 279 | 28.6 |     | 39.9 |
| 17  | 32                                                 | 09.8 | 32                                                | 59.0                                                                                                                                                                  | -1  | 00.0                                              | 1       | 53.5                | +13                                              | 05.6  | 223     | 32.8                                              | +6       | 22.7           | 294 | 31.2 | +22 | 39.9 |
| 18  | 47                                                 | 12.2 | 47                                                | 58.8                                                                                                                                                                  | -0  | 58.7                                              | 16      | 54.4                | +13                                              | 06.2  | 238     | 35.5                                              | +6       | 22.8           | 309 | 33.8 | +22 | 40.0 |
| 19  | 62                                                 | 14.7 | 62                                                | 58.6                                                                                                                                                                  |     | 57.3                                              | 31      | 55.4                |                                                  | 06.8  | 253     | 38.1                                              |          | 22.9           | 324 | 36.4 |     | 40.0 |
| 20  | 77                                                 | 17.2 | 77                                                | 58.4                                                                                                                                                                  |     | 56.0                                              | 46      | 56.3                |                                                  | 07.3  | 268     | 40.8                                              |          | 23.0           | 339 | 39.0 |     | 40.0 |
| 21  | 92                                                 | 19.6 | 92                                                | 58.2                                                                                                                                                                  |     | 54.7                                              | 61      | 57.3                |                                                  | 07.9  | 283     | 43.5                                              |          | 23.1           | 354 | 41.6 |     | 40.0 |
| 22  | 107                                                | 22.1 | 107                                               | 58.0                                                                                                                                                                  |     | 53.4                                              | 76      | 58.2                |                                                  | 08.5  | 298     | 46.2                                              |          | 23.2           | 9   | 44.2 |     | 40.0 |
| 23  | 122                                                | 24.6 | 122                                               | 57.8                                                                                                                                                                  |     | 52.1                                              | 91      | 59.1                |                                                  | 09.1  | 313     | 48.9                                              |          | 23.3           | 24  | 46.8 |     | 40.0 |
| 24  | 137                                                | 27.0 | 137                                               | 57.7                                                                                                                                                                  | -0  | 50.8                                              | 107     | 00.1                | +13                                              | 09.6  | 328     | 51.6                                              | +6       | 23.4           | 39  | 49.4 | +22 | 40.0 |
| Dif | —                                                  |      | -2                                                |                                                                                                                                                                       | +13 |                                                   | +9      |                     | +6                                               |       | +27     |                                                   | +1       |                | +26 |      |     |      |

| UT  | SOL                                                |      |                                                   |      | LUNA                                                                                                                                                                              |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 16/2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 1 |      |                                                   |      | Edad: 17 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 57/0<br>12 <sup>h</sup> : 57/2<br>20 <sup>h</sup> : 57/3<br>SD: 15/5<br>PMG: 1 <sup>h</sup> 40 <sup>m</sup> R°: 46 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                  |               |                |      |                                                   |      |     |      |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾ Dif                                                                                                                                                                          |                     | Dec Dif                                           |                     |         | Náutico                  | Civil                                            |               | Hora           | R°   | Hora                                              | R°   |     |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                 | '                   | °                                                 | '                   | °       | h                        | m                                                | h             | m              | h    | m                                                 | h    | m   |      |
| 0   | 176                                                | 28.1 | -15                                               | 16.1 | 335                                                                                                                                                                               | 51.0                | +12                                               | 46.3                | 60 N    | 6                        | 23                                               | 7             | 13             | 7    | 58                                                | 19   | 15  |      |
| 1   | 191                                                | 28.1 |                                                   | 15.3 | 350                                                                                                                                                                               | 22.7 <sup>127</sup> |                                                   | 32.8 <sup>135</sup> | 58      | 21                       | 07                                               |               | 50             |      | 20                                                | 89   |     |      |
| 2   | 206                                                | 28.1 |                                                   | 14.5 | 4                                                                                                                                                                                 | 54.4 <sup>127</sup> |                                                   | 19.2 <sup>136</sup> | 56      | 18                       | 7                                                | 02            | 42             |      | 24                                                | 86   |     |      |
| 3   | 221                                                | 28.0 |                                                   | 13.7 | 19                                                                                                                                                                                | 26.1 <sup>127</sup> | +12                                               | 05.5 <sup>137</sup> | 54      | 16                       | 6                                                | 58            | 35             |      | 28                                                | 83   |     |      |
| 4   | 236                                                | 28.0 |                                                   | 12.9 | 33                                                                                                                                                                                | 57.9 <sup>128</sup> | +11                                               | 51.8 <sup>137</sup> | 52      | 14                       | 54                                               |               | 29             |      | 32                                                | 79   |     |      |
| 5   | 251                                                | 28.0 | -15                                               | 12.1 | 48                                                                                                                                                                                | 29.8 <sup>129</sup> | +11                                               | 38.0 <sup>138</sup> | 50      | 6                        | 11                                               | 6             | 50             | 7    | 24                                                | 19   | 35  |      |
| 6   | 266                                                | 27.9 | -15                                               | 11.4 | 63                                                                                                                                                                                | 01.6 <sup>128</sup> | +11                                               | 24.2 <sup>138</sup> | 45      | 6                        | 07                                               | 6             | 41             | 7    | 12                                                | 19   | 41  |      |
| 7   | 281                                                | 27.9 |                                                   | 10.6 | 77                                                                                                                                                                                | 33.5 <sup>129</sup> | +11                                               | 10.2 <sup>140</sup> | 40      | 6                        | 02                                               | 34            | 7              | 02   |                                                   | 47   | 68  |      |
| 8   | 296                                                | 27.9 |                                                   | 09.8 | 92                                                                                                                                                                                | 05.4 <sup>129</sup> | +10                                               | 56.3 <sup>139</sup> | 35      | 5                        | 57                                               | 27            | 6              | 54   |                                                   | 51   | 65  |      |
| 9   | 311                                                | 27.8 |                                                   | 09.0 | 106                                                                                                                                                                               | 37.3 <sup>129</sup> |                                                   | 42.2 <sup>141</sup> | 30      |                          | 53                                               | 21            | 46             |      | 19                                                | 56   | 60  |      |
| 10  | 326                                                | 27.8 |                                                   | 08.2 | 121                                                                                                                                                                               | 09.3 <sup>130</sup> |                                                   | 28.1 <sup>141</sup> | 20      |                          | 44                                               | 10            | 33             |      | 20                                                | 03   | 55  |      |
| 11  | 341                                                | 27.8 | -15                                               | 07.4 | 135                                                                                                                                                                               | 41.3 <sup>130</sup> | +10                                               | 14.0 <sup>141</sup> | 10 N    | 5                        | 35                                               | 6             | 00             | 6    | 22                                                | 20   | 09  |      |
| 12  | 356                                                | 27.8 | -15                                               | 06.6 | 150                                                                                                                                                                               | 13.3 <sup>130</sup> | +9                                                | 59.8 <sup>142</sup> | 0       | 5                        | 24                                               | 5             | 49             | 6    | 11                                                | 20   | 15  |      |
| 13  | 11                                                 | 27.7 |                                                   | 05.9 | 164                                                                                                                                                                               | 45.4 <sup>131</sup> |                                                   | 45.5 <sup>143</sup> | 10 S    | 5                        | 12                                               | 38            | 6              | 00   |                                                   | 21   | 41  |      |
| 14  | 26                                                 | 27.7 |                                                   | 05.1 | 179                                                                                                                                                                               | 17.4 <sup>130</sup> |                                                   | 31.2 <sup>143</sup> | 20      | 4                        | 57                                               | 25            | 5              | 48   |                                                   | 27   | 36  |      |
| 15  | 41                                                 | 27.7 |                                                   | 04.3 | 193                                                                                                                                                                               | 49.5 <sup>131</sup> |                                                   | 16.8 <sup>144</sup> | 30      |                          | 38                                               | 5             | 09             | 34   |                                                   | 34   | 31  |      |
| 16  | 56                                                 | 27.7 |                                                   | 03.5 | 208                                                                                                                                                                               | 21.6 <sup>131</sup> | +9                                                | 02.4 <sup>144</sup> | 35      |                          | 26                                               | 4             | 59             | 26   |                                                   | 38   | 28  |      |
| 17  | 71                                                 | 27.6 | -15                                               | 02.7 | 222                                                                                                                                                                               | 53.8 <sup>132</sup> | +8                                                | 47.9 <sup>145</sup> | 40      | 4                        | 12                                               | 4             | 47             | 5    | 17                                                | 20   | 43  |      |
| 18  | 86                                                 | 27.6 | -15                                               | 01.9 | 237                                                                                                                                                                               | 25.9 <sup>131</sup> | +8                                                | 33.4 <sup>145</sup> | 45      | 3                        | 53                                               | 4             | 34             | 5    | 06                                                | 20   | 48  |      |
| 19  | 101                                                | 27.6 |                                                   | 01.1 | 251                                                                                                                                                                               | 58.1 <sup>132</sup> |                                                   | 18.8 <sup>146</sup> | 50      |                          | 29                                               | 16            | 4              | 53   |                                                   | 54   | 16  |      |
| 20  | 116                                                | 27.6 | -15                                               | 00.3 | 266                                                                                                                                                                               | 30.3 <sup>132</sup> | +8                                                | 04.2 <sup>146</sup> | 52      |                          | 17                                               | 4             | 08             | 47   |                                                   | 20   | 57  |      |
| 21  | 131                                                | 27.5 | -14                                               | 59.5 | 281                                                                                                                                                                               | 02.5 <sup>132</sup> | +7                                                | 49.5 <sup>147</sup> | 54      | 3                        | 03                                               | 3             | 58             | 40   |                                                   | 21   | 00  |      |
| 22  | 146                                                | 27.5 |                                                   | 58.7 | 295                                                                                                                                                                               | 34.8 <sup>133</sup> |                                                   | 34.8 <sup>147</sup> | 56      |                          | 2                                                | 46            | 48             | 32   |                                                   |      | 04  |      |
| 23  | 161                                                | 27.5 |                                                   | 58.0 | 310                                                                                                                                                                               | 07.0 <sup>132</sup> |                                                   | 20.1 <sup>147</sup> | 58      |                          | 2                                                | 24            | 35             | 24   |                                                   |      | 08  |      |
| 24  | 176                                                | 27.5 | -14                                               | 57.2 | 324                                                                                                                                                                               | 39.3 <sup>133</sup> | +7                                                | 05.3 <sup>148</sup> | 60 S    | 1                        | 56                                               | 3             | 20             | 4    | 14                                                | 21   | 12  |      |
|     |                                                    |      |                                                   |      |                                                                                                                                                                                   |                     |                                                   |                     |         |                          |                                                  |               |                |      |                                                   |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                                                                                   |                     | MARTE                                             |                     |         |                          | JÚPITER                                          |               |                |      | SATURNO                                           |      |     |      |
|     | PMG<br>14 <sup>h</sup> 47 <sup>m</sup> 8           |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |      |                                                                                                                                                                                   |                     | Mag: +0.8<br>PMG: 16 <sup>h</sup> 51 <sup>m</sup> |                     |         |                          | Mag: -2.5<br>PMG: 2 <sup>h</sup> 04 <sup>m</sup> |               |                |      | Mag: -0.2<br>PMG: 21 <sup>h</sup> 17 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              |      | Dec                                                                                                                                                                               |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                             |               | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                 | '                   | °                                                 | '                   | °       | '                        | °                                                | '             | °              | '    | °                                                 | '    | °   | '    |
| 0   | 137                                                | 27.0 | 137                                               | 57.7 | -0                                                                                                                                                                                | 50.8                | 107                                               | 00.1                | +13     | 09.6                     | 328                                              | 51.6          | +6             | 23.4 | 39                                                | 49.4 | +22 | 40.0 |
| 1   | 152                                                | 29.5 | 152                                               | 57.5 |                                                                                                                                                                                   | 49.5                | 122                                               | 01.0                |         | 10.2                     | 343                                              | 54.3          |                | 23.5 | 54                                                | 52.0 |     | 40.0 |
| 2   | 167                                                | 32.0 | 167                                               | 57.3 |                                                                                                                                                                                   | 48.2                | 137                                               | 02.0                |         | 10.8                     | 358                                              | 57.0          |                | 23.6 | 69                                                | 54.6 |     | 40.1 |
| 3   | 182                                                | 34.4 | 182                                               | 57.1 |                                                                                                                                                                                   | 46.9                | 152                                               | 02.9                |         | 11.4                     | 13                                               | 59.7          |                | 23.8 | 84                                                | 57.2 |     | 40.1 |
| 4   | 197                                                | 36.9 | 197                                               | 56.9 |                                                                                                                                                                                   | 45.5                | 167                                               | 03.8                |         | 11.9                     | 29                                               | 02.4          |                | 23.9 | 99                                                | 59.8 |     | 40.1 |
| 5   | 212                                                | 39.4 | 212                                               | 56.7 | -0                                                                                                                                                                                | 44.2                | 182                                               | 04.8                | +13     | 12.5                     | 44                                               | 05.1          | +6             | 24.0 | 115                                               | 02.4 | +22 | 40.1 |
| 6   | 227                                                | 41.8 | 227                                               | 56.5 | -0                                                                                                                                                                                | 42.9                | 197                                               | 05.7                | +13     | 13.1                     | 59                                               | 07.8          | +6             | 24.1 | 130                                               | 05.0 | +22 | 40.1 |
| 7   | 242                                                | 44.3 | 242                                               | 56.3 |                                                                                                                                                                                   | 41.6                | 212                                               | 06.7                |         | 13.7                     | 74                                               | 10.5          |                | 24.2 | 145                                               | 07.6 |     | 40.1 |
| 8   | 257                                                | 46.7 | 257                                               | 56.1 |                                                                                                                                                                                   | 40.3                | 227                                               | 07.6                |         | 14.2                     | 89                                               | 13.2          |                | 24.3 | 160                                               | 10.2 |     | 40.1 |
| 9   | 272                                                | 49.2 | 272                                               | 55.9 |                                                                                                                                                                                   | 39.0                | 242                                               | 08.5                |         | 14.8                     | 104                                              | 15.9          |                | 24.4 | 175                                               | 12.8 |     | 40.1 |
| 10  | 287                                                | 51.7 | 287                                               | 55.8 |                                                                                                                                                                                   | 37.7                | 257                                               | 09.5                |         | 15.4                     | 119                                              | 18.6          |                | 24.5 | 190                                               | 15.4 |     | 40.2 |
| 11  | 302                                                | 54.1 | 302                                               | 55.6 | -0                                                                                                                                                                                | 36.4                | 272                                               | 10.4                | +13     | 15.9                     | 134                                              | 21.3          | +6             | 24.6 | 205                                               | 18.0 | +22 | 40.2 |
| 12  | 317                                                | 56.6 | 317                                               | 55.4 | -0                                                                                                                                                                                | 35.1                | 287                                               | 11.4                | +13     | 16.5                     | 149                                              | 24.0          | +6             | 24.7 | 220                                               | 20.6 | +22 | 40.2 |
| 13  | 332                                                | 59.1 | 332                                               | 55.2 |                                                                                                                                                                                   | 33.8                | 302                                               | 12.3                |         | 17.1                     | 164                                              | 26.7          |                | 24.8 | 235                                               | 23.2 |     | 40.2 |
| 14  | 348                                                | 01.5 | 347                                               | 55.0 |                                                                                                                                                                                   | 32.4                | 317                                               | 13.2                |         | 17.7                     | 179                                              | 29.4          |                | 24.9 | 250                                               | 25.8 |     | 40.2 |
| 15  | 3                                                  | 04.0 | 2                                                 | 54.8 |                                                                                                                                                                                   | 31.1                | 332                                               | 14.2                |         | 18.2                     | 194                                              | 32.1          |                | 25.0 | 265                                               | 28.4 |     | 40.2 |
| 16  | 18                                                 | 06.5 | 17                                                | 54.6 |                                                                                                                                                                                   | 29.8                | 347                                               | 15.1                |         | 18.8                     | 209                                              | 34.8          |                | 25.2 | 280                                               | 31.0 |     | 40.2 |
| 17  | 33                                                 | 08.9 | 32                                                | 54.4 | -0                                                                                                                                                                                | 28.5                | 2                                                 | 16.0                | +13     | 19.4                     | 224                                              | 37.5          | +6             | 25.3 | 295                                               | 33.6 | +22 | 40.2 |
| 18  | 48                                                 | 11.4 | 47                                                | 54.2 | -0                                                                                                                                                                                | 27.2                | 17                                                | 17.0                | +13     | 20.0                     | 239                                              | 40.2          | +6             | 25.4 | 310                                               | 36.2 | +22 | 40.3 |
| 19  | 63                                                 | 13.8 | 62                                                | 54.1 |                                                                                                                                                                                   | 25.9                | 32                                                | 17.9                |         | 20.5                     | 254                                              | 42.9          |                | 25.5 | 325                                               | 38.8 |     | 40.3 |
| 20  | 78                                                 | 16.3 | 77                                                | 53.9 |                                                                                                                                                                                   | 24.6                | 47                                                | 18.9                |         | 21.1                     | 269                                              | 45.6          |                | 25.6 | 340                                               | 41.4 |     | 40.3 |
| 21  | 93                                                 | 18.8 | 92                                                | 53.7 |                                                                                                                                                                                   | 23.3                | 62                                                | 19.8                |         | 21.7                     | 284                                              | 48.3          |                | 25.7 | 355                                               | 44.0 |     | 40.3 |
| 22  | 108                                                | 21.2 | 107                                               | 53.5 |                                                                                                                                                                                   | 22.0                | 77                                                | 20.7                |         | 22.2                     | 299                                              | 51.0          |                | 25.8 | 10                                                | 46.6 |     | 40.3 |
| 23  | 123                                                | 23.7 | 122                                               | 53.3 |                                                                                                                                                                                   | 20.6                | 92                                                | 21.7                |         | 22.8                     | 314                                              | 53.7          |                | 25.9 | 25                                                | 49.2 |     | 40.3 |
| 24  | 138                                                | 26.2 | 137                                               | 53.1 | -0                                                                                                                                                                                | 19.3                | 107                                               | 22.6                | +13     | 23.4                     | 329                                              | 56.4          | +6             | 26.0 | 40                                                | 51.8 | +22 | 40.3 |
| Dif | —                                                  |      | -2                                                |      | +13                                                                                                                                                                               |                     | +9                                                |                     | +6      |                          | +27                                              |               | +1             |      | +26                                               |      |     |      |

| UT  | SOL                                                             |      |                                                   | LUNA                                                                                                                                                                                                            |     |                                                   | Latitud                | Puesta de Sol | Final del crepúsculo                             |       |         | Salida de Luna                                    |         | Puesta de Luna |     |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|------------------------|---------------|--------------------------------------------------|-------|---------|---------------------------------------------------|---------|----------------|-----|------|-----|------|
|     | SD: 16 <sup>h</sup> 2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |      |                                                   | Edad: 18 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 57 <sup>5</sup> / <sub>5</sub><br>12 <sup>h</sup> : 57 <sup>6</sup> / <sub>6</sub><br>20 <sup>h</sup> : 57 <sup>8</sup> / <sub>8</sub><br>R°: 46 <sup>m</sup> |     |                                                   |                        |               |                                                  |       |         |                                                   |         |                |     |      |     |      |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                                                                            | Dif | Dec                                               |                        |               | Dif                                              | Civil | Náutico | Hora                                              | R°      | Hora           | R°  |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                               | °   | '                                                 | °                      | h m           | h m                                              | h m   | h m m   | h m m                                             | h m m   |                |     |      |     |      |
| 0   | 176                                                             | 27.5 | -14                                               | 57.2                                                                                                                                                                                                            | 324 | 39.3                                              | +7 05.3                | 60 N          | 16 33                                            | 17 19 | 18 08   | 20 48 94                                          | 9 11 1  |                |     |      |     |      |
| 1   | 191                                                             | 27.4 |                                                   | 56.4                                                                                                                                                                                                            | 339 | 11.6 <sup>133</sup>                               | +6 50.4 <sup>149</sup> | 58            | 42                                               | 24    | 11      | 49 90                                             | 08 5    |                |     |      |     |      |
| 2   | 206                                                             | 27.4 |                                                   | 55.6                                                                                                                                                                                                            | 353 | 43.9 <sup>133</sup>                               | 35.5 <sup>149</sup>    | 56            | 49                                               | 29    | 13      | 50 86                                             | 06 7    |                |     |      |     |      |
| 3   | 221                                                             | 27.4 |                                                   | 54.8                                                                                                                                                                                                            | 8   | 16.2 <sup>133</sup>                               | 20.6 <sup>149</sup>    | 54            | 16 56                                            | 33    | 15      | 51 83                                             | 04 10   |                |     |      |     |      |
| 4   | 236                                                             | 27.4 |                                                   | 54.0                                                                                                                                                                                                            | 22  | 48.5 <sup>133</sup>                               | +6 05.6 <sup>150</sup> | 52            | 17 01                                            | 37    | 17      | 51 81                                             | 02 13   |                |     |      |     |      |
| 5   | 251                                                             | 27.3 | -14                                               | 53.2                                                                                                                                                                                                            | 37  | 20.8 <sup>133</sup>                               | +5 50.6 <sup>150</sup> | 50            | 17 07                                            | 17 41 | 18 19   | 20 52 78                                          | 9 00 15 |                |     |      |     |      |
| 6   | 266                                                             | 27.3 | -14                                               | 52.4                                                                                                                                                                                                            | 51  | 53.2 <sup>134</sup>                               | +5 35.6 <sup>150</sup> | 45            | 17 18                                            | 17 49 | 18 24   | 20 53 73                                          | 8 57 19 |                |     |      |     |      |
| 7   | 281                                                             | 27.3 |                                                   | 51.6                                                                                                                                                                                                            | 66  | 25.5 <sup>133</sup>                               | 20.5 <sup>151</sup>    | 40            | 28                                               | 17 56 | 28      | 55 68                                             | 53 24   |                |     |      |     |      |
| 8   | 296                                                             | 27.3 |                                                   | 50.8                                                                                                                                                                                                            | 80  | 57.9 <sup>134</sup>                               | +5 05.4 <sup>151</sup> | 35            | 36                                               | 18 02 | 32      | 56 64                                             | 51 27   |                |     |      |     |      |
| 9   | 311                                                             | 27.3 |                                                   | 50.0                                                                                                                                                                                                            | 95  | 30.2 <sup>133</sup>                               | +4 50.3 <sup>151</sup> | 30            | 43                                               | 08    | 36      | 56 62                                             | 48 31   |                |     |      |     |      |
| 10  | 326                                                             | 27.2 |                                                   | 49.2                                                                                                                                                                                                            | 110 | 02.6 <sup>134</sup>                               | 35.1 <sup>152</sup>    | 20            | 17 56                                            | 19    | 45      | 58 56                                             | 44 36   |                |     |      |     |      |
| 11  | 341                                                             | 27.2 | -14                                               | 48.4                                                                                                                                                                                                            | 124 | 34.9 <sup>133</sup>                               | +4 19.9 <sup>152</sup> | 10 N          | 18 07                                            | 18 29 | 18 54   | 20 59 51                                          | 8 40 41 |                |     |      |     |      |
| 12  | 356                                                             | 27.2 | -14                                               | 47.6                                                                                                                                                                                                            | 139 | 07.3 <sup>134</sup>                               | +4 04.7 <sup>152</sup> | 0             | 18 18                                            | 18 39 | 19 04   | 21 01 46                                          | 8 37 45 |                |     |      |     |      |
| 13  | 11                                                              | 27.2 |                                                   | 46.8                                                                                                                                                                                                            | 153 | 39.7 <sup>134</sup>                               | +3 49.5 <sup>152</sup> | 10 S          | 28                                               | 18 50 | 16      | 02 41                                             | 33 50   |                |     |      |     |      |
| 14  | 26                                                              | 27.2 |                                                   | 46.0                                                                                                                                                                                                            | 168 | 12.1 <sup>134</sup>                               | 34.2 <sup>153</sup>    | 20            | 40                                               | 19 03 | 30      | 03 37                                             | 29 56   |                |     |      |     |      |
| 15  | 41                                                              | 27.1 |                                                   | 45.2                                                                                                                                                                                                            | 182 | 44.4 <sup>133</sup>                               | 18.9 <sup>153</sup>    | 30            | 18 53                                            | 18    | 19 48   | 05 31                                             | 25 61   |                |     |      |     |      |
| 16  | 56                                                              | 27.1 |                                                   | 44.4                                                                                                                                                                                                            | 197 | 16.8 <sup>134</sup>                               | +3 03.6 <sup>153</sup> | 35            | 19 01                                            | 28    | 20 00   | 06 28                                             | 22 64   |                |     |      |     |      |
| 17  | 71                                                              | 27.1 | -14                                               | 43.6                                                                                                                                                                                                            | 211 | 49.2 <sup>134</sup>                               | +2 48.2 <sup>154</sup> | 40            | 19 10                                            | 19 39 | 20 14   | 21 07 24                                          | 8 19 68 |                |     |      |     |      |
| 18  | 86                                                              | 27.1 | -14                                               | 42.8                                                                                                                                                                                                            | 226 | 21.6 <sup>134</sup>                               | +2 32.8 <sup>154</sup> | 45            | 19 20                                            | 19 52 | 20 32   | 21 08 20                                          | 8 16 72 |                |     |      |     |      |
| 19  | 101                                                             | 27.1 |                                                   | 42.0                                                                                                                                                                                                            | 240 | 53.9 <sup>133</sup>                               | 17.4 <sup>154</sup>    | 50            | 33                                               | 20 09 | 20 55   | 10 15                                             | 12 77   |                |     |      |     |      |
| 20  | 116                                                             | 27.1 |                                                   | 41.2                                                                                                                                                                                                            | 255 | 26.3 <sup>134</sup>                               | +2 02.0 <sup>154</sup> | 52            | 39                                               | 17    | 21 07   | 10 13                                             | 10 80   |                |     |      |     |      |
| 21  | 131                                                             | 27.0 |                                                   | 40.4                                                                                                                                                                                                            | 269 | 58.6 <sup>133</sup>                               | +1 46.6 <sup>154</sup> | 54            | 45                                               | 26    | 20      | 11 10                                             | 07 83   |                |     |      |     |      |
| 22  | 146                                                             | 27.0 |                                                   | 39.6                                                                                                                                                                                                            | 284 | 31.0 <sup>134</sup>                               | 31.2 <sup>154</sup>    | 56            | 19 52                                            | 36    | 36      | 12 7                                              | 05 86   |                |     |      |     |      |
| 23  | 161                                                             | 27.0 |                                                   | 38.8                                                                                                                                                                                                            | 299 | 03.3 <sup>133</sup>                               | 15.7 <sup>155</sup>    | 58            | 20 01                                            | 20 48 | 21 56   | 13 4                                              | 02 90   |                |     |      |     |      |
| 24  | 176                                                             | 27.0 | -14                                               | 38.0                                                                                                                                                                                                            | 313 | 35.6 <sup>133</sup>                               | +1 00.2 <sup>155</sup> | 60 S          | 20 10                                            | 21 02 | 22 22   | 21 14 1                                           | 8 00 92 |                |     |      |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                                                                 |     | MARTE                                             |                        |               | JÚPITER                                          |       |         | SATURNO                                           |         |                |     |      |     |      |
|     | PMG: 14 <sup>h</sup> 43 <sup>m</sup> 8                          |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup> |                                                                                                                                                                                                                 |     | Mag: +0.8<br>PMG: 16 <sup>h</sup> 49 <sup>m</sup> |                        |               | Mag: -2.5<br>PMG: 2 <sup>h</sup> 00 <sup>m</sup> |       |         | Mag: -0.2<br>PMG: 21 <sup>h</sup> 13 <sup>m</sup> |         |                |     |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                                                                                                                                             |     | hG ♂                                              | Dec                    |               | hG ♃                                             | Dec   |         | hG ♄                                              | Dec     |                |     |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                               | °   | '                                                 | °                      | '             | °                                                | '     | °       | '                                                 | °       | '              |     |      |     |      |
| 0   | 138                                                             | 26.2 | 137                                               | 53.1                                                                                                                                                                                                            | -0  | 19.3                                              | 107                    | 22.6          | +13                                              | 23.4  | 329     | 56.4                                              | +6      | 26.0           | 40  | 51.8 | +22 | 40.3 |
| 1   | 153                                                             | 28.6 | 152                                               | 52.9                                                                                                                                                                                                            |     | 18.0                                              | 122                    | 23.5          |                                                  | 24.0  | 344     | 59.1                                              |         | 26.1           | 55  | 54.3 |     | 40.4 |
| 2   | 168                                                             | 31.1 | 167                                               | 52.8                                                                                                                                                                                                            |     | 16.7                                              | 137                    | 24.5          |                                                  | 24.5  | 0       | 01.8                                              |         | 26.2           | 70  | 56.9 |     | 40.4 |
| 3   | 183                                                             | 33.6 | 182                                               | 52.6                                                                                                                                                                                                            |     | 15.4                                              | 152                    | 25.4          |                                                  | 25.1  | 15      | 04.5                                              |         | 26.3           | 85  | 59.5 |     | 40.4 |
| 4   | 198                                                             | 36.0 | 197                                               | 52.4                                                                                                                                                                                                            |     | 14.1                                              | 167                    | 26.3          |                                                  | 25.7  | 30      | 07.2                                              |         | 26.5           | 101 | 02.1 |     | 40.4 |
| 5   | 213                                                             | 38.5 | 212                                               | 52.2                                                                                                                                                                                                            | -0  | 12.8                                              | 182                    | 27.3          | +13                                              | 26.2  | 45      | 09.9                                              | +6      | 26.6           | 116 | 04.7 | +22 | 40.4 |
| 6   | 228                                                             | 41.0 | 227                                               | 52.0                                                                                                                                                                                                            | -0  | 11.5                                              | 197                    | 28.2          | +13                                              | 26.8  | 60      | 12.6                                              | +6      | 26.7           | 131 | 07.3 | +22 | 40.4 |
| 7   | 243                                                             | 43.4 | 242                                               | 51.8                                                                                                                                                                                                            |     | 10.2                                              | 212                    | 29.1          |                                                  | 27.4  | 75      | 15.3                                              |         | 26.8           | 146 | 09.9 |     | 40.4 |
| 8   | 258                                                             | 45.9 | 257                                               | 51.7                                                                                                                                                                                                            |     | 08.8                                              | 227                    | 30.1          |                                                  | 28.0  | 90      | 18.0                                              |         | 26.9           | 161 | 12.5 |     | 40.4 |
| 9   | 273                                                             | 48.3 | 272                                               | 51.5                                                                                                                                                                                                            |     | 07.5                                              | 242                    | 31.0          |                                                  | 28.5  | 105     | 20.7                                              |         | 27.0           | 176 | 15.1 |     | 40.5 |
| 10  | 288                                                             | 50.8 | 287                                               | 51.3                                                                                                                                                                                                            |     | 06.2                                              | 257                    | 32.0          |                                                  | 29.1  | 120     | 23.4                                              |         | 27.1           | 191 | 17.7 |     | 40.5 |
| 11  | 303                                                             | 53.3 | 302                                               | 51.1                                                                                                                                                                                                            | -0  | 04.9                                              | 272                    | 32.9          | +13                                              | 29.7  | 135     | 26.1                                              | +6      | 27.2           | 206 | 20.3 | +22 | 40.5 |
| 12  | 318                                                             | 55.7 | 317                                               | 50.9                                                                                                                                                                                                            | -0  | 03.6                                              | 287                    | 33.8          | +13                                              | 30.2  | 150     | 28.8                                              | +6      | 27.3           | 221 | 22.9 | +22 | 40.5 |
| 13  | 333                                                             | 58.2 | 332                                               | 50.7                                                                                                                                                                                                            |     | 02.3                                              | 302                    | 34.8          |                                                  | 30.8  | 165     | 31.5                                              |         | 27.4           | 236 | 25.5 |     | 40.5 |
| 14  | 349                                                             | 00.7 | 347                                               | 50.6                                                                                                                                                                                                            | -0  | 01.0                                              | 317                    | 35.7          |                                                  | 31.4  | 180     | 34.2                                              |         | 27.6           | 251 | 28.1 |     | 40.5 |
| 15  | 4                                                               | 03.1 | 2                                                 | 50.4                                                                                                                                                                                                            | +0  | 00.3                                              | 332                    | 36.6          |                                                  | 31.9  | 195     | 37.0                                              |         | 27.7           | 266 | 30.7 |     | 40.5 |
| 16  | 19                                                              | 05.6 | 17                                                | 50.2                                                                                                                                                                                                            |     | 01.6                                              | 347                    | 37.6          |                                                  | 32.5  | 210     | 39.7                                              |         | 27.8           | 281 | 33.3 |     | 40.5 |
| 17  | 34                                                              | 08.1 | 32                                                | 50.0                                                                                                                                                                                                            | +0  | 03.0                                              | 2                      | 38.5          | +13                                              | 33.1  | 225     | 42.4                                              | +6      | 27.9           | 296 | 35.9 | +22 | 40.6 |
| 18  | 49                                                              | 10.5 | 47                                                | 49.8                                                                                                                                                                                                            | +0  | 04.3                                              | 17                     | 39.4          | +13                                              | 33.6  | 240     | 45.1                                              | +6      | 28.0           | 311 | 38.5 | +22 | 40.6 |
| 19  | 64                                                              | 13.0 | 62                                                | 49.6                                                                                                                                                                                                            |     | 05.6                                              | 32                     | 40.4          |                                                  | 34.2  | 255     | 47.8                                              |         | 28.1           | 326 | 41.1 |     | 40.6 |
| 20  | 79                                                              | 15.4 | 77                                                | 49.5                                                                                                                                                                                                            |     | 06.9                                              | 47                     | 41.3          |                                                  | 34.8  | 270     | 50.5                                              |         | 28.2           | 341 | 43.6 |     | 40.6 |
| 21  | 94                                                              | 17.9 | 92                                                | 49.3                                                                                                                                                                                                            |     | 08.2                                              | 62                     | 42.2          |                                                  | 35.3  | 285     | 53.2                                              |         | 28.3           | 356 | 46.2 |     | 40.6 |
| 22  | 109                                                             | 20.4 | 107                                               | 49.1                                                                                                                                                                                                            |     | 09.5                                              | 77                     | 43.2          |                                                  | 35.9  | 300     | 55.9                                              |         | 28.4           | 11  | 48.8 |     | 40.6 |
| 23  | 124                                                             | 22.8 | 122                                               | 48.9                                                                                                                                                                                                            |     | 10.8                                              | 92                     | 44.1          |                                                  | 36.5  | 315     | 58.6                                              |         | 28.5           | 26  | 51.4 |     | 40.6 |
| 24  | 139                                                             | 25.3 | 137                                               | 48.7                                                                                                                                                                                                            | +0  | 12.1                                              | 107                    | 45.0          | +13                                              | 37.0  | 331     | 01.3                                              | +6      | 28.7           | 41  | 54.0 | +22 | 40.6 |
| Dif | —                                                               |      | -2                                                |                                                                                                                                                                                                                 | +13 |                                                   | +9                     |               | +6                                               |       | +27     |                                                   | +1      |                | +26 |      | 0   |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                  |     |                     |                        |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|------------------------|---------|---------|--------------------------|------|---------------|----------------|------|----------------|----|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |      |     | Edad: 19 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 57/9<br>12 <sup>h</sup> : 58/1<br>20 <sup>h</sup> : 58/2<br>PMG: 3 <sup>h</sup> 12 <sup>m</sup> R°: 46 <sup>m</sup> |     |                     |                        |         |         |                          |      |               |                |      |                |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                  | Dif | Dec                 | Dif                    | Náutico |         | Civil                    | Hora |               | R°             | Hora | R°             |    |
| h  | °                                                  | '    | °   | °                                                                                                                                                                     | '   | °                   | '                      | °       | h       | m                        | h    | m             | h              | m    | h              | m  |
| 0  | 176                                                | 27.0 | -14 | 38.0                                                                                                                                                                  | 313 | 35.6                | +1 00.2                | 60 N    | 6       | 19                       | 7    | 08            | 7              | 53   | 22             | 22 |
| 1  | 191                                                | 27.0 |     | 37.2                                                                                                                                                                  | 328 | 07.9 <sup>133</sup> | +0 44.7 <sup>155</sup> | 58      | 16      | 7                        | 03   | 45            | 19             | 92   | 9              | 12 |
| 2  | 206                                                | 27.0 |     | 36.4                                                                                                                                                                  | 342 | 40.3 <sup>134</sup> | 29.2 <sup>155</sup>    | 56      | 14      | 6                        | 58   | 38            | 16             | 89   | 13             | 8  |
| 3  | 221                                                | 26.9 |     | 35.6                                                                                                                                                                  | 357 | 12.5 <sup>132</sup> | +0 13.7 <sup>155</sup> | 54      | 12      | 54                       | 32   | 14            | 86             | 14   | 1              | 1  |
| 4  | 236                                                | 26.9 |     | 34.8                                                                                                                                                                  | 11  | 44.8 <sup>133</sup> | -0 01.8 <sup>155</sup> | 52      | 10      | 50                       | 26   | 12            | 83             | 15   | 13             | 13 |
| 5  | 251                                                | 26.9 | -14 | 34.0                                                                                                                                                                  | 26  | 17.1 <sup>133</sup> | -0 17.3 <sup>155</sup> | 50      | 6       | 09                       | 6    | 47            | 7              | 21   | 22             | 10 |
| 6  | 266                                                | 26.9 | -14 | 33.2                                                                                                                                                                  | 40  | 49.3 <sup>132</sup> | -0 32.9 <sup>156</sup> | 45      | 6       | 04                       | 6    | 39            | 7              | 09   | 9              | 16 |
| 7  | 281                                                | 26.9 |     | 32.4                                                                                                                                                                  | 55  | 21.5 <sup>132</sup> | -0 48.4 <sup>155</sup> | 40      | 6       | 00                       | 32   | 7             | 00             | 3    | 17             | 25 |
| 8  | 296                                                | 26.9 |     | 31.6                                                                                                                                                                  | 69  | 53.7 <sup>132</sup> | -1 04.0 <sup>156</sup> | 35      | 5       | 56                       | 26   | 6             | 52             | 22   | 00             | 67 |
| 9  | 311                                                | 26.9 |     | 30.8                                                                                                                                                                  | 84  | 25.9 <sup>132</sup> | 19.5 <sup>155</sup>    | 30      | 52      | 20                       | 45   | 21            | 58             | 63   | 19             | 31 |
| 10 | 326                                                | 26.8 |     | 29.9                                                                                                                                                                  | 98  | 58.1 <sup>132</sup> | 35.1 <sup>156</sup>    | 20      | 43      | 10                       | 32   | 54            | 57             | 20   | 37             | 37 |
| 11 | 341                                                | 26.8 | -14 | 29.1                                                                                                                                                                  | 113 | 30.2 <sup>131</sup> | -1 50.6 <sup>155</sup> | 10 N    | 5       | 35                       | 6    | 00            | 6              | 21   | 21             | 50 |
| 12 | 356                                                | 26.8 | -14 | 28.3                                                                                                                                                                  | 128 | 02.3 <sup>131</sup> | -2 06.2 <sup>156</sup> | 0       | 5       | 25                       | 5    | 49            | 6              | 11   | 21             | 47 |
| 13 | 11                                                 | 26.8 |     | 27.5                                                                                                                                                                  | 142 | 34.4 <sup>131</sup> | 21.7 <sup>155</sup>    | 10 S    | 5       | 13                       | 38   | 6             | 00             | 43   | 43             | 23 |
| 14 | 26                                                 | 26.8 |     | 26.7                                                                                                                                                                  | 157 | 06.5 <sup>131</sup> | 37.3 <sup>156</sup>    | 20      | 4       | 59                       | 26   | 5             | 49             | 40   | 38             | 25 |
| 15 | 41                                                 | 26.8 |     | 25.9                                                                                                                                                                  | 171 | 38.5 <sup>130</sup> | -2 52.8 <sup>155</sup> | 30      | 40      | 10                       | 36   | 36            | 32             | 26   | 62             | 62 |
| 16 | 56                                                 | 26.8 |     | 25.1                                                                                                                                                                  | 186 | 10.5 <sup>130</sup> | -3 08.4 <sup>156</sup> | 35      | 29      | 5                        | 01   | 28            | 34             | 29   | 26             | 66 |
| 17 | 71                                                 | 26.8 | -14 | 24.3                                                                                                                                                                  | 200 | 42.5 <sup>130</sup> | -3 23.9 <sup>155</sup> | 40      | 4       | 15                       | 4    | 50            | 5              | 19   | 21             | 31 |
| 18 | 86                                                 | 26.8 | -14 | 23.5                                                                                                                                                                  | 215 | 14.4 <sup>129</sup> | -3 39.4 <sup>155</sup> | 45      | 3       | 57                       | 4    | 37            | 5              | 09   | 21             | 28 |
| 19 | 101                                                | 26.7 |     | 22.7                                                                                                                                                                  | 229 | 46.3 <sup>129</sup> | -3 55.0 <sup>156</sup> | 50      | 34      | 20                       | 4    | 56            | 25             | 16   | 29             | 79 |
| 20 | 116                                                | 26.7 |     | 21.8                                                                                                                                                                  | 244 | 18.2 <sup>129</sup> | -4 10.5 <sup>155</sup> | 52      | 22      | 12                       | 51   | 23            | 14             | 30   | 81             | 81 |
| 21 | 131                                                | 26.7 |     | 21.0                                                                                                                                                                  | 258 | 50.1 <sup>129</sup> | 26.0 <sup>155</sup>    | 54      | 3       | 09                       | 4    | 03            | 44             | 21   | 12             | 30 |
| 22 | 146                                                | 26.7 |     | 20.2                                                                                                                                                                  | 273 | 21.9 <sup>128</sup> | 41.4 <sup>154</sup>    | 56      | 2       | 53                       | 3    | 53            | 37             | 19   | 9              | 31 |
| 23 | 161                                                | 26.7 |     | 19.4                                                                                                                                                                  | 287 | 53.6 <sup>127</sup> | -4 56.9 <sup>155</sup> | 58      | 33      | 41                       | 29   | 17            | 6              | 32   | 90             | 90 |
| 24 | 176                                                | 26.7 | -14 | 18.6                                                                                                                                                                  | 302 | 25.4 <sup>128</sup> | -5 12.3 <sup>154</sup> | 60 S    | 2       | 07                       | 3    | 27            | 4              | 19   | 21             | 15 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 14 <sup>h</sup> 39 <sup>m</sup> 9 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup> |      | Mag: +0.9<br>PMG: 16 <sup>h</sup> 48 <sup>m</sup> |      | Mag: -2.5<br>PMG: 1 <sup>h</sup> 56 <sup>m</sup> |      | Mag: -0.2<br>PMG: 21 <sup>h</sup> 09 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 139                                    | 25.3 | 137                                               | 48.7 | +0                                                | 12.1 | 107                                              | 45.0 | +13                                               | 37.0 |
| 1   | 154                                    | 27.8 | 152                                               | 48.6 |                                                   | 13.4 | 122                                              | 46.0 |                                                   | 37.6 |
| 2   | 169                                    | 30.2 | 167                                               | 48.4 |                                                   | 14.8 | 137                                              | 46.9 |                                                   | 38.2 |
| 3   | 184                                    | 32.7 | 182                                               | 48.2 |                                                   | 16.1 | 152                                              | 47.8 |                                                   | 38.8 |
| 4   | 199                                    | 35.2 | 197                                               | 48.0 |                                                   | 17.4 | 167                                              | 48.8 |                                                   | 39.3 |
| 5   | 214                                    | 37.6 | 212                                               | 47.8 | +0                                                | 18.7 | 182                                              | 49.7 | +13                                               | 39.9 |
| 6   | 229                                    | 40.1 | 227                                               | 47.7 | +0                                                | 20.0 | 197                                              | 50.6 | +13                                               | 40.5 |
| 7   | 244                                    | 42.6 | 242                                               | 47.5 |                                                   | 21.3 | 212                                              | 51.5 |                                                   | 41.0 |
| 8   | 259                                    | 45.0 | 257                                               | 47.3 |                                                   | 22.6 | 227                                              | 52.5 |                                                   | 41.6 |
| 9   | 274                                    | 47.5 | 272                                               | 47.1 |                                                   | 23.9 | 242                                              | 53.4 |                                                   | 42.1 |
| 10  | 289                                    | 49.9 | 287                                               | 47.0 |                                                   | 25.2 | 257                                              | 54.3 |                                                   | 42.7 |
| 11  | 304                                    | 52.4 | 302                                               | 46.8 | +0                                                | 26.6 | 272                                              | 55.3 | +13                                               | 43.3 |
| 12  | 319                                    | 54.9 | 317                                               | 46.6 | +0                                                | 27.9 | 287                                              | 56.2 | +13                                               | 43.8 |
| 13  | 334                                    | 57.3 | 332                                               | 46.4 |                                                   | 29.2 | 302                                              | 57.1 |                                                   | 44.4 |
| 14  | 349                                    | 59.8 | 347                                               | 46.2 |                                                   | 30.5 | 317                                              | 58.1 |                                                   | 45.0 |
| 15  | 5                                      | 02.3 | 2                                                 | 46.1 |                                                   | 31.8 | 332                                              | 59.0 |                                                   | 45.5 |
| 16  | 20                                     | 04.7 | 17                                                | 45.9 |                                                   | 33.1 | 347                                              | 59.9 |                                                   | 46.1 |
| 17  | 35                                     | 07.2 | 32                                                | 45.7 | +0                                                | 34.4 | 3                                                | 00.9 | +13                                               | 46.7 |
| 18  | 50                                     | 09.7 | 47                                                | 45.5 | +0                                                | 35.7 | 18                                               | 01.8 | +13                                               | 47.2 |
| 19  | 65                                     | 12.1 | 62                                                | 45.4 |                                                   | 37.0 | 33                                               | 02.7 |                                                   | 47.8 |
| 20  | 80                                     | 14.6 | 77                                                | 45.2 |                                                   | 38.4 | 48                                               | 03.6 |                                                   | 48.4 |
| 21  | 95                                     | 17.1 | 92                                                | 45.0 |                                                   | 39.7 | 63                                               | 04.6 |                                                   | 48.9 |
| 22  | 110                                    | 19.5 | 107                                               | 44.8 |                                                   | 41.0 | 78                                               | 05.5 |                                                   | 49.5 |
| 23  | 125                                    | 22.0 | 122                                               | 44.7 |                                                   | 42.3 | 93                                               | 06.4 |                                                   | 50.1 |
| 24  | 140                                    | 24.4 | 137                                               | 44.5 | +0                                                | 43.6 | 108                                              | 07.4 | +13                                               | 50.6 |
| Dif | —                                      |      | -2 +13                                            |      | +9 +6                                             |      | +27 +1                                           |      | +26 0                                             |      |

| UT  | SOL                                                |      |                                                   |      | ☾ LUNA                                                                                                                                                             |                     |                                                   |                         | Latitud | Puesta de Sol | Final del crepúsculo                             |       |       | Salida de Luna |                                                   | Puesta de Luna |      |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|-------------------------|---------|---------------|--------------------------------------------------|-------|-------|----------------|---------------------------------------------------|----------------|------|------|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |      |                                                   |      | Edad: 20 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'5<br>20 <sup>h</sup> : 58'6<br>PMG: 3 <sup>h</sup> 58 <sup>m</sup> R°: 48 <sup>m</sup> |                     |                                                   |                         |         |               |                                                  |       |       |                |                                                   |                |      |      |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾                                                                                                                                                               |                     | Dif                                               |                         |         |               | Dec                                              |       | Dif   |                | Civil                                             | Náutico        | Hora | R°   |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                  | '                   | °                                                 | '                       | °       | '             | h                                                | m     | h     | m              | h                                                 | m              | h    | m    |
| 0   | 176                                                | 26.7 | -14                                               | 18.6 | 302                                                                                                                                                                | 25.4                | -5                                                | 12.3                    | 60 N    | 16 39         | 17 24                                            | 18 13 | 23 58 | 102            | 9                                                 | 13             | 3    |      |
| 1   | 191                                                | 26.7 |                                                   | 17.8 | 316                                                                                                                                                                | 57.1 <sup>127</sup> |                                                   | 27.8 <sup>155</sup>     | 58      | 47            |                                                  | 29    | 15    |                | 51                                                | 97             | 18   | 6    |
| 2   | 206                                                | 26.7 |                                                   | 17.0 | 331                                                                                                                                                                | 28.7 <sup>126</sup> |                                                   | 43.2 <sup>154</sup>     | 56      | 16 53         | 33                                               | 17    | 45    | 93             | 21                                                | 10             |      |      |
| 3   | 221                                                | 26.7 |                                                   | 16.2 | 346                                                                                                                                                                | 00.3 <sup>126</sup> |                                                   | -5 58.6 <sup>154</sup>  | 54      | 17 00         | 37                                               | 19    | 40    | 89             | 25                                                | 12             |      |      |
| 4   | 236                                                | 26.7 |                                                   | 15.3 | 0                                                                                                                                                                  | 31.9 <sup>126</sup> |                                                   | -6 14.0 <sup>154</sup>  | 52      | 05            | 41                                               | 21    | 35    | 86             | 28                                                | 15             |      |      |
| 5   | 251                                                | 26.7 | -14                                               | 14.5 | 15                                                                                                                                                                 | 03.4 <sup>125</sup> |                                                   | -6 29.3 <sup>153</sup>  | 50      | 17 10         | 17 44                                            | 18 22 | 23 31 | 83             | 9                                                 | 31             | 17   |      |
| 6   | 266                                                | 26.7 | -14                                               | 13.7 | 29                                                                                                                                                                 | 34.9 <sup>125</sup> |                                                   | -6 44.6 <sup>153</sup>  | 45      | 17 21         | 17 52                                            | 18 26 | 23 21 | 78             | 9                                                 | 37             | 22   |      |
| 7   | 281                                                | 26.7 |                                                   | 12.9 | 44                                                                                                                                                                 | 06.3 <sup>124</sup> |                                                   | -6 59.9 <sup>153</sup>  | 40      | 30            | 17 58                                            | 30    | 14    | 72             | 42                                                | 27             |      |      |
| 8   | 296                                                | 26.7 |                                                   | 12.1 | 58                                                                                                                                                                 | 37.7 <sup>124</sup> |                                                   | -7 15.2 <sup>153</sup>  | 35      | 38            | 18 04                                            | 34    | 07    | 69             | 46                                                | 31             |      |      |
| 9   | 311                                                | 26.7 |                                                   | 11.3 | 73                                                                                                                                                                 | 09.0 <sup>123</sup> |                                                   | 30.5 <sup>153</sup>     | 30      | 45            | 10                                               | 38    | 23 01 | 66             | 50                                                | 34             |      |      |
| 10  | 326                                                | 26.6 |                                                   | 10.4 | 87                                                                                                                                                                 | 40.3 <sup>123</sup> |                                                   | -7 45.7 <sup>152</sup>  | 20      | 17 57         | 20                                               | 46    | 22 51 | 60             | 9                                                 | 57             | 40   |      |
| 11  | 341                                                | 26.6 | -14                                               | 09.6 | 102                                                                                                                                                                | 11.5 <sup>122</sup> |                                                   | -8 00.9 <sup>152</sup>  | 10 N    | 18 08         | 18 29                                            | 18 54 | 22 42 | 55             | 10                                                | 03             | 45   |      |
| 12  | 356                                                | 26.6 | -14                                               | 08.8 | 116                                                                                                                                                                | 42.7 <sup>122</sup> |                                                   | -8 16.0 <sup>151</sup>  | 0       | 18 18         | 18 39                                            | 19 04 | 22 34 | 51             | 10                                                | 09             | 49   |      |
| 13  | 11                                                 | 26.6 |                                                   | 08.0 | 131                                                                                                                                                                | 13.8 <sup>121</sup> |                                                   | 31.1 <sup>151</sup>     | 10 S    | 28            | 18 50                                            | 15    | 26    | 46             | 15                                                | 53             |      |      |
| 14  | 26                                                 | 26.6 |                                                   | 07.2 | 145                                                                                                                                                                | 44.8 <sup>120</sup> |                                                   | -8 46.2 <sup>151</sup>  | 20      | 39            | 19 02                                            | 29    | 18    | 41             | 21                                                | 58             |      |      |
| 15  | 41                                                 | 26.6 |                                                   | 06.3 | 160                                                                                                                                                                | 15.8 <sup>120</sup> |                                                   | -9 01.3 <sup>151</sup>  | 30      | 51            | 17                                               | 47    | 08    | 36             | 28                                                | 64             |      |      |
| 16  | 56                                                 | 26.6 |                                                   | 05.5 | 174                                                                                                                                                                | 46.8 <sup>120</sup> |                                                   | 16.3 <sup>150</sup>     | 35      | 18 59         | 26                                               | 19 58 | 22 03 | 32             | 32                                                | 67             |      |      |
| 17  | 71                                                 | 26.6 | -14                                               | 04.7 | 189                                                                                                                                                                | 17.7 <sup>119</sup> |                                                   | -9 31.3 <sup>150</sup>  | 40      | 19 07         | 19 36                                            | 20 11 | 21 57 | 28             | 10                                                | 37             | 71   |      |
| 18  | 86                                                 | 26.6 | -14                                               | 03.9 | 203                                                                                                                                                                | 48.5 <sup>118</sup> |                                                   | -9 46.2 <sup>149</sup>  | 45      | 19 17         | 19 49                                            | 20 29 | 21 49 | 25             | 10                                                | 42             | 76   |      |
| 19  | 101                                                | 26.6 |                                                   | 03.1 | 218                                                                                                                                                                | 19.3 <sup>118</sup> |                                                   | -10 01.1 <sup>149</sup> | 50      | 29            | 20 05                                            | 20 51 | 41    | 19             | 48                                                | 82             |      |      |
| 20  | 116                                                | 26.6 |                                                   | 02.2 | 232                                                                                                                                                                | 50.0 <sup>117</sup> |                                                   | 15.9 <sup>148</sup>     | 52      | 35            | 13                                               | 21 02 | 37    | 17             | 51                                                | 84             |      |      |
| 21  | 131                                                | 26.6 |                                                   | 01.4 | 247                                                                                                                                                                | 20.6 <sup>116</sup> |                                                   | 30.7 <sup>148</sup>     | 54      | 41            | 22                                               | 15    | 33    | 14             | 55                                                | 87             |      |      |
| 22  | 146                                                | 26.6 | -14                                               | 00.6 | 261                                                                                                                                                                | 51.2 <sup>116</sup> |                                                   | -10 45.5 <sup>148</sup> | 56      | 48            | 31                                               | 30    | 28    | 11             | 10                                                | 58             | 91   |      |
| 23  | 161                                                | 26.6 | -13                                               | 59.8 | 276                                                                                                                                                                | 21.7 <sup>115</sup> |                                                   | -11 00.2 <sup>147</sup> | 58      | 19 56         | 43                                               | 21 48 | 23    | 7              | 11                                                | 02             | 94   |      |
| 24  | 176                                                | 26.6 | -13                                               | 59.0 | 290                                                                                                                                                                | 52.1 <sup>114</sup> |                                                   | -11 14.9 <sup>147</sup> | 60 S    | 20 05         | 20 56                                            | 22 12 | 21 17 | 3              | 11                                                | 07             | 98   |      |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                                                                    |                     | MARTE                                             |                         |         |               | JÚPITER                                          |       |       |                | SATURNO                                           |                |      |      |
|     | PMG: 14 <sup>h</sup> 36 <sup>m</sup> 0             |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup> |      |                                                                                                                                                                    |                     | Mag: +0.9<br>PMG: 16 <sup>h</sup> 46 <sup>m</sup> |                         |         |               | Mag: -2.5<br>PMG: 1 <sup>h</sup> 51 <sup>m</sup> |       |       |                | Mag: -0.2<br>PMG: 21 <sup>h</sup> 05 <sup>m</sup> |                |      |      |
|     | hG ♈                                               |      | hG ♀                                              |      | Dec                                                                                                                                                                |                     | hG ♂                                              |                         | Dec     |               | hG ♃                                             |       | Dec   |                | hG ♄                                              |                | Dec  |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                  | '                   | °                                                 | '                       | °       | '             | °                                                | '     | °     | '              | °                                                 | '              | °    | '    |
| 0   | 140                                                | 24.4 | 137                                               | 44.5 | +0                                                                                                                                                                 | 43.6                | 108                                               | 07.4                    | +13     | 50.6          | 332                                              | 06.3  | +6    | 31.3           | 42                                                | 56.2           | +22  | 40.9 |
| 1   | 155                                                | 26.9 | 152                                               | 44.3 |                                                                                                                                                                    | 44.9                | 123                                               | 08.3                    |         | 51.2          | 347                                              | 09.0  |       | 31.4           | 57                                                | 58.8           |      | 40.9 |
| 2   | 170                                                | 29.4 | 167                                               | 44.1 |                                                                                                                                                                    | 46.2                | 138                                               | 09.2                    |         | 51.7          | 2                                                | 11.7  |       | 31.6           | 73                                                | 01.4           |      | 41.0 |
| 3   | 185                                                | 31.8 | 182                                               | 44.0 |                                                                                                                                                                    | 47.5                | 153                                               | 10.1                    |         | 52.3          | 17                                               | 14.5  |       | 31.7           | 88                                                | 03.9           |      | 41.0 |
| 4   | 200                                                | 34.3 | 197                                               | 43.8 |                                                                                                                                                                    | 48.8                | 168                                               | 11.1                    |         | 52.9          | 32                                               | 17.2  |       | 31.8           | 103                                               | 06.5           |      | 41.0 |
| 5   | 215                                                | 36.8 | 212                                               | 43.6 | +0                                                                                                                                                                 | 50.2                | 183                                               | 12.0                    | +13     | 53.4          | 47                                               | 19.9  | +6    | 31.9           | 118                                               | 09.1           | +22  | 41.0 |
| 6   | 230                                                | 39.2 | 227                                               | 43.4 | +0                                                                                                                                                                 | 51.5                | 198                                               | 12.9                    | +13     | 54.0          | 62                                               | 22.6  | +6    | 32.0           | 133                                               | 11.7           | +22  | 41.0 |
| 7   | 245                                                | 41.7 | 242                                               | 43.3 |                                                                                                                                                                    | 52.8                | 213                                               | 13.9                    |         | 54.6          | 77                                               | 25.3  |       | 32.1           | 148                                               | 14.3           |      | 41.0 |
| 8   | 260                                                | 44.2 | 257                                               | 43.1 |                                                                                                                                                                    | 54.1                | 228                                               | 14.8                    |         | 55.1          | 92                                               | 28.0  |       | 32.2           | 163                                               | 16.9           |      | 41.0 |
| 9   | 275                                                | 46.6 | 272                                               | 42.9 |                                                                                                                                                                    | 55.4                | 243                                               | 15.7                    |         | 55.7          | 107                                              | 30.7  |       | 32.3           | 178                                               | 19.5           |      | 41.0 |
| 10  | 290                                                | 49.1 | 287                                               | 42.7 |                                                                                                                                                                    | 56.7                | 258                                               | 16.6                    |         | 56.2          | 122                                              | 33.4  |       | 32.5           | 193                                               | 22.1           |      | 41.1 |
| 11  | 305                                                | 51.5 | 302                                               | 42.6 | +0                                                                                                                                                                 | 58.0                | 273                                               | 17.6                    | +13     | 56.8          | 137                                              | 36.2  | +6    | 32.6           | 208                                               | 24.6           | +22  | 41.1 |
| 12  | 320                                                | 54.0 | 317                                               | 42.4 | +0                                                                                                                                                                 | 59.3                | 288                                               | 18.5                    | +13     | 57.4          | 152                                              | 38.9  | +6    | 32.7           | 223                                               | 27.2           | +22  | 41.1 |
| 13  | 335                                                | 56.5 | 332                                               | 42.2 | +1                                                                                                                                                                 | 00.6                | 303                                               | 19.4                    |         | 57.9          | 167                                              | 41.6  |       | 32.8           | 238                                               | 29.8           |      | 41.1 |
| 14  | 350                                                | 58.9 | 347                                               | 42.0 |                                                                                                                                                                    | 02.0                | 318                                               | 20.3                    |         | 58.5          | 182                                              | 44.3  |       | 32.9           | 253                                               | 32.4           |      | 41.1 |
| 15  | 6                                                  | 01.4 | 2                                                 | 41.9 |                                                                                                                                                                    | 03.3                | 333                                               | 21.3                    |         | 59.1          | 197                                              | 47.0  |       | 33.0           | 268                                               | 35.0           |      | 41.1 |
| 16  | 21                                                 | 03.9 | 17                                                | 41.7 |                                                                                                                                                                    | 04.6                | 348                                               | 22.2                    | +13     | 59.6          | 212                                              | 49.7  |       | 33.1           | 283                                               | 37.6           |      | 41.1 |
| 17  | 36                                                 | 06.3 | 32                                                | 41.5 | +1                                                                                                                                                                 | 05.9                | 3                                                 | 23.1                    | +14     | 00.2          | 227                                              | 52.4  | +6    | 33.3           | 298                                               | 40.2           | +22  | 41.1 |
| 18  | 51                                                 | 08.8 | 47                                                | 41.4 | +1                                                                                                                                                                 | 07.2                | 18                                                | 24.1                    | +14     | 00.7          | 242                                              | 55.2  | +6    | 33.4           | 313                                               | 42.7           | +22  | 41.2 |
| 19  | 66                                                 | 11.3 | 62                                                | 41.2 |                                                                                                                                                                    | 08.5                | 33                                                | 25.0                    |         | 01.3          | 257                                              | 57.9  |       | 33.5           | 328                                               | 45.3           |      | 41.2 |
| 20  | 81                                                 | 13.7 | 77                                                | 41.0 |                                                                                                                                                                    | 09.8                | 48                                                | 25.9                    |         | 01.9          | 273                                              | 00.6  |       | 33.6           | 343                                               | 47.9           |      | 41.2 |
| 21  | 96                                                 | 16.2 | 92                                                | 40.8 |                                                                                                                                                                    | 11.1                | 63                                                | 26.8                    |         | 02.4          | 288                                              | 03.3  |       | 33.7           | 358                                               | 50.5           |      | 41.2 |
| 22  | 111                                                | 18.7 | 107                                               | 40.7 |                                                                                                                                                                    | 12.4                | 78                                                | 27.8                    |         | 03.0          | 303                                              | 06.0  |       | 33.8           | 13                                                | 53.1           |      | 41.2 |
| 23  | 126                                                | 21.1 | 122                                               | 40.5 |                                                                                                                                                                    | 13.7                | 93                                                | 28.7                    |         | 03.5          | 318                                              | 08.7  |       | 33.9           | 28                                                | 55.7           |      | 41.2 |
| 24  | 141                                                | 23.6 | 137                                               | 40.3 | +1                                                                                                                                                                 | 15.1                | 108                                               | 29.6                    | +14     | 04.1          | 333                                              | 11.4  | +6    | 34.1           | 43                                                | 58.2           | +22  | 41.2 |
| Dif | —                                                  |      | -2                                                |      | +13                                                                                                                                                                |                     | +9                                                |                         | +6      |               | +27                                              |       | +1    |                | +26                                               |                |      |      |

| UT  | SOL                                                |      |     | ☾ LUNA                                                                                                                                                                            |     |                     | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna                                    |       |     |      |     |      |
|-----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|------|---------------------------------------------------|-------|-----|------|-----|------|
|     | SD: 16'2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |      |     | Edad: 21 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 58'7<br>12 <sup>h</sup> : 58'8<br>20 <sup>h</sup> : 58'9<br>SD: 16'0<br>PMG: 4 <sup>h</sup> 46 <sup>m</sup> R°: 51 <sup>m</sup> |     |                     |                                                   |                          |         |                                                  |                |      |                                                   |       |     |      |     |      |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec                 |                                                   | Dif                      | Náutico |                                                  | Civil          | Hora | R°                                                | Hora  | R°  |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | h                        | m       | h                                                | m              | h    | m                                                 | h     | m   |      |     |      |
| 0   | 176                                                | 26.6 | -13 | 59.0                                                                                                                                                                              | 290 | 52.1                | -11                                               | 14.9                     | 60 N    | 6 14                                             | 7 03           | 7 48 | ** ** *                                           | 9 16  | 4   |      |     |      |
| 1   | 191                                                | 26.6 |     | 58.1                                                                                                                                                                              | 305 | 22.5 <sup>114</sup> |                                                   | 29.5 <sup>146</sup>      | 58      | 12                                               | 6 59           | 40   | ** ** *                                           | 24    | 8   |      |     |      |
| 2   | 206                                                | 26.6 |     | 57.3                                                                                                                                                                              | 319 | 52.8 <sup>113</sup> |                                                   | 44.0 <sup>145</sup>      | 56      | 11                                               | 54             | 34   | ** ** *                                           | 31    | 12  |      |     |      |
| 3   | 221                                                | 26.6 |     | 56.5                                                                                                                                                                              | 334 | 23.0 <sup>112</sup> | -11                                               | 58.5 <sup>145</sup>      | 54      | 09                                               | 50             | 28   | ** ** *                                           | 37    | 16  |      |     |      |
| 4   | 236                                                | 26.6 |     | 55.7                                                                                                                                                                              | 348 | 53.2 <sup>112</sup> | -12                                               | 13.0 <sup>145</sup>      | 52      | 07                                               | 47             | 22   | ** ** *                                           | 43    | 19  |      |     |      |
| 5   | 251                                                | 26.6 | -13 | 54.8                                                                                                                                                                              | 3   | 23.3 <sup>111</sup> | -12                                               | 27.4 <sup>144</sup>      | 50      | 6 05                                             | 6 43           | 7 17 | ** ** *                                           | 9 48  | 21  |      |     |      |
| 6   | 266                                                | 26.6 | -13 | 54.0                                                                                                                                                                              | 17  | 53.3 <sup>110</sup> | -12                                               | 41.7 <sup>143</sup>      | 45      | 6 02                                             | 6 36           | 7 06 | ** ** *                                           | 9 59  | 27  |      |     |      |
| 7   | 281                                                | 26.6 |     | 53.2                                                                                                                                                                              | 32  | 23.2 <sup>109</sup> | -12                                               | 56.0 <sup>143</sup>      | 40      | 5 58                                             | 30             | 6 58 | ** ** *                                           | 10 09 | 31  |      |     |      |
| 8   | 296                                                | 26.6 |     | 52.4                                                                                                                                                                              | 46  | 53.1 <sup>109</sup> | -13                                               | 10.2 <sup>142</sup>      | 35      | 54                                               | 24             | 50   | ** ** *                                           | 17    | 35  |      |     |      |
| 9   | 311                                                | 26.6 |     | 51.5                                                                                                                                                                              | 61  | 22.9 <sup>108</sup> |                                                   | 24.4 <sup>142</sup>      | 30      | 50                                               | 18             | 43   | ** ** *                                           | 24    | 38  |      |     |      |
| 10  | 326                                                | 26.6 |     | 50.7                                                                                                                                                                              | 75  | 52.6 <sup>107</sup> |                                                   | 38.5 <sup>141</sup>      | 20      | 43                                               | 6 09           | 31   | 23 51 63                                          | 37    | 43  |      |     |      |
| 11  | 341                                                | 26.6 | -13 | 49.9                                                                                                                                                                              | 90  | 22.2 <sup>106</sup> | -13                                               | 52.5 <sup>140</sup>      | 10 N    | 5 34                                             | 5 59           | 6 21 | 23 37 59                                          | 10 48 | 47  |      |     |      |
| 12  | 356                                                | 26.6 | -13 | 49.0                                                                                                                                                                              | 104 | 51.8 <sup>106</sup> | -14                                               | 06.4 <sup>139</sup>      | 0       | 5 25                                             | 5 49           | 6 11 | 23 25 54                                          | 10 58 | 52  |      |     |      |
| 13  | 11                                                 | 26.6 |     | 48.2                                                                                                                                                                              | 119 | 21.2 <sup>104</sup> |                                                   | 20.3 <sup>139</sup>      | 10 S    | 14                                               | 39             | 6 01 | 23 12 50                                          | 11 08 | 57  |      |     |      |
| 14  | 26                                                 | 26.6 |     | 47.4                                                                                                                                                                              | 133 | 50.6 <sup>104</sup> |                                                   | 34.1 <sup>138</sup>      | 20      | 5 00                                             | 27             | 5 50 | 22 59 46                                          | 19    | 61  |      |     |      |
| 15  | 41                                                 | 26.7 |     | 46.6                                                                                                                                                                              | 148 | 19.9 <sup>103</sup> | -14                                               | 47.9 <sup>138</sup>      | 30      | 4 42                                             | 12             | 37   | 44 41                                             | 32    | 67  |      |     |      |
| 16  | 56                                                 | 26.7 |     | 45.7                                                                                                                                                                              | 162 | 49.1 <sup>102</sup> | -15                                               | 01.5 <sup>136</sup>      | 35      | 31                                               | 5 03           | 30   | 35 38                                             | 39    | 70  |      |     |      |
| 17  | 71                                                 | 26.7 | -13 | 44.9                                                                                                                                                                              | 177 | 18.3 <sup>102</sup> | -15                                               | 15.1 <sup>136</sup>      | 40      | 4 17                                             | 4 53           | 5 22 | 22 25 35                                          | 11 48 | 73  |      |     |      |
| 18  | 86                                                 | 26.7 | -13 | 44.1                                                                                                                                                                              | 191 | 47.3 <sup>100</sup> | -15                                               | 28.7 <sup>136</sup>      | 45      | 4 01                                             | 4 40           | 5 12 | 22 14 30                                          | 11 58 | 78  |      |     |      |
| 19  | 101                                                | 26.7 |     | 43.2                                                                                                                                                                              | 206 | 16.3 <sup>100</sup> |                                                   | 42.1 <sup>134</sup>      | 50      | 3 38                                             | 24             | 5 00 | 22 00 25                                          | 12 10 | 84  |      |     |      |
| 20  | 116                                                | 26.7 |     | 42.4                                                                                                                                                                              | 220 | 45.2 <sup>99</sup>  | -15                                               | 55.5 <sup>134</sup>      | 52      | 27                                               | 16             | 4 54 | 21 54 22                                          | 15    | 87  |      |     |      |
| 21  | 131                                                | 26.7 |     | 41.6                                                                                                                                                                              | 235 | 13.9 <sup>97</sup>  | -16                                               | 08.7 <sup>132</sup>      | 54      | 3 15                                             | 4 08           | 48   | 47 19                                             | 22    | 90  |      |     |      |
| 22  | 146                                                | 26.7 |     | 40.7                                                                                                                                                                              | 249 | 42.6 <sup>97</sup>  |                                                   | 21.9 <sup>132</sup>      | 56      | 2 59                                             | 3 58           | 41   | 39 15                                             | 29    | 93  |      |     |      |
| 23  | 161                                                | 26.7 |     | 39.9                                                                                                                                                                              | 264 | 11.2 <sup>96</sup>  |                                                   | 35.1 <sup>132</sup>      | 58      | 41                                               | 47             | 34   | 30 11                                             | 36    | 98  |      |     |      |
| 24  | 176                                                | 26.7 | -13 | 39.1                                                                                                                                                                              | 278 | 39.8 <sup>96</sup>  | -16                                               | 48.1 <sup>130</sup>      | 60 S    | 2 18                                             | 3 34           | 4 25 | 21 20 6                                           | 12 45 | 104 |      |     |      |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                                                                             |     |                     | MARTE                                             |                          |         | JÚPITER                                          |                |      | SATURNO                                           |       |     |      |     |      |
|     | PMG 14 <sup>h</sup> 32 <sup>m</sup> 0              |      |     | Mag: -4.1<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup>                                                                                                                                 |     |                     | Mag: +0.9<br>PMG: 16 <sup>h</sup> 45 <sup>m</sup> |                          |         | Mag: -2.5<br>PMG: 1 <sup>h</sup> 47 <sup>m</sup> |                |      | Mag: -0.2<br>PMG: 21 <sup>h</sup> 01 <sup>m</sup> |       |     |      |     |      |
|     | hG ♈                                               | Dec  |     | hG ♀                                                                                                                                                                              | Dec |                     | hG ♂                                              | Dec                      |         | hG ♃                                             | Dec            |      | hG ♄                                              | Dec   |     |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | '                        | °       | °                                                | '              | °    | °                                                 | '     | °   |      |     |      |
| 0   | 141                                                | 23.6 | 137 | 40.3                                                                                                                                                                              | +1  | 15.1                | 108                                               | 29.6                     | +14     | 04.1                                             | 333            | 11.4 | +6                                                | 34.1  | 43  | 58.2 | +22 | 41.2 |
| 1   | 156                                                | 26.0 | 152 | 40.2                                                                                                                                                                              |     | 16.4                | 123                                               | 30.5                     |         | 04.7                                             | 348            | 14.2 |                                                   | 34.2  | 59  | 00.8 |     | 41.2 |
| 2   | 171                                                | 28.5 | 167 | 40.0                                                                                                                                                                              |     | 17.7                | 138                                               | 31.5                     |         | 05.2                                             | 3              | 16.9 |                                                   | 34.3  | 74  | 03.4 |     | 41.3 |
| 3   | 186                                                | 31.0 | 182 | 39.8                                                                                                                                                                              |     | 19.0                | 153                                               | 32.4                     |         | 05.8                                             | 18             | 19.6 |                                                   | 34.4  | 89  | 06.0 |     | 41.3 |
| 4   | 201                                                | 33.4 | 197 | 39.7                                                                                                                                                                              |     | 20.3                | 168                                               | 33.3                     |         | 06.3                                             | 33             | 22.3 |                                                   | 34.5  | 104 | 08.6 |     | 41.3 |
| 5   | 216                                                | 35.9 | 212 | 39.5                                                                                                                                                                              | +1  | 21.6                | 183                                               | 34.2                     | +14     | 06.9                                             | 48             | 25.0 | +6                                                | 34.6  | 119 | 11.2 | +22 | 41.3 |
| 6   | 231                                                | 38.4 | 227 | 39.3                                                                                                                                                                              | +1  | 22.9                | 198                                               | 35.2                     | +14     | 07.5                                             | 63             | 27.7 | +6                                                | 34.7  | 134 | 13.7 | +22 | 41.3 |
| 7   | 246                                                | 40.8 | 242 | 39.1                                                                                                                                                                              |     | 24.2                | 213                                               | 36.1                     |         | 08.0                                             | 78             | 30.5 |                                                   | 34.9  | 149 | 16.3 |     | 41.3 |
| 8   | 261                                                | 43.3 | 257 | 39.0                                                                                                                                                                              |     | 25.5                | 228                                               | 37.0                     |         | 08.6                                             | 93             | 33.2 |                                                   | 35.0  | 164 | 18.9 |     | 41.3 |
| 9   | 276                                                | 45.8 | 272 | 38.8                                                                                                                                                                              |     | 26.8                | 243                                               | 37.9                     |         | 09.1                                             | 108            | 35.9 |                                                   | 35.1  | 179 | 21.5 |     | 41.3 |
| 10  | 291                                                | 48.2 | 287 | 38.6                                                                                                                                                                              |     | 28.2                | 258                                               | 38.8                     |         | 09.7                                             | 123            | 38.6 |                                                   | 35.2  | 194 | 24.1 |     | 41.3 |
| 11  | 306                                                | 50.7 | 302 | 38.5                                                                                                                                                                              | +1  | 29.5                | 273                                               | 39.8                     | +14     | 10.2                                             | 138            | 41.3 | +6                                                | 35.3  | 209 | 26.7 | +22 | 41.4 |
| 12  | 321                                                | 53.1 | 317 | 38.3                                                                                                                                                                              | +1  | 30.8                | 288                                               | 40.7                     | +14     | 10.8                                             | 153            | 44.1 | +6                                                | 35.4  | 224 | 29.2 | +22 | 41.4 |
| 13  | 336                                                | 55.6 | 332 | 38.1                                                                                                                                                                              |     | 32.1                | 303                                               | 41.6                     |         | 11.4                                             | 168            | 46.8 |                                                   | 35.5  | 239 | 31.8 |     | 41.4 |
| 14  | 351                                                | 58.1 | 347 | 38.0                                                                                                                                                                              |     | 33.4                | 318                                               | 42.5                     |         | 11.9                                             | 183            | 49.5 |                                                   | 35.7  | 254 | 34.4 |     | 41.4 |
| 15  | 7                                                  | 00.5 | 2   | 37.8                                                                                                                                                                              |     | 34.7                | 333                                               | 43.5                     |         | 12.5                                             | 198            | 52.2 |                                                   | 35.8  | 269 | 37.0 |     | 41.4 |
| 16  | 22                                                 | 03.0 | 17  | 37.6                                                                                                                                                                              |     | 36.0                | 348                                               | 44.4                     |         | 13.0                                             | 213            | 54.9 |                                                   | 35.9  | 284 | 39.6 |     | 41.4 |
| 17  | 37                                                 | 05.5 | 32  | 37.5                                                                                                                                                                              | +1  | 37.3                | 3                                                 | 45.3                     | +14     | 13.6                                             | 228            | 57.6 | +6                                                | 36.0  | 299 | 42.1 | +22 | 41.4 |
| 18  | 52                                                 | 07.9 | 47  | 37.3                                                                                                                                                                              | +1  | 38.6                | 18                                                | 46.2                     | +14     | 14.1                                             | 244            | 00.4 | +6                                                | 36.1  | 314 | 44.7 | +22 | 41.4 |
| 19  | 67                                                 | 10.4 | 62  | 37.1                                                                                                                                                                              |     | 39.9                | 33                                                | 47.2                     |         | 14.7                                             | 259            | 03.1 |                                                   | 36.2  | 329 | 47.3 |     | 41.5 |
| 20  | 82                                                 | 12.9 | 77  | 37.0                                                                                                                                                                              |     | 41.2                | 48                                                | 48.1                     |         | 15.3                                             | 274            | 05.8 |                                                   | 36.3  | 344 | 49.9 |     | 41.5 |
| 21  | 97                                                 | 15.3 | 92  | 36.8                                                                                                                                                                              |     | 42.6                | 63                                                | 49.0                     |         | 15.8                                             | 289            | 08.5 |                                                   | 36.5  | 359 | 52.5 |     | 41.5 |
| 22  | 112                                                | 17.8 | 107 | 36.6                                                                                                                                                                              |     | 43.9                | 78                                                | 49.9                     |         | 16.4                                             | 304            | 11.2 |                                                   | 36.6  | 14  | 55.0 |     | 41.5 |
| 23  | 127                                                | 20.3 | 122 | 36.5                                                                                                                                                                              |     | 45.2                | 93                                                | 50.8                     |         | 16.9                                             | 319            | 14.0 |                                                   | 36.7  | 29  | 57.6 |     | 41.5 |
| 24  | 142                                                | 22.7 | 137 | 36.3                                                                                                                                                                              | +1  | 46.5                | 108                                               | 51.8                     | +14     | 17.5                                             | 334            | 16.7 | +6                                                | 36.8  | 45  | 00.2 | +22 | 41.5 |
| Dif | —                                                  |      | -2  | +13                                                                                                                                                                               |     |                     | +9                                                | +6                       |         |                                                  | +27            | +1   |                                                   |       | +26 |      | 0   |      |

| UT  | SOL                                                |          |                                                   | ☾ LUNA                                                                                                                                                                         |       |                                                   | Latitud     | Puesta de Sol | Final del crepúsculo                             |         |          | Salida de Luna                                    |           | Puesta de Luna |    |
|-----|----------------------------------------------------|----------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|---------------------------------------------------|-------------|---------------|--------------------------------------------------|---------|----------|---------------------------------------------------|-----------|----------------|----|
|     | SD: 16/2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |          |                                                   | Edad: 22 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59/0<br>12 <sup>h</sup> : 59/1<br>20 <sup>h</sup> : 59/2<br>SD: 16/1<br>PMG: 5 <sup>h</sup> 37 <sup>m</sup> R°: 56 <sup>m</sup> |       |                                                   |             |               |                                                  |         |          |                                                   |           |                |    |
|     | hG ☉                                               | Dec      |                                                   | hG ☾                                                                                                                                                                           | Dif   | Dec                                               |             |               | Dif                                              | Civil   | Náutico  | Hora                                              | R°        | Hora           | R° |
| h   | °                                                  | '        | °                                                 | '                                                                                                                                                                              | °     | '                                                 | °           | h m           | h m                                              | h m     | h m m    | h m m                                             | h m m     |                |    |
| 0   | 176                                                | 26.7     | -13                                               | 39.1                                                                                                                                                                           | 278   | 39.8                                              | -16 48.1    | 60 N          | 16 44                                            | 17 29   | 18 18    | 1 40 106                                          | 9 20 7    |                |    |
| 1   | 191                                                | 26.7     |                                                   | 38.2                                                                                                                                                                           | 293   | 08.2                                              | 94 -17 01.0 | 58            | 51                                               | 33      | 19       | 28 100                                            | 32 14     |                |    |
| 2   | 206                                                | 26.7     |                                                   | 37.4                                                                                                                                                                           | 307   | 36.5                                              | 93 13.9     | 56            | 16 58                                            | 37      | 21       | 18 95                                             | 43 19     |                |    |
| 3   | 221                                                | 26.7     |                                                   | 36.6                                                                                                                                                                           | 322   | 04.8                                              | 93 26.6     | 54            | 17 04                                            | 41      | 22       | 09 91                                             | 9 53 22   |                |    |
| 4   | 236                                                | 26.7     |                                                   | 35.7                                                                                                                                                                           | 336   | 32.9                                              | 91 39.3     | 52            | 09                                               | 44      | 24       | 1 01 88                                           | 10 02 25  |                |    |
| 5   | 251                                                | 26.8     | -13                                               | 34.9                                                                                                                                                                           | 351   | 01.0                                              | 91 -17 51.9 | 50            | 17 14                                            | 17 47   | 18 25    | 0 54 85                                           | 10 09 29  |                |    |
| 6   | 266                                                | 26.8     | -13                                               | 34.1                                                                                                                                                                           | 5     | 28.9                                              | 89 -18 04.3 | 45            | 17 24                                            | 17 54   | 18 29    | 0 39 79                                           | 10 26 34  |                |    |
| 7   | 281                                                | 26.8     |                                                   | 33.2                                                                                                                                                                           | 19    | 56.8                                              | 89 16.7     | 40            | 33                                               | 18 01   | 32       | 26 75                                             | 40 38     |                |    |
| 8   | 296                                                | 26.8     |                                                   | 32.4                                                                                                                                                                           | 34    | 24.6                                              | 88 29.0     | 35            | 40                                               | 06      | 36       | 16 71                                             | 10 52 41  |                |    |
| 9   | 311                                                | 26.8     |                                                   | 31.6                                                                                                                                                                           | 48    | 52.2                                              | 86 41.2     | 30            | 47                                               | 11      | 39       | 0 07 67                                           | 11 02 44  |                |    |
| 10  | 326                                                | 26.8     |                                                   | 30.7                                                                                                                                                                           | 63    | 19.8                                              | 86 -18 53.3 | 20            | 17 58                                            | 21      | 47       | ** ** *                                           | 20 48     |                |    |
| 11  | 341                                                | 26.8     | -13                                               | 29.9                                                                                                                                                                           | 77    | 47.3                                              | 85 -19 05.2 | 10 N          | 18 08                                            | 18 30   | 18 55    | ** ** *                                           | 11 35 53  |                |    |
| 12  | 356                                                | 26.8     | -13                                               | 29.0                                                                                                                                                                           | 92    | 14.7                                              | 84 -19 17.1 | 0             | 18 18                                            | 18 39   | 19 04    | ** ** *                                           | 11 50 56  |                |    |
| 13  | 11                                                 | 26.8     |                                                   | 28.2                                                                                                                                                                           | 106   | 42.0                                              | 83 28.8     | 10 S          | 27                                               | 18 49   | 14       | ** ** *                                           | 12 05 60  |                |    |
| 14  | 26                                                 | 26.9     |                                                   | 27.4                                                                                                                                                                           | 121   | 09.2                                              | 82 40.5     | 20            | 38                                               | 19 01   | 27       | 23 45 52                                          | 20 64     |                |    |
| 15  | 41                                                 | 26.9     |                                                   | 26.5                                                                                                                                                                           | 135   | 36.3                                              | 81 -19 52.0 | 30            | 50                                               | 15      | 45       | 25 47                                             | 39 68     |                |    |
| 16  | 56                                                 | 26.9     |                                                   | 25.7                                                                                                                                                                           | 150   | 03.2                                              | 79 -20 03.5 | 35            | 18 57                                            | 23      | 19 55    | 13 45                                             | 12 49 72  |                |    |
| 17  | 71                                                 | 26.9     | -13                                               | 24.9                                                                                                                                                                           | 164   | 30.1                                              | 79 -20 14.8 | 40            | 19 05                                            | 19 34   | 20 09    | 23 00 42                                          | 13 01 75  |                |    |
| 18  | 86                                                 | 26.9     | -13                                               | 24.0                                                                                                                                                                           | 178   | 56.9                                              | 78 -20 26.0 | 45            | 19 14                                            | 19 46   | 20 25    | 22 44 38                                          | 13 16 79  |                |    |
| 19  | 101                                                | 26.9     |                                                   | 23.2                                                                                                                                                                           | 193   | 23.6                                              | 77 37.1     | 50            | 26                                               | 20 01   | 46       | 25 33                                             | 34 84     |                |    |
| 20  | 116                                                | 26.9     |                                                   | 22.3                                                                                                                                                                           | 207   | 50.2                                              | 76 48.0     | 52            | 31                                               | 09      | 20 57    | 16 31                                             | 42 87     |                |    |
| 21  | 131                                                | 26.9     |                                                   | 21.5                                                                                                                                                                           | 222   | 16.7                                              | 75 -20 58.9 | 54            | 37                                               | 17      | 21 09    | 22 06 27                                          | 13 52 90  |                |    |
| 22  | 146                                                | 27.0     |                                                   | 20.7                                                                                                                                                                           | 236   | 43.1                                              | 74 -21 09.6 | 56            | 43                                               | 26      | 23       | 21 54 24                                          | 14 02 95  |                |    |
| 23  | 161                                                | 27.0     |                                                   | 19.8                                                                                                                                                                           | 251   | 09.4                                              | 73 20.2     | 58            | 51                                               | 37      | 21 40    | 41 19                                             | 14 100    |                |    |
| 24  | 176                                                | 27.0     | -13                                               | 19.0                                                                                                                                                                           | 265   | 35.6                                              | 72 -21 30.6 | 60 S          | 19 59                                            | 20 49   | 22 02    | 21 26 13                                          | 14 29 106 |                |    |
| UT  | ARIES                                              |          | VENUS                                             |                                                                                                                                                                                |       | MARTE                                             |             |               | JÚPITER                                          |         |          | SATURNO                                           |           |                |    |
|     | PMG: 14 <sup>h</sup> 28 <sup>m</sup> 1             |          | Mag: -4.1<br>PMG: 14 <sup>h</sup> 50 <sup>m</sup> |                                                                                                                                                                                |       | Mag: +0.9<br>PMG: 16 <sup>h</sup> 44 <sup>m</sup> |             |               | Mag: -2.5<br>PMG: 1 <sup>h</sup> 43 <sup>m</sup> |         |          | Mag: -0.2<br>PMG: 20 <sup>h</sup> 56 <sup>m</sup> |           |                |    |
|     | hG ♈                                               |          | hG ♀                                              | Dec                                                                                                                                                                            |       | hG ♂                                              | Dec         |               | hG ♃                                             | Dec     |          | hG ♄                                              | Dec       |                |    |
| h   | °                                                  | '        | °                                                 | '                                                                                                                                                                              | °     | '                                                 | °           | '             | °                                                | '       | °        | '                                                 | °         | '              |    |
| 0   | 142                                                | 22.7     | 137                                               | 36.3                                                                                                                                                                           | +1    | 46.5                                              | 108 51.8    | +14 17.5      | 334 16.7                                         | +6 36.8 | 45 00.2  | +22 41.5                                          |           |                |    |
| 1   | 157                                                | 25.2     | 152                                               | 36.1                                                                                                                                                                           |       | 47.8                                              | 123 52.7    | 18.0          | 349 19.4                                         | 36.9    | 60 02.8  | 41.5                                              |           |                |    |
| 2   | 172                                                | 27.6     | 167                                               | 36.0                                                                                                                                                                           |       | 49.1                                              | 138 53.6    | 18.6          | 4 22.1                                           | 37.0    | 75 05.4  | 41.5                                              |           |                |    |
| 3   | 187                                                | 30.1     | 182                                               | 35.8                                                                                                                                                                           |       | 50.4                                              | 153 54.5    | 19.1          | 19 24.8                                          | 37.2    | 90 07.9  | 41.5                                              |           |                |    |
| 4   | 202                                                | 32.6     | 197                                               | 35.6                                                                                                                                                                           |       | 51.7                                              | 168 55.4    | 19.7          | 34 27.6                                          | 37.3    | 105 10.5 | 41.6                                              |           |                |    |
| 5   | 217                                                | 35.0     | 212                                               | 35.5                                                                                                                                                                           | +1    | 53.0                                              | 183 56.4    | +14 20.3      | 49 30.3                                          | +6 37.4 | 120 13.1 | +22 41.6                                          |           |                |    |
| 6   | 232                                                | 37.5     | 227                                               | 35.3                                                                                                                                                                           | +1    | 54.3                                              | 198 57.3    | +14 20.8      | 64 33.0                                          | +6 37.5 | 135 15.7 | +22 41.6                                          |           |                |    |
| 7   | 247                                                | 40.0     | 242                                               | 35.1                                                                                                                                                                           |       | 55.6                                              | 213 58.2    | 21.4          | 79 35.7                                          | 37.6    | 150 18.2 | 41.6                                              |           |                |    |
| 8   | 262                                                | 42.4     | 257                                               | 35.0                                                                                                                                                                           |       | 57.0                                              | 228 59.1    | 21.9          | 94 38.5                                          | 37.7    | 165 20.8 | 41.6                                              |           |                |    |
| 9   | 277                                                | 44.9     | 272                                               | 34.8                                                                                                                                                                           |       | 58.3                                              | 244 00.0    | 22.5          | 109 41.2                                         | 37.9    | 180 23.4 | 41.6                                              |           |                |    |
| 10  | 292                                                | 47.4     | 287                                               | 34.6                                                                                                                                                                           | +1    | 59.6                                              | 259 01.0    | 23.0          | 124 43.9                                         | 38.0    | 195 26.0 | 41.6                                              |           |                |    |
| 11  | 307                                                | 49.8     | 302                                               | 34.5                                                                                                                                                                           | +2    | 00.9                                              | 274 01.9    | +14 23.6      | 139 46.6                                         | +6 38.1 | 210 28.6 | +22 41.6                                          |           |                |    |
| 12  | 322                                                | 52.3     | 317                                               | 34.3                                                                                                                                                                           | +2    | 02.2                                              | 289 02.8    | +14 24.1      | 154 49.3                                         | +6 38.2 | 225 31.1 | +22 41.7                                          |           |                |    |
| 13  | 337                                                | 54.8     | 332                                               | 34.2                                                                                                                                                                           |       | 03.5                                              | 304 03.7    | 24.7          | 169 52.1                                         | 38.3    | 240 33.7 | 41.7                                              |           |                |    |
| 14  | 352                                                | 57.2     | 347                                               | 34.0                                                                                                                                                                           |       | 04.8                                              | 319 04.6    | 25.2          | 184 54.8                                         | 38.4    | 255 36.3 | 41.7                                              |           |                |    |
| 15  | 7 59.7                                             | 2 33.8   |                                                   |                                                                                                                                                                                |       | 06.1                                              | 334 05.6    | 25.8          | 199 57.5                                         | 38.6    | 270 38.9 | 41.7                                              |           |                |    |
| 16  | 23 02.1                                            | 17 33.7  |                                                   |                                                                                                                                                                                |       | 07.4                                              | 349 06.5    | 26.4          | 215 00.2                                         | 38.7    | 285 41.4 | 41.7                                              |           |                |    |
| 17  | 38 04.6                                            | 32 33.5  | +2                                                | 08.7                                                                                                                                                                           |       |                                                   | 4 07.4      | +14 26.9      | 230 03.0                                         | +6 38.8 | 300 44.0 | +22 41.7                                          |           |                |    |
| 18  | 53 07.1                                            | 47 33.3  | +2                                                | 10.0                                                                                                                                                                           |       |                                                   | 19 08.3     | +14 27.5      | 245 05.7                                         | +6 38.9 | 315 46.6 | +22 41.7                                          |           |                |    |
| 19  | 68 09.5                                            | 62 33.2  |                                                   | 11.3                                                                                                                                                                           |       |                                                   | 34 09.2     | 28.0          | 260 08.4                                         | 39.0    | 330 49.2 | 41.7                                              |           |                |    |
| 20  | 83 12.0                                            | 77 33.0  |                                                   | 12.7                                                                                                                                                                           |       |                                                   | 49 10.2     | 28.6          | 275 11.1                                         | 39.1    | 345 51.7 | 41.7                                              |           |                |    |
| 21  | 98 14.5                                            | 92 32.8  |                                                   | 14.0                                                                                                                                                                           |       |                                                   | 64 11.1     | 29.1          | 290 13.9                                         | 39.3    | 0 54.3   | 41.8                                              |           |                |    |
| 22  | 113 16.9                                           | 107 32.7 |                                                   | 15.3                                                                                                                                                                           |       |                                                   | 79 12.0     | 29.7          | 305 16.6                                         | 39.4    | 15 56.9  | 41.8                                              |           |                |    |
| 23  | 128 19.4                                           | 122 32.5 |                                                   | 16.6                                                                                                                                                                           |       |                                                   | 94 12.9     | 30.2          | 320 19.3                                         | 39.5    | 30 59.5  | 41.8                                              |           |                |    |
| 24  | 143 21.9                                           | 137 32.4 | +2                                                | 17.9                                                                                                                                                                           |       |                                                   | 109 13.8    | +14 30.8      | 335 22.0                                         | +6 39.6 | 46 02.0  | +22 41.8                                          |           |                |    |
| Dif | —                                                  |          | -2 +13                                            |                                                                                                                                                                                | +9 +6 |                                                   | +27 +1      |               | +26                                              |         | 0        |                                                   |           |                |    |

| UT | SOL                                                |      |     | <div><div></div>LUNA</div>                                                                                                                                                                                 |     |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |
|----|----------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 2 |      |     | Edad: 23 <sup>d</sup> 1 PHE <div><div>4<sup>h</sup>: 59/3</div><div>12<sup>h</sup>: 59/3</div><div>20<sup>h</sup>: 59/4</div></div><br>SD: 16:1<br>PMG: 6 <sup>h</sup> 33 <sup>m</sup> R°: 59 <sup>m</sup> |     |      |     |      |         |                          |       |               |                |    |                |    |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                                                       | Dif | Dec  | Dif |      |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |
| h  | °                                                  | '    | °   | °                                                                                                                                                                                                          | '   | °    | '   | °    | h       | m                        | h     | m             | h              | m  | h              | m  |    |
| 0  | 176                                                | 27.0 | -13 | 19.0                                                                                                                                                                                                       | 265 | 35.6 | -21 | 30.6 | 60 N    | 6                        | 10    | 6             | 58             | 7  | 43             | 3  | 26 |
| 1  | 191                                                | 27.0 |     | 18.1                                                                                                                                                                                                       | 280 | 01.7 | 71  | 41.0 | 58      | 08                       |       | 54            | 36             | 3  | 08             | 98 | 9  |
| 2  | 206                                                | 27.0 |     | 17.3                                                                                                                                                                                                       | 294 | 27.7 | 70  | -21  | 51.2    | 07                       | 50    | 29            | 2              | 53 | 93             | 10 | 02 |
| 3  | 221                                                | 27.0 |     | 16.4                                                                                                                                                                                                       | 308 | 53.6 | 69  | -22  | 01.3    | 05                       | 47    | 23            | 40             | 89 |                | 15 | 34 |
| 4  | 236                                                | 27.1 |     | 15.6                                                                                                                                                                                                       | 323 | 19.4 | 68  |      | 11.2    | 04                       | 43    | 18            | 29             | 85 |                | 27 | 37 |
| 5  | 251                                                | 27.1 | -13 | 14.8                                                                                                                                                                                                       | 337 | 45.1 | 67  | -22  | 21.0    | 6                        | 02    | 6             | 40             | 7  | 14             | 2  | 19 |
| 6  | 266                                                | 27.1 | -13 | 13.9                                                                                                                                                                                                       | 352 | 10.7 | 66  | -22  | 30.7    | 5                        | 59    | 6             | 33             | 7  | 04             | 1  | 58 |
| 7  | 281                                                | 27.1 |     | 13.1                                                                                                                                                                                                       | 6   | 36.2 | 65  |      | 40.2    | 55                       | 27    | 6             | 55             | 41 | 74             |    | 18 |
| 8  | 296                                                | 27.1 |     | 12.2                                                                                                                                                                                                       | 21  | 01.6 | 64  |      | 49.6    | 52                       | 22    | 48            |                | 27 | 71             |    | 33 |
| 9  | 311                                                | 27.1 |     | 11.4                                                                                                                                                                                                       | 35  | 26.9 | 63  | -22  | 58.9    | 49                       | 17    | 41            |                | 1  | 14             | 69 | 11 |
| 10 | 326                                                | 27.2 |     | 10.5                                                                                                                                                                                                       | 49  | 52.2 | 63  | -23  | 08.0    | 42                       | 6     | 08            | 30             | 0  | 54             | 65 | 12 |
| 11 | 341                                                | 27.2 | -13 | 09.7                                                                                                                                                                                                       | 64  | 17.3 | 61  | -23  | 17.0    | 5                        | 34    | 5             | 59             | 6  | 20             | 0  | 36 |
| 12 | 356                                                | 27.2 | -13 | 08.8                                                                                                                                                                                                       | 78  | 42.3 | 60  | -23  | 25.8    | 5                        | 25    | 5             | 50             | 6  | 11             | 0  | 19 |
| 13 | 11                                                 | 27.2 |     | 08.0                                                                                                                                                                                                       | 93  | 07.2 | 59  |      | 34.5    | 14                       | 40    | 6             | 01             | 0  | 02             | 56 | 13 |
| 14 | 26                                                 | 27.2 |     | 07.1                                                                                                                                                                                                       | 107 | 32.1 | 59  |      | 43.1    | 5                        | 01    | 28            | 5              | 51 | **             | ** | 24 |
| 15 | 41                                                 | 27.3 |     | 06.3                                                                                                                                                                                                       | 121 | 56.8 | 57  |      | 51.5    | 4                        | 44    | 14            | 39             | ** | **             | ** | 13 |
| 16 | 56                                                 | 27.3 |     | 05.4                                                                                                                                                                                                       | 136 | 21.5 | 57  | -23  | 59.7    | 33                       | 5     | 05            | 32             | 23 | 58             | 54 | 14 |
| 17 | 71                                                 | 27.3 | -13 | 04.6                                                                                                                                                                                                       | 150 | 46.0 | 55  | -24  | 07.8    | 4                        | 20    | 4             | 55             | 5  | 24             | 23 | 42 |
| 18 | 86                                                 | 27.3 | -13 | 03.7                                                                                                                                                                                                       | 165 | 10.5 | 55  | -24  | 15.7    | 4                        | 04    | 4             | 43             | 5  | 15             | 23 | 22 |
| 19 | 101                                                | 27.3 |     | 02.9                                                                                                                                                                                                       | 179 | 34.9 | 54  |      | 23.5    | 3                        | 43    | 28            | 5              | 03 | 22             | 58 | 47 |
| 20 | 116                                                | 27.4 |     | 02.0                                                                                                                                                                                                       | 193 | 59.2 | 53  |      | 31.1    | 32                       | 21    | 4             | 58             |    | 47             | 44 | 15 |
| 21 | 131                                                | 27.4 |     | 01.2                                                                                                                                                                                                       | 208 | 23.4 | 52  |      | 38.6    | 20                       | 12    | 52            |                | 33 | 42             |    | 22 |
| 22 | 146                                                | 27.4 | -13 | 00.3                                                                                                                                                                                                       | 222 | 47.5 | 51  |      | 45.9    | 3                        | 06    | 4             | 03             | 46 | 18             | 39 |    |
| 23 | 161                                                | 27.4 | -12 | 59.5                                                                                                                                                                                                       | 237 | 11.6 | 51  | -24  | 53.0    | 2                        | 49    | 3             | 52             | 39 | 22             | 00 | 35 |
| 24 | 176                                                | 27.5 | -12 | 58.6                                                                                                                                                                                                       | 251 | 35.5 | 49  | -25  | 00.0    | 2                        | 27    | 3             | 40             | 4  | 30             | 21 | 39 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 14 <sup>h</sup> 24 <sup>m</sup> 2 |      | Mag: -4.1<br>PMG: 14 <sup>h</sup> 50 <sup>m</sup> |      | Mag: +0.9<br>PMG: 16 <sup>h</sup> 42 <sup>m</sup> |      | Mag: -2.5<br>PMG: 1 <sup>h</sup> 38 <sup>m</sup> |      | Mag: -0.2<br>PMG: 20 <sup>h</sup> 52 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | °    | °                                                 | '    | °                                                | °    | °                                                 | '    |
| 0   | 143                                    | 21.9 | 137                                               | 32.4 | +2                                                | 17.9 | 109                                              | 13.8 | +14                                               | 30.8 |
| 1   | 158                                    | 24.3 | 152                                               | 32.2 |                                                   | 19.2 | 124                                              | 14.7 |                                                   | 31.3 |
| 2   | 173                                    | 26.8 | 167                                               | 32.0 |                                                   | 20.5 | 139                                              | 15.7 |                                                   | 31.9 |
| 3   | 188                                    | 29.3 | 182                                               | 31.9 |                                                   | 21.8 | 154                                              | 16.6 |                                                   | 32.4 |
| 4   | 203                                    | 31.7 | 197                                               | 31.7 |                                                   | 23.1 | 169                                              | 17.5 |                                                   | 33.0 |
| 5   | 218                                    | 34.2 | 212                                               | 31.6 | +2                                                | 24.4 | 184                                              | 18.4 | +14                                               | 33.5 |
| 6   | 233                                    | 36.6 | 227                                               | 31.4 | +2                                                | 25.7 | 199                                              | 19.3 | +14                                               | 34.1 |
| 7   | 248                                    | 39.1 | 242                                               | 31.2 |                                                   | 27.0 | 214                                              | 20.2 |                                                   | 34.6 |
| 8   | 263                                    | 41.6 | 257                                               | 31.1 |                                                   | 28.3 | 229                                              | 21.2 |                                                   | 35.2 |
| 9   | 278                                    | 44.0 | 272                                               | 30.9 |                                                   | 29.6 | 244                                              | 22.1 |                                                   | 35.7 |
| 10  | 293                                    | 46.5 | 287                                               | 30.8 |                                                   | 31.0 | 259                                              | 23.0 |                                                   | 36.3 |
| 11  | 308                                    | 49.0 | 302                                               | 30.6 | +2                                                | 32.3 | 274                                              | 23.9 | +14                                               | 36.8 |
| 12  | 323                                    | 51.4 | 317                                               | 30.4 | +2                                                | 33.6 | 289                                              | 24.8 | +14                                               | 37.4 |
| 13  | 338                                    | 53.9 | 332                                               | 30.3 |                                                   | 34.9 | 304                                              | 25.7 |                                                   | 37.9 |
| 14  | 353                                    | 56.4 | 347                                               | 30.1 |                                                   | 36.2 | 319                                              | 26.7 |                                                   | 38.5 |
| 15  | 8                                      | 58.8 | 2                                                 | 30.0 |                                                   | 37.5 | 334                                              | 27.6 |                                                   | 39.0 |
| 16  | 24                                     | 01.3 | 17                                                | 29.8 |                                                   | 38.8 | 349                                              | 28.5 |                                                   | 39.6 |
| 17  | 39                                     | 03.7 | 32                                                | 29.6 | +2                                                | 40.1 | 4                                                | 29.4 | +14                                               | 40.1 |
| 18  | 54                                     | 06.2 | 47                                                | 29.5 | +2                                                | 41.4 | 19                                               | 30.3 | +14                                               | 40.7 |
| 19  | 69                                     | 08.7 | 62                                                | 29.3 |                                                   | 42.7 | 34                                               | 31.2 |                                                   | 41.2 |
| 20  | 84                                     | 11.1 | 77                                                | 29.2 |                                                   | 44.0 | 49                                               | 32.1 |                                                   | 41.8 |
| 21  | 99                                     | 13.6 | 92                                                | 29.0 |                                                   | 45.3 | 64                                               | 33.1 |                                                   | 42.3 |
| 22  | 114                                    | 16.1 | 107                                               | 28.8 |                                                   | 46.6 | 79                                               | 34.0 |                                                   | 42.9 |
| 23  | 129                                    | 18.5 | 122                                               | 28.7 |                                                   | 47.9 | 94                                               | 34.9 |                                                   | 43.4 |
| 24  | 144                                    | 21.0 | 137                                               | 28.5 | +2                                                | 49.2 | 109                                              | 35.8 | +14                                               | 44.0 |
| Dif | —                                      |      | -2                                                | +13  |                                                   |      | +9                                               | +5   |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                  |      | +27                                               | +1   |
|     |                                        |      |                                                   |      |                                                   |      |                                                  |      |                                                   | +26  |
|     |                                        |      |                                                   |      |                                                   |      |                                                  |      |                                                   | 0    |



| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                                                                            |         |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                   | Puesta de Luna |          |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|----------|
|     | SD: 16'2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 1 |      |                                                   | Edad: 24 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 59'5<br>12 <sup>h</sup> : 59'5<br>20 <sup>h</sup> : 59'5<br>SD: 16'2<br>PMG: 7 <sup>h</sup> 32 <sup>m</sup> R°: 62 <sup>m</sup> |         |                                                   |         |               |                                                  |       |                |                                                   |                |          |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                              | Dif     | Dec                                               |         |               | Dif                                              | Civil | Náutico        | Hora                                              | R°             | Hora     | R°       |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                 | °       | '                                                 | °       | '             | h m                                              | h m   | h m            | h m                                               | h m            | h m      | h m      |
| 0   | 176                                                | 27.5 | -12                                               | 58.6                                                                                                                                                                              | 251     | 35.5                                              | -25     | 00.0          | 60 N                                             | 16 49 | 17 33          | 18 22                                             | 5 12           | 91       | 9 44 40  |
| 1   | 191                                                | 27.5 |                                                   | 57.8                                                                                                                                                                              | 265     | 59.4                                              | 49      | -25 06.8      | 58                                               | 16 56 | 37             | 24                                                | 4 46           | 85       | 10 11 45 |
| 2   | 206                                                | 27.5 |                                                   | 56.9                                                                                                                                                                              | 280     | 23.2                                              | 48      | 13.4          | 56                                               | 17 02 | 41             | 25                                                | 26             | 81       | 32 49    |
| 3   | 221                                                | 27.5 |                                                   | 56.1                                                                                                                                                                              | 294     | 46.9                                              | 47      | 19.9          | 54                                               | 08    | 45             | 26                                                | 4 09           | 78       | 10 49 51 |
| 4   | 236                                                | 27.5 |                                                   | 55.2                                                                                                                                                                              | 309     | 10.5                                              | 46      | 26.2          | 52                                               | 13    | 48             | 27                                                | 3 54           | 77       | 11 04 52 |
| 5   | 251                                                | 27.6 | -12                                               | 54.4                                                                                                                                                                              | 323     | 34.1                                              | 46      | -25 32.4      | 50                                               | 17 17 | 17 51          | 18 29                                             | 3 42           | 75       | 11 17 54 |
| 6   | 266                                                | 27.6 | -12                                               | 53.5                                                                                                                                                                              | 337     | 57.5                                              | 44      | -25 38.3      | 45                                               | 17 27 | 17 57          | 18 32                                             | 3 16           | 72       | 11 43 57 |
| 7   | 281                                                | 27.6 |                                                   | 52.7                                                                                                                                                                              | 352     | 21.0                                              | 45      | 44.1          | 40                                               | 35    | 18 03          | 35                                                | 2 55           | 71       | 12 05 57 |
| 8   | 296                                                | 27.6 |                                                   | 51.8                                                                                                                                                                              | 6       | 44.3                                              | 43      | 49.8          | 35                                               | 42    | 08             | 38                                                | 38             | 69       | 22 59    |
| 9   | 311                                                | 27.7 |                                                   | 51.0                                                                                                                                                                              | 21      | 07.6                                              | 43      | -25 55.2      | 30                                               | 48    | 13             | 41                                                | 2 23           | 68       | 12 37 60 |
| 10  | 326                                                | 27.7 |                                                   | 50.1                                                                                                                                                                              | 35      | 30.8                                              | 42      | -26 00.5      | 20                                               | 17 59 | 21             | 47                                                | 1 59           | 65       | 13 03 61 |
| 11  | 341                                                | 27.7 | -12                                               | 49.3                                                                                                                                                                              | 49      | 53.9                                              | 41      | -26 05.6      | 10 N                                             | 18 08 | 18 30          | 18 55                                             | 1 37           | 64       | 13 26 62 |
| 12  | 356                                                | 27.8 | -12                                               | 48.4                                                                                                                                                                              | 64      | 17.0                                              | 41      | -26 10.5      | 0                                                | 18 18 | 18 39          | 19 03                                             | 1 17           | 62       | 13 47 62 |
| 13  | 11                                                 | 27.8 |                                                   | 47.5                                                                                                                                                                              | 78      | 40.0                                              | 40      | 15.3          | 10 S                                             | 27    | 48             | 14                                                | 0 58           | 60       | 14 07 64 |
| 14  | 26                                                 | 27.8 |                                                   | 46.7                                                                                                                                                                              | 93      | 02.9                                              | 39      | 19.9          | 20                                               | 37    | 18 59          | 26                                                | 37             | 58       | 30 64    |
| 15  | 41                                                 | 27.8 |                                                   | 45.8                                                                                                                                                                              | 107     | 25.8                                              | 39      | 24.2          | 30                                               | 48    | 19 13          | 43                                                | 0 12           | 56       | 14 56 65 |
| 16  | 56                                                 | 27.9 |                                                   | 45.0                                                                                                                                                                              | 121     | 48.6                                              | 38      | 28.4          | 35                                               | 18 55 | 21             | 19 53                                             | ***            | ***      | 15 11 66 |
| 17  | 71                                                 | 27.9 | -12                                               | 44.1                                                                                                                                                                              | 136     | 11.4                                              | 38      | -26 32.5      | 40                                               | 19 02 | 19 31          | 20 06                                             | ***            | ***      | 15 29 67 |
| 18  | 86                                                 | 27.9 | -12                                               | 43.3                                                                                                                                                                              | 150     | 34.1                                              | 37      | -26 36.3      | 45                                               | 19 11 | 19 43          | 20 21                                             | ***            | ***      | 15 51 67 |
| 19  | 101                                                | 27.9 |                                                   | 42.4                                                                                                                                                                              | 164     | 56.8                                              | 37      | 40.0          | 50                                               | 22    | 19 57          | 42                                                | 23 45          | 62       | 16 18 68 |
| 20  | 116                                                | 28.0 |                                                   | 41.5                                                                                                                                                                              | 179     | 19.4                                              | 36      | 43.4          | 52                                               | 27    | 20 04          | 20 52                                             | 31             | 62       | 31 69    |
| 21  | 131                                                | 28.0 |                                                   | 40.7                                                                                                                                                                              | 193     | 42.0                                              | 36      | 46.7          | 54                                               | 33    | 12             | 21 03                                             | 23 15          | 62       | 16 47 69 |
| 22  | 146                                                | 28.0 |                                                   | 39.8                                                                                                                                                                              | 208     | 04.5                                              | 35      | 49.8          | 56                                               | 39    | 21             | 17                                                | 22 57          | 61       | 17 05 70 |
| 23  | 161                                                | 28.1 |                                                   | 39.0                                                                                                                                                                              | 222     | 27.0                                              | 35      | 52.8          | 58                                               | 46    | 31             | 33                                                | 35             | 60       | 27 72    |
| 24  | 176                                                | 28.1 | -12                                               | 38.1                                                                                                                                                                              | 236     | 49.5                                              | 35      | -26 55.5      | 60 S                                             | 19 53 | 20 43          | 21 53                                             | 22 06          | 58       | 17 55 74 |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                   |         | MARTE                                             |         |               | JÚPITER                                          |       |                | SATURNO                                           |                |          |          |
|     | PMG: 14 <sup>h</sup> 20 <sup>m</sup> 2             |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 50 <sup>m</sup> |                                                                                                                                                                                   |         | Mag: +0.9<br>PMG: 16 <sup>h</sup> 41 <sup>m</sup> |         |               | Mag: -2.5<br>PMG: 1 <sup>h</sup> 34 <sup>m</sup> |       |                | Mag: -0.2<br>PMG: 20 <sup>h</sup> 48 <sup>m</sup> |                |          |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                               |         | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |                | hG ♄                                              | Dec            |          |          |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                 | °       | '                                                 | °       | '             | °                                                | '     | °              | '                                                 | °              | '        | °        |
| 0   | 144                                                | 21.0 | 137                                               | 28.5                                                                                                                                                                              | +2 49.2 | 109                                               | 35.8    | +14 44.0      | 336                                              | 27.5  | +6 42.4        | 47                                                | 03.8           | +22 42.1 |          |
| 1   | 159                                                | 23.5 | 152                                               | 28.4                                                                                                                                                                              | 50.5    | 124                                               | 36.7    | 44.5          | 351                                              | 30.2  | 42.5           | 62                                                | 06.4           | 42.1     |          |
| 2   | 174                                                | 25.9 | 167                                               | 28.2                                                                                                                                                                              | 51.8    | 139                                               | 37.6    | 45.1          | 6                                                | 32.9  | 42.7           | 77                                                | 08.9           | 42.1     |          |
| 3   | 189                                                | 28.4 | 182                                               | 28.0                                                                                                                                                                              | 53.1    | 154                                               | 38.5    | 45.6          | 21                                               | 35.7  | 42.8           | 92                                                | 11.5           | 42.1     |          |
| 4   | 204                                                | 30.9 | 197                                               | 27.9                                                                                                                                                                              | 54.5    | 169                                               | 39.5    | 46.1          | 36                                               | 38.4  | 42.9           | 107                                               | 14.1           | 42.1     |          |
| 5   | 219                                                | 33.3 | 212                                               | 27.7                                                                                                                                                                              | +2 55.8 | 184                                               | 40.4    | +14 46.7      | 51                                               | 41.1  | +6 43.0        | 122                                               | 16.6           | +22 42.1 |          |
| 6   | 234                                                | 35.8 | 227                                               | 27.6                                                                                                                                                                              | +2 57.1 | 199                                               | 41.3    | +14 47.2      | 66                                               | 43.8  | +6 43.1        | 137                                               | 19.2           | +22 42.1 |          |
| 7   | 249                                                | 38.2 | 242                                               | 27.4                                                                                                                                                                              | 58.4    | 214                                               | 42.2    | 47.8          | 81                                               | 46.6  | 43.3           | 152                                               | 21.8           | 42.1     |          |
| 8   | 264                                                | 40.7 | 257                                               | 27.3                                                                                                                                                                              | +2 59.7 | 229                                               | 43.1    | 48.3          | 96                                               | 49.3  | 43.4           | 167                                               | 24.3           | 42.2     |          |
| 9   | 279                                                | 43.2 | 272                                               | 27.1                                                                                                                                                                              | +3 01.0 | 244                                               | 44.0    | 48.9          | 111                                              | 52.0  | 43.5           | 182                                               | 26.9           | 42.2     |          |
| 10  | 294                                                | 45.6 | 287                                               | 26.9                                                                                                                                                                              | 02.3    | 259                                               | 44.9    | 49.4          | 126                                              | 54.8  | 43.6           | 197                                               | 29.5           | 42.2     |          |
| 11  | 309                                                | 48.1 | 302                                               | 26.8                                                                                                                                                                              | +3 03.6 | 274                                               | 45.8    | +14 50.0      | 141                                              | 57.5  | +6 43.7        | 212                                               | 32.1           | +22 42.2 |          |
| 12  | 324                                                | 50.6 | 317                                               | 26.6                                                                                                                                                                              | +3 04.9 | 289                                               | 46.7    | +14 50.5      | 157                                              | 00.2  | +6 43.9        | 227                                               | 34.6           | +22 42.2 |          |
| 13  | 339                                                | 53.0 | 332                                               | 26.5                                                                                                                                                                              | 06.2    | 304                                               | 47.7    | 51.1          | 172                                              | 03.0  | 44.0           | 242                                               | 37.2           | 42.2     |          |
| 14  | 354                                                | 55.5 | 347                                               | 26.3                                                                                                                                                                              | 07.5    | 319                                               | 48.6    | 51.6          | 187                                              | 05.7  | 44.1           | 257                                               | 39.8           | 42.2     |          |
| 15  | 9                                                  | 58.0 | 2                                                 | 26.2                                                                                                                                                                              | 08.8    | 334                                               | 49.5    | 52.2          | 202                                              | 08.4  | 44.2           | 272                                               | 42.3           | 42.2     |          |
| 16  | 25                                                 | 00.4 | 17                                                | 26.0                                                                                                                                                                              | 10.1    | 349                                               | 50.4    | 52.7          | 217                                              | 11.1  | 44.3           | 287                                               | 44.9           | 42.2     |          |
| 17  | 40                                                 | 02.9 | 32                                                | 25.9                                                                                                                                                                              | +3 11.4 | 4                                                 | 51.3    | +14 53.2      | 232                                              | 13.9  | +6 44.5        | 302                                               | 47.5           | +22 42.3 |          |
| 18  | 55                                                 | 05.4 | 47                                                | 25.7                                                                                                                                                                              | +3 12.7 | 19                                                | 52.2    | +14 53.8      | 247                                              | 16.6  | +6 44.6        | 317                                               | 50.0           | +22 42.3 |          |
| 19  | 70                                                 | 07.8 | 62                                                | 25.5                                                                                                                                                                              | 14.0    | 34                                                | 53.1    | 54.3          | 262                                              | 19.3  | 44.7           | 332                                               | 52.6           | 42.3     |          |
| 20  | 85                                                 | 10.3 | 77                                                | 25.4                                                                                                                                                                              | 15.3    | 49                                                | 54.0    | 54.9          | 277                                              | 22.1  | 44.8           | 347                                               | 55.2           | 42.3     |          |
| 21  | 100                                                | 12.7 | 92                                                | 25.2                                                                                                                                                                              | 16.6    | 64                                                | 54.9    | 55.4          | 292                                              | 24.8  | 44.9           | 2                                                 | 57.7           | 42.3     |          |
| 22  | 115                                                | 15.2 | 107                                               | 25.1                                                                                                                                                                              | 17.9    | 79                                                | 55.9    | 56.0          | 307                                              | 27.5  | 45.1           | 18                                                | 00.3           | 42.3     |          |
| 23  | 130                                                | 17.7 | 122                                               | 24.9                                                                                                                                                                              | 19.2    | 94                                                | 56.8    | 56.5          | 322                                              | 30.3  | 45.2           | 33                                                | 02.9           | 42.3     |          |
| 24  | 145                                                | 20.1 | 137                                               | 24.8                                                                                                                                                                              | +3 20.5 | 109                                               | 57.7    | +14 57.1      | 337                                              | 33.0  | +6 45.3        | 48                                                | 05.4           | +22 42.3 |          |
| Dif | —                                                  |      | -2 +13                                            |                                                                                                                                                                                   | +9 +5   |                                                   | +27 +1  |               | +26                                              |       | 0              |                                                   |                |          |          |

| UT | SOL                                                |      |     |      | LUNA                                                                                                                                                                              |      |     |      |      |    | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |    |      |    |
|----|----------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|------|----|---------|--------------------------|------|---------------|----------------|-------|----------------|----|------|----|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 1 |      |     |      | Edad: 25 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 59/5<br>12 <sup>h</sup> : 59/5<br>20 <sup>h</sup> : 59/5<br>SD: 16:2<br>PMG: 8 <sup>h</sup> 34 <sup>m</sup> R°: 63 <sup>m</sup> |      |     |      |      |    |         |                          |      |               |                |       |                |    |      |    |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                                              |      | Dif |      | Dec  |    |         | Dif                      |      |               | Náutico        | Civil | Hora           | R° | Hora | R° |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                 | '    | °   | '    | °    | '  | °       | '                        | h    | m             | h              | m     | h              | m  | h    | m  |
| 0  | 176                                                | 28.1 | -12 | 38.1 | 236                                                                                                                                                                               | 49.5 | -26 | 55.5 | 25   | 58 | 60 N    | 6 05                     | 6 53 | 7 37          | 6 43           | 55    | 10             | 24 | 77   |    |
| 1  | 191                                                | 28.1 |     | 37.3 | 251                                                                                                                                                                               | 11.9 | 34  | -26  | 58.0 | 25 | 58      | 04                       | 50   | 31            | 6 11           | 57    | 10             | 56 | 75   |    |
| 2  | 206                                                | 28.2 |     | 36.4 | 265                                                                                                                                                                               | 34.3 | 34  | -27  | 00.4 | 24 | 56      | 02                       | 46   | 25            | 5 47           | 59    | 11             | 21 | 72   |    |
| 3  | 221                                                | 28.2 |     | 35.5 | 279                                                                                                                                                                               | 56.7 | 34  |      | 02.5 | 21 | 54      | 01                       | 43   | 19            | 27             | 60    | 40             | 71 |      |    |
| 4  | 236                                                | 28.2 |     | 34.7 | 294                                                                                                                                                                               | 19.0 | 33  |      | 04.5 | 20 | 52      | 6 00                     | 40   | 14            | 5 11           | 60    | 11             | 56 | 71   |    |
| 5  | 251                                                | 28.2 | -12 | 33.8 | 308                                                                                                                                                                               | 41.3 | 33  | -27  | 06.3 | 18 | 50      | 5 59                     | 6 37 | 7 10          | 4 57           | 61    | 12             | 11 | 69   |    |
| 6  | 266                                                | 28.3 | -12 | 32.9 | 323                                                                                                                                                                               | 03.6 | 33  | -27  | 07.9 | 16 | 45      | 5 56                     | 6 30 | 7 01          | 4 28           | 62    | 12             | 40 | 68   |    |
| 7  | 281                                                | 28.3 |     | 32.1 | 337                                                                                                                                                                               | 25.8 | 32  |      | 09.3 | 14 | 40      | 53                       | 25   | 6 53          | 4 06           | 62    | 13             | 02 | 68   |    |
| 8  | 296                                                | 28.3 |     | 31.2 | 351                                                                                                                                                                               | 48.1 | 33  |      | 10.5 | 12 | 35      | 50                       | 20   | 46            | 3 47           | 62    | 21             | 66 |      |    |
| 9  | 311                                                | 28.4 |     | 30.4 | 6                                                                                                                                                                                 | 10.3 | 32  |      | 11.5 | 10 | 30      | 47                       | 15   | 40            | 31             | 62    | 13             | 37 | 66   |    |
| 10 | 326                                                | 28.4 |     | 29.5 | 20                                                                                                                                                                                | 32.5 | 32  |      | 12.3 | 8  | 20      | 41                       | 6 07 | 29            | 3 04           | 63    | 14             | 04 | 65   |    |
| 11 | 341                                                | 28.4 | -12 | 28.6 | 34                                                                                                                                                                                | 54.7 | 32  | -27  | 13.0 | 7  | 10 N    | 5 33                     | 5 58 | 6 20          | 2 41           | 63    | 14             | 28 | 63   |    |
| 12 | 356                                                | 28.5 | -12 | 27.8 | 49                                                                                                                                                                                | 16.9 | 32  | -27  | 13.4 | 4  | 0       | 5 25                     | 5 50 | 6 11          | 2 19           | 63    | 14             | 49 | 63   |    |
| 13 | 11                                                 | 28.5 |     | 26.9 | 63                                                                                                                                                                                | 39.1 | 32  |      | 13.7 | 3  | 10 S    | 15                       | 40   | 6 02          | 1 58           | 63    | 15             | 11 | 62   |    |
| 14 | 26                                                 | 28.5 |     | 26.0 | 78                                                                                                                                                                                | 01.2 | 31  |      | 13.7 | 0  | 20      | 5 02                     | 29   | 5 52          | 35             | 63    | 15             | 34 | 61   |    |
| 15 | 41                                                 | 28.6 |     | 25.2 | 92                                                                                                                                                                                | 23.4 | 32  |      | 13.6 | 1  | 30      | 4 46                     | 16   | 41            | 1 08           | 63    | 16             | 01 | 59   |    |
| 16 | 56                                                 | 28.6 |     | 24.3 | 106                                                                                                                                                                               | 45.6 | 32  |      | 13.3 | 3  | 35      | 36                       | 5 07 | 34            | 0 52           | 63    | 17             | 58 |      |    |
| 17 | 71                                                 | 28.7 | -12 | 23.4 | 121                                                                                                                                                                               | 07.8 | 32  | -27  | 12.7 | 6  | 40      | 4 23                     | 4 58 | 5 26          | 0 34           | 63    | 16             | 36 | 56   |    |
| 18 | 86                                                 | 28.7 | -12 | 22.6 | 135                                                                                                                                                                               | 30.0 | 32  | -27  | 12.0 | 7  | 45      | 4 08                     | 4 46 | 5 18          | 0 12           | 63    | 16             | 58 | 55   |    |
| 19 | 101                                                | 28.7 |     | 21.7 | 149                                                                                                                                                                               | 52.2 | 32  |      | 11.1 | 9  | 50      | 3 47                     | 32   | 07            | ** ** *        | **    | 17             | 26 | 53   |    |
| 20 | 116                                                | 28.8 |     | 20.8 | 164                                                                                                                                                                               | 14.4 | 32  |      | 10.0 | 11 | 52      | 37                       | 25   | 5 02          | ** ** *        | **    | 40             | 52 |      |    |
| 21 | 131                                                | 28.8 |     | 20.0 | 178                                                                                                                                                                               | 36.6 | 32  |      | 08.7 | 13 | 54      | 26                       | 17   | 4 57          | ** ** *        | **    | 17             | 56 | 50   |    |
| 22 | 146                                                | 28.8 |     | 19.1 | 192                                                                                                                                                                               | 58.9 | 33  |      | 07.3 | 14 | 56      | 3 13                     | 4 08 | 50            | 23 58          | 82    | 18             | 15 | 48   |    |
| 23 | 161                                                | 28.9 |     | 18.2 | 207                                                                                                                                                                               | 21.1 | 32  |      | 05.6 | 17 | 58      | 2 56                     | 3 58 | 44            | 35             | 86    | 18             | 39 | 44   |    |
| 24 | 176                                                | 28.9 | -12 | 17.4 | 221                                                                                                                                                                               | 43.4 | 33  | -27  | 03.7 | 19 | 60 S    | 2 36                     | 3 46 | 4 36          | 23 04          | 92    | 19             | 09 | 38   |    |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                          |          | SATURNO                                           |      |         |     |      |          |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|--------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG<br>14 <sup>h</sup> 16 <sup>m</sup> 3 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |      | Mag: +0.9<br>PMG: 16 <sup>h</sup> 39 <sup>m</sup> |     | Mag: -2.5<br>PMG: 1 <sup>h</sup> 30 <sup>m</sup> |          | Mag: -0.2<br>PMG: 20 <sup>h</sup> 44 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                     |      | hG ♀                                              |      | hG ♂                                              |     | hG ♃                                             |          | hG ♄                                              |      |         |     |      |          |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '   | °                                                | '        | °                                                 | '    |         |     |      |          |
| 0   | 145                                      | 20.1 | 137                                               | 24.8 | +3 20.5                                           | 109 | 57.7                                             | +14 57.1 | 337                                               | 33.0 | +6 45.3 | 48  | 05.4 | +22 42.3 |
| 1   | 160                                      | 22.6 | 152                                               | 24.6 | 21.8                                              | 124 | 58.6                                             | 57.6     | 352                                               | 35.7 | 45.4    | 63  | 08.0 | 42.4     |
| 2   | 175                                      | 25.1 | 167                                               | 24.5 | 23.1                                              | 139 | 59.5                                             | 58.1     | 7                                                 | 38.5 | 45.5    | 78  | 10.6 | 42.4     |
| 3   | 190                                      | 27.5 | 182                                               | 24.3 | 24.4                                              | 155 | 00.4                                             | 58.7     | 22                                                | 41.2 | 45.7    | 93  | 13.1 | 42.4     |
| 4   | 205                                      | 30.0 | 197                                               | 24.1 | 25.7                                              | 170 | 01.3                                             | 59.2     | 37                                                | 43.9 | 45.8    | 108 | 15.7 | 42.4     |
| 5   | 220                                      | 32.5 | 212                                               | 24.0 | +3 27.0                                           | 185 | 02.2                                             | +14 59.8 | 52                                                | 46.7 | +6 45.9 | 123 | 18.2 | +22 42.4 |
| 6   | 235                                      | 34.9 | 227                                               | 23.8 | +3 28.3                                           | 200 | 03.1                                             | +15 00.3 | 67                                                | 49.4 | +6 46.0 | 138 | 20.8 | +22 42.4 |
| 7   | 250                                      | 37.4 | 242                                               | 23.7 | 29.6                                              | 215 | 04.0                                             | 00.9     | 82                                                | 52.1 | 46.1    | 153 | 23.4 | 42.4     |
| 8   | 265                                      | 39.9 | 257                                               | 23.5 | 30.9                                              | 230 | 04.9                                             | 01.4     | 97                                                | 54.9 | 46.3    | 168 | 25.9 | 42.4     |
| 9   | 280                                      | 42.3 | 272                                               | 23.4 | 32.2                                              | 245 | 05.9                                             | 01.9     | 112                                               | 57.6 | 46.4    | 183 | 28.5 | 42.4     |
| 10  | 295                                      | 44.8 | 287                                               | 23.2 | 33.5                                              | 260 | 06.8                                             | 02.5     | 128                                               | 00.3 | 46.5    | 198 | 31.1 | 42.4     |
| 11  | 310                                      | 47.2 | 302                                               | 23.1 | +3 34.8                                           | 275 | 07.7                                             | +15 03.0 | 143                                               | 03.1 | +6 46.6 | 213 | 33.6 | +22 42.5 |
| 12  | 325                                      | 49.7 | 317                                               | 22.9 | +3 36.1                                           | 290 | 08.6                                             | +15 03.6 | 158                                               | 05.8 | +6 46.7 | 228 | 36.2 | +22 42.5 |
| 13  | 340                                      | 52.2 | 332                                               | 22.8 | 37.4                                              | 305 | 09.5                                             | 04.1     | 173                                               | 08.5 | 46.9    | 243 | 38.8 | 42.5     |
| 14  | 355                                      | 54.6 | 347                                               | 22.6 | 38.7                                              | 320 | 10.4                                             | 04.6     | 188                                               | 11.3 | 47.0    | 258 | 41.3 | 42.5     |
| 15  | 10                                       | 57.1 | 2                                                 | 22.5 | 40.0                                              | 335 | 11.3                                             | 05.2     | 203                                               | 14.0 | 47.1    | 273 | 43.9 | 42.5     |
| 16  | 25                                       | 59.6 | 17                                                | 22.3 | 41.3                                              | 350 | 12.2                                             | 05.7     | 218                                               | 16.7 | 47.2    | 288 | 46.5 | 42.5     |
| 17  | 41                                       | 02.0 | 32                                                | 22.2 | +3 42.6                                           | 5   | 13.1                                             | +15 06.3 | 233                                               | 19.5 | +6 47.3 | 303 | 49.0 | +22 42.5 |
| 18  | 56                                       | 04.5 | 47                                                | 22.0 | +3 43.9                                           | 20  | 14.0                                             | +15 06.8 | 248                                               | 22.2 | +6 47.5 | 318 | 51.6 | +22 42.5 |
| 19  | 71                                       | 07.0 | 62                                                | 21.8 | 45.2                                              | 35  | 14.9                                             | 07.3     | 263                                               | 25.0 | 47.6    | 333 | 54.1 | 42.5     |
| 20  | 86                                       | 09.4 | 77                                                | 21.7 | 46.5                                              | 50  | 15.8                                             | 07.9     | 278                                               | 27.7 | 47.7    | 348 | 56.7 | 42.6     |
| 21  | 101                                      | 11.9 | 92                                                | 21.5 | 47.8                                              | 65  | 16.7                                             | 08.4     | 293                                               | 30.4 | 47.8    | 3   | 59.3 | 42.6     |
| 22  | 116                                      | 14.4 | 107                                               | 21.4 | 49.1                                              | 80  | 17.7                                             | 09.0     | 308                                               | 33.2 | 47.9    | 19  | 01.8 | 42.6     |
| 23  | 131                                      | 16.8 | 122                                               | 21.2 | 50.4                                              | 95  | 18.6                                             | 09.5     | 323                                               | 35.9 | 48.1    | 34  | 04.4 | 42.6     |
| 24  | 146                                      | 19.3 | 137                                               | 21.1 | +3 51.7                                           | 110 | 19.5                                             | +15 10.0 | 338                                               | 38.6 | +6 48.2 | 49  | 06.9 | +22 42.6 |
| Dif | —                                        |      | -2 +13                                            |      | +9 +5                                             |     | +27 +1                                           |          | +26                                               |      |         |     |      |          |

| UT  | SOL                                                |      |                                                   | ● LUNA                                                                                                                                                             |                                                   |      | Latitud                                          | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |       | Puesta de Luna |         |       |       |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|--------------------------------------------------|---------------|---------------------------------------------------|-------|----------------|-------|----------------|---------|-------|-------|----|
|     | SD: 16/2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 0 |      |                                                   | Edad: 26 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59/5<br>12 <sup>h</sup> : 59/4<br>20 <sup>h</sup> : 59/4<br>PMG: 9 <sup>h</sup> 37 <sup>m</sup> R°: 61 <sup>m</sup> |                                                   |      |                                                  |               |                                                   |       |                |       |                |         |       |       |    |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                               | Dif                                               | Dec  |                                                  |               | Dif                                               | Civil | Náutico        | Hora  | R°             | Hora    | R°    |       |    |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                  | °                                                 | '    | °                                                | '             | h m                                               | h m   | h m            | h m   | h m            | h m     | h m   | h m   |    |
| 0   | 176                                                | 28.9 | -12                                               | 17.4                                                                                                                                                               | 221                                               | 43.4 | -27                                              | 03.7          | 60 N                                              | 16 55 | 17 38          | 18 27 | 7 38           | 24      | 11 41 | 103   |    |
| 1   | 191                                                | 28.9 |                                                   | 16.5                                                                                                                                                               | 236                                               | 05.7 | 33                                               | -27           | 01.7                                              | 58    | 17 01          | 42    | 28             | 7 08    | 32    | 12 11 | 94 |
| 2   | 206                                                | 29.0 |                                                   | 15.6                                                                                                                                                               | 250                                               | 28.1 | 34                                               | -26           | 59.5                                              | 56    | 07             | 45    | 29             | 6 46    | 36    | 33    | 90 |
| 3   | 221                                                | 29.0 |                                                   | 14.8                                                                                                                                                               | 264                                               | 50.5 | 34                                               |               | 57.0                                              | 54    | 12             | 48    | 30             | 27      | 40    | 12 51 | 86 |
| 4   | 236                                                | 29.1 |                                                   | 13.9                                                                                                                                                               | 279                                               | 12.9 | 34                                               |               | 54.4                                              | 52    | 16             | 51    | 31             | 6 11    | 43    | 13 07 | 83 |
| 5   | 251                                                | 29.1 | -12                                               | 13.0                                                                                                                                                               | 293                                               | 35.3 | 34                                               | -26           | 51.6                                              | 50    | 17 21          | 17 54 | 18 32          | 5 58    | 44    | 13 20 | 81 |
| 6   | 266                                                | 29.1 | -12                                               | 12.2                                                                                                                                                               | 307                                               | 57.8 | 35                                               | -26           | 48.6                                              | 45    | 17 30          | 18 00 | 18 34          | 5 30    | 48    | 13 48 | 76 |
| 7   | 281                                                | 29.2 |                                                   | 11.3                                                                                                                                                               | 322                                               | 20.3 | 35                                               |               | 45.4                                              | 40    | 37             | 05    | 37             | 5 08    | 51    | 14 10 | 73 |
| 8   | 296                                                | 29.2 |                                                   | 10.4                                                                                                                                                               | 336                                               | 42.9 | 36                                               |               | 42.1                                              | 35    | 44             | 10    | 39             | 4 49    | 54    | 27    | 71 |
| 9   | 311                                                | 29.3 |                                                   | 09.5                                                                                                                                                               | 351                                               | 05.5 | 36                                               |               | 38.5                                              | 30    | 17 50          | 14    | 42             | 33      | 55    | 14 43 | 69 |
| 10  | 326                                                | 29.3 |                                                   | 08.7                                                                                                                                                               | 5                                                 | 28.2 | 37                                               |               | 34.8                                              | 20    | 18 00          | 22    | 48             | 4 07    | 57    | 15 09 | 65 |
| 11  | 341                                                | 29.3 | -12                                               | 07.8                                                                                                                                                               | 19                                                | 50.9 | 37                                               | -26           | 30.8                                              | 10 N  | 18 09          | 18 30 | 18 55          | 3 44    | 59    | 15 31 | 63 |
| 12  | 356                                                | 29.4 | -12                                               | 06.9                                                                                                                                                               | 34                                                | 13.6 | 37                                               | -26           | 26.7                                              | 0     | 18 17          | 18 39 | 19 03          | 3 22    | 62    | 15 52 | 60 |
| 13  | 11                                                 | 29.4 |                                                   | 06.1                                                                                                                                                               | 48                                                | 36.5 | 39                                               |               | 22.4                                              | 10 S  | 26             | 48    | 13             | 3 01    | 63    | 16 13 | 57 |
| 14  | 26                                                 | 29.5 |                                                   | 05.2                                                                                                                                                               | 62                                                | 59.3 | 38                                               |               | 18.0                                              | 20    | 35             | 18 58 | 25             | 2 38    | 65    | 16 35 | 54 |
| 15  | 41                                                 | 29.5 |                                                   | 04.3                                                                                                                                                               | 77                                                | 22.3 | 40                                               |               | 13.3                                              | 30    | 46             | 19 11 | 40             | 2 11    | 68    | 17 00 | 51 |
| 16  | 56                                                 | 29.6 |                                                   | 03.4                                                                                                                                                               | 91                                                | 45.3 | 40                                               |               | 08.5                                              | 35    | 18 53          | 19    | 19 50          | 1 55    | 69    | 15    | 49 |
| 17  | 71                                                 | 29.6 | -12                                               | 02.6                                                                                                                                                               | 106                                               | 08.3 | 40                                               | -26           | 03.5                                              | 40    | 19 00          | 19 28 | 20 02          | 1 37    | 71    | 17 32 | 47 |
| 18  | 86                                                 | 29.6 | -12                                               | 01.7                                                                                                                                                               | 120                                               | 31.5 | 42                                               | -25           | 58.3                                              | 45    | 19 08          | 19 39 | 20 17          | 1 15    | 73    | 17 53 | 43 |
| 19  | 101                                                | 29.7 | -12                                               | 00.8                                                                                                                                                               | 134                                               | 54.7 | 42                                               |               | 53.0                                              | 50    | 18             | 19 53 | 37             | 0 47    | 76    | 18 19 | 38 |
| 20  | 116                                                | 29.7 | -11                                               | 59.9                                                                                                                                                               | 149                                               | 17.9 | 42                                               |               | 47.4                                              | 56    | 23             | 20 00 | 46             | 33      | 77    | 32    | 36 |
| 21  | 131                                                | 29.8 |                                                   | 59.1                                                                                                                                                               | 163                                               | 41.3 | 44                                               |               | 41.7                                              | 57    | 28             | 07    | 20 57          | 0 17    | 79    | 18 46 | 33 |
| 22  | 146                                                | 29.8 |                                                   | 58.2                                                                                                                                                               | 178                                               | 04.7 | 44                                               |               | 35.8                                              | 59    | 34             | 16    | 21 10          | ** ** * | **    | 19 03 | 29 |
| 23  | 161                                                | 29.9 |                                                   | 57.3                                                                                                                                                               | 192                                               | 28.1 | 44                                               |               | 29.8                                              | 60    | 40             | 25    | 25             | ** ** * | **    | 23    | 24 |
| 24  | 176                                                | 29.9 | -11                                               | 56.4                                                                                                                                                               | 206                                               | 51.7 | 46                                               | -25           | 23.6                                              | 62    | 19 48          | 20 36 | 21 44          | ** ** * | **    | 19 47 | 18 |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                    | MARTE                                             |      | JÚPITER                                          |               | SATURNO                                           |       |                |       |                |         |       |       |    |
|     | PMG: 14 <sup>h</sup> 12 <sup>m</sup> 4             |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |                                                                                                                                                                    | Mag: +1.0<br>PMG: 16 <sup>h</sup> 38 <sup>m</sup> |      | Mag: -2.5<br>PMG: 1 <sup>h</sup> 25 <sup>m</sup> |               | Mag: -0.2<br>PMG: 20 <sup>h</sup> 40 <sup>m</sup> |       |                |       |                |         |       |       |    |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                | hG ♂                                              | Dec  | hG ♃                                             | Dec           | hG ♄                                              | Dec   |                |       |                |         |       |       |    |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                  | °                                                 | '    | °                                                | '             | °                                                 | '     |                |       |                |         |       |       |    |
| 0   | 146                                                | 19.3 | 137                                               | 21.1                                                                                                                                                               | +3                                                | 51.7 | 110                                              | 19.5          | +15                                               | 10.0  |                |       |                |         |       |       |    |
| 1   | 161                                                | 21.7 | 152                                               | 20.9                                                                                                                                                               |                                                   | 53.0 | 125                                              | 20.4          |                                                   | 10.6  |                |       |                |         |       |       |    |
| 2   | 176                                                | 24.2 | 167                                               | 20.8                                                                                                                                                               |                                                   | 54.3 | 140                                              | 21.3          |                                                   | 11.1  |                |       |                |         |       |       |    |
| 3   | 191                                                | 26.7 | 182                                               | 20.6                                                                                                                                                               |                                                   | 55.6 | 155                                              | 22.2          |                                                   | 11.7  |                |       |                |         |       |       |    |
| 4   | 206                                                | 29.1 | 197                                               | 20.5                                                                                                                                                               |                                                   | 56.9 | 170                                              | 23.1          |                                                   | 12.2  |                |       |                |         |       |       |    |
| 5   | 221                                                | 31.6 | 212                                               | 20.3                                                                                                                                                               | +3                                                | 58.2 | 185                                              | 24.0          | +15                                               | 12.7  |                |       |                |         |       |       |    |
| 6   | 236                                                | 34.1 | 227                                               | 20.2                                                                                                                                                               | +3                                                | 59.5 | 200                                              | 24.9          | +15                                               | 13.3  |                |       |                |         |       |       |    |
| 7   | 251                                                | 36.5 | 242                                               | 20.0                                                                                                                                                               | +4                                                | 00.8 | 215                                              | 25.8          |                                                   | 13.8  |                |       |                |         |       |       |    |
| 8   | 266                                                | 39.0 | 257                                               | 19.9                                                                                                                                                               |                                                   | 02.1 | 230                                              | 26.7          |                                                   | 14.4  |                |       |                |         |       |       |    |
| 9   | 281                                                | 41.5 | 272                                               | 19.7                                                                                                                                                               |                                                   | 03.4 | 245                                              | 27.6          |                                                   | 14.9  |                |       |                |         |       |       |    |
| 10  | 296                                                | 43.9 | 287                                               | 19.6                                                                                                                                                               |                                                   | 04.7 | 260                                              | 28.5          |                                                   | 15.4  |                |       |                |         |       |       |    |
| 11  | 311                                                | 46.4 | 302                                               | 19.4                                                                                                                                                               | +4                                                | 06.0 | 275                                              | 29.4          | +15                                               | 16.0  |                |       |                |         |       |       |    |
| 12  | 326                                                | 48.9 | 317                                               | 19.3                                                                                                                                                               | +4                                                | 07.3 | 290                                              | 30.3          | +15                                               | 16.5  |                |       |                |         |       |       |    |
| 13  | 341                                                | 51.3 | 332                                               | 19.1                                                                                                                                                               |                                                   | 08.6 | 305                                              | 31.2          |                                                   | 17.0  |                |       |                |         |       |       |    |
| 14  | 356                                                | 53.8 | 347                                               | 19.0                                                                                                                                                               |                                                   | 09.9 | 320                                              | 32.1          |                                                   | 17.6  |                |       |                |         |       |       |    |
| 15  | 11                                                 | 56.2 | 2                                                 | 18.8                                                                                                                                                               |                                                   | 11.2 | 335                                              | 33.0          |                                                   | 18.1  |                |       |                |         |       |       |    |
| 16  | 26                                                 | 58.7 | 17                                                | 18.7                                                                                                                                                               |                                                   | 12.5 | 350                                              | 33.9          |                                                   | 18.7  |                |       |                |         |       |       |    |
| 17  | 42                                                 | 01.2 | 32                                                | 18.5                                                                                                                                                               | +4                                                | 13.8 | 5                                                | 34.8          | +15                                               | 19.2  |                |       |                |         |       |       |    |
| 18  | 57                                                 | 03.6 | 47                                                | 18.4                                                                                                                                                               | +4                                                | 15.1 | 20                                               | 35.7          | +15                                               | 19.7  |                |       |                |         |       |       |    |
| 19  | 72                                                 | 06.1 | 62                                                | 18.2                                                                                                                                                               |                                                   | 16.4 | 35                                               | 36.6          |                                                   | 20.3  |                |       |                |         |       |       |    |
| 20  | 87                                                 | 08.6 | 77                                                | 18.1                                                                                                                                                               |                                                   | 17.7 | 50                                               | 37.5          |                                                   | 20.8  |                |       |                |         |       |       |    |
| 21  | 102                                                | 11.0 | 92                                                | 17.9                                                                                                                                                               |                                                   | 19.0 | 65                                               | 38.4          |                                                   | 21.3  |                |       |                |         |       |       |    |
| 22  | 117                                                | 13.5 | 107                                               | 17.8                                                                                                                                                               |                                                   | 20.3 | 80                                               | 39.4          |                                                   | 21.9  |                |       |                |         |       |       |    |
| 23  | 132                                                | 16.0 | 122                                               | 17.6                                                                                                                                                               |                                                   | 21.6 | 95                                               | 40.3          |                                                   | 22.4  |                |       |                |         |       |       |    |
| 24  | 147                                                | 18.4 | 137                                               | 17.5                                                                                                                                                               | +4                                                | 22.9 | 110                                              | 41.2          | +15                                               | 22.9  |                |       |                |         |       |       |    |
| Dif | —                                                  |      | -2                                                | +13                                                                                                                                                                |                                                   | +9   | +5                                               | +27           | +1                                                |       | +26            | 0     |                |         |       |       |    |

| UT | SOL                                                |      |          | ● LUNA                                                                                                                            |      |             |     |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |   |   |
|----|----------------------------------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------------------------|------|-------------|-----|---------|---------|--------------------------|------|---------------|----------------|-------|----------------|---|---|
|    | SD: 16:2<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> 0 |      |          | Edad: 27 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 59/3<br>12 <sup>h</sup> : 59/2<br>20 <sup>h</sup> : 59/1<br>Rº: 57 <sup>m</sup> |      |             |     |         |         |                          |      |               |                |       |                |   |   |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                              | Dif  | Dec         | Dif | Náutico |         | Civil                    | Hora |               | Rº             | Hora  | Rº             |   |   |
| h  | °                                                  | '    | °        | '                                                                                                                                 | °    | '           | °   | '       | °       | h                        | m    | h             | m              | h     | m              | h | m |
| 0  | 176                                                | 29.9 | -11 56.4 | 206                                                                                                                               | 51.7 | -25 23.6    | 64  | 60 N    | 6 00    | 6 48                     | 7 32 | 8 02          | 11             | 13 24 | 107            |   |   |
| 1  | 191                                                | 29.9 | 55.6     | 221                                                                                                                               | 15.3 | 46 17.2     | 64  | 58      | 5 59    | 45                       | 26   | 7 40          | 18             | 13 45 | 100            |   |   |
| 2  | 206                                                | 30.0 | 54.7     | 235                                                                                                                               | 39.1 | 48 10.6     | 66  | 56      | 58      | 42                       | 20   | 22            | 23             | 14 03 | 95             |   |   |
| 3  | 221                                                | 30.0 | 53.8     | 250                                                                                                                               | 02.9 | 48 -25 03.9 | 67  | 54      | 57      | 39                       | 15   | 7 07          | 26             | 17 9  |                |   |   |
| 4  | 236                                                | 30.1 | 52.9     | 264                                                                                                                               | 26.7 | 48 -24 57.0 | 69  | 52      | 56      | 36                       | 10   | 6 54          | 29             | 30 87 |                |   |   |
| 5  | 251                                                | 30.1 | -11 52.0 | 278                                                                                                                               | 50.7 | 50 -24 49.9 | 71  | 50      | 5 56    | 6 33                     | 7 06 | 6 42          | 33             | 14 41 | 85             |   |   |
| 6  | 266                                                | 30.2 | -11 51.2 | 293                                                                                                                               | 14.8 | 51 -24 42.7 | 72  | 45      | 5 53    | 6 27                     | 6 57 | 6 18          | 38             | 15 04 | 79             |   |   |
| 7  | 281                                                | 30.2 | 50.3     | 307                                                                                                                               | 38.9 | 51 35.3     | 74  | 40      | 51      | 22                       | 50   | 5 59          | 41             | 23 75 |                |   |   |
| 8  | 296                                                | 30.3 | 49.4     | 322                                                                                                                               | 03.2 | 53 27.8     | 75  | 35      | 48      | 18                       | 44   | 43            | 44             | 38 72 |                |   |   |
| 9  | 311                                                | 30.3 | 48.5     | 336                                                                                                                               | 27.5 | 53 20.1     | 77  | 30      | 45      | 13                       | 38   | 28            | 47             | 15 52 | 68             |   |   |
| 10 | 326                                                | 30.4 | 47.6     | 350                                                                                                                               | 51.9 | 54 12.3     | 78  | 20      | 40      | 6 05                     | 28   | 5 04          | 51             | 16 14 | 64             |   |   |
| 11 | 341                                                | 30.4 | -11 46.8 | 5                                                                                                                                 | 16.4 | 55 -24 04.3 | 80  | 10 N    | 5 33    | 5 58                     | 6 19 | 4 43          | 55             | 16 34 | 59             |   |   |
| 12 | 356                                                | 30.5 | -11 45.9 | 19                                                                                                                                | 41.0 | 56 -23 56.1 | 82  | 0       | 5 25    | 5 49                     | 6 11 | 4 24          | 58             | 16 52 | 56             |   |   |
| 13 | 11                                                 | 30.5 | 45.0     | 34                                                                                                                                | 05.7 | 57 47.8     | 83  | 10 S    | 15      | 41                       | 6 02 | 4 04          | 61             | 17 10 | 52             |   |   |
| 14 | 26                                                 | 30.6 | 44.1     | 48                                                                                                                                | 30.5 | 58 39.4     | 84  | 20      | 5 04    | 30                       | 5 53 | 3 43          | 65             | 29 48 |                |   |   |
| 15 | 41                                                 | 30.6 | 43.2     | 62                                                                                                                                | 55.4 | 59 30.7     | 87  | 30      | 4 48    | 17                       | 42   | 19            | 69             | 17 51 | 43             |   |   |
| 16 | 56                                                 | 30.7 | 42.4     | 77                                                                                                                                | 20.4 | 60 22.0     | 87  | 35      | 38      | 10                       | 36   | 3 04          | 72             | 18 04 | 40             |   |   |
| 17 | 71                                                 | 30.7 | -11 41.5 | 91                                                                                                                                | 45.5 | 61 -23 13.1 | 89  | 40      | 4 26    | 5 00                     | 5 29 | 2 48          | 74             | 18 19 | 37             |   |   |
| 18 | 86                                                 | 30.8 | -11 40.6 | 106                                                                                                                               | 10.7 | 62 -23 04.1 | 90  | 45      | 4 11    | 4 49                     | 5 21 | 2 28          | 78             | 18 36 | 33             |   |   |
| 19 | 101                                                | 30.8 | 39.7     | 120                                                                                                                               | 36.0 | 63 -22 54.9 | 92  | 50      | 3 52    | 35                       | 11   | 2 03          | 83             | 18 57 | 28             |   |   |
| 20 | 116                                                | 30.9 | 38.8     | 135                                                                                                                               | 01.4 | 64 45.6     | 93  | 52      | 42      | 29                       | 06   | 1 50          | 86             | 19 08 | 25             |   |   |
| 21 | 131                                                | 30.9 | 38.0     | 149                                                                                                                               | 26.9 | 65 36.1     | 95  | 54      | 31      | 22                       | 5 01 | 36            | 89             | 19 22 |                |   |   |
| 22 | 146                                                | 31.0 | 37.1     | 163                                                                                                                               | 52.5 | 66 26.5     | 96  | 56      | 19      | 13                       | 4 55 | 20            | 93             | 32 18 |                |   |   |
| 23 | 161                                                | 31.0 | 36.2     | 178                                                                                                                               | 18.2 | 67 16.8     | 97  | 58      | 3 04    | 4 04                     | 49   | 1 01          | 98             | 19 47 | 14             |   |   |
| 24 | 176                                                | 31.1 | -11 35.3 | 192                                                                                                                               | 44.0 | 68 -22 06.9 | 99  | 60 S    | 2 45    | 3 53                     | 4 41 | 0 36          | 106            | 20 05 | 8              |   |   |

| UT  | ARIES                                    |      | VENUS                                             |      |         | MARTE                                             |      |          | JÚPITER                                          |      |         | SATURNO                                           |      |          |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------|---------------------------------------------------|------|----------|--------------------------------------------------|------|---------|---------------------------------------------------|------|----------|
|     | PMG<br>14 <sup>h</sup> 08 <sup>m</sup> 4 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |      |         | Mag: +1.0<br>PMG: 16 <sup>h</sup> 36 <sup>m</sup> |      |          | Mag: -2.5<br>PMG: 1 <sup>h</sup> 21 <sup>m</sup> |      |         | Mag: -0.2<br>PMG: 20 <sup>h</sup> 36 <sup>m</sup> |      |          |
|     | hG ♈                                     |      | hG ♀                                              | Dec  |         | hG ♂                                              | Dec  |          | hG ♃                                             | Dec  |         | hG ♄                                              | Dec  |          |
| h   | °                                        | '    | °                                                 | '    | °       | '                                                 | °    | '        | °                                                | '    | °       | '                                                 | °    | '        |
| 0   | 147                                      | 18.4 | 137                                               | 17.5 | +4 22.9 | 110                                               | 41.2 | +15 22.9 | 339                                              | 44.4 | +6 51.1 | 50                                                | 08.4 | +22 42.9 |
| 1   | 162                                      | 20.9 | 152                                               | 17.3 | 24.2    | 125                                               | 42.1 | 23.5     | 354                                              | 47.1 | 51.2    | 65                                                | 10.9 | 42.9     |
| 2   | 177                                      | 23.3 | 167                                               | 17.2 | 25.5    | 140                                               | 43.0 | 24.0     | 9                                                | 49.8 | 51.4    | 80                                                | 13.5 | 42.9     |
| 3   | 192                                      | 25.8 | 182                                               | 17.0 | 26.8    | 155                                               | 43.9 | 24.5     | 24                                               | 52.6 | 51.5    | 95                                                | 16.0 | 42.9     |
| 4   | 207                                      | 28.3 | 197                                               | 16.9 | 28.1    | 170                                               | 44.8 | 25.1     | 39                                               | 55.3 | 51.6    | 110                                               | 18.6 | 42.9     |
| 5   | 222                                      | 30.7 | 212                                               | 16.7 | +4 29.4 | 185                                               | 45.7 | +15 25.6 | 54                                               | 58.1 | +6 51.7 | 125                                               | 21.1 | +22 42.9 |
| 6   | 237                                      | 33.2 | 227                                               | 16.6 | +4 30.7 | 200                                               | 46.6 | +15 26.1 | 70                                               | 00.8 | +6 51.8 | 140                                               | 23.7 | +22 42.9 |
| 7   | 252                                      | 35.7 | 242                                               | 16.4 | 32.0    | 215                                               | 47.5 | 26.7     | 85                                               | 03.5 | 52.0    | 155                                               | 26.2 | 42.9     |
| 8   | 267                                      | 38.1 | 257                                               | 16.3 | 33.3    | 230                                               | 48.4 | 27.2     | 100                                              | 06.3 | 52.1    | 170                                               | 28.8 | 42.9     |
| 9   | 282                                      | 40.6 | 272                                               | 16.2 | 34.5    | 245                                               | 49.3 | 27.7     | 115                                              | 09.0 | 52.2    | 185                                               | 31.4 | 43.0     |
| 10  | 297                                      | 43.1 | 287                                               | 16.0 | 35.8    | 260                                               | 50.2 | 28.3     | 130                                              | 11.8 | 52.3    | 200                                               | 33.9 | 43.0     |
| 11  | 312                                      | 45.5 | 302                                               | 15.9 | +4 37.1 | 275                                               | 51.1 | +15 28.8 | 145                                              | 14.5 | +6 52.5 | 215                                               | 36.5 | +22 43.0 |
| 12  | 327                                      | 48.0 | 317                                               | 15.7 | +4 38.4 | 290                                               | 52.0 | +15 29.3 | 160                                              | 17.2 | +6 52.6 | 230                                               | 39.0 | +22 43.0 |
| 13  | 342                                      | 50.5 | 332                                               | 15.6 | 39.7    | 305                                               | 52.9 | 29.9     | 175                                              | 20.0 | 52.7    | 245                                               | 41.6 | 43.0     |
| 14  | 357                                      | 52.9 | 347                                               | 15.4 | 41.0    | 320                                               | 53.8 | 30.4     | 190                                              | 22.7 | 52.8    | 260                                               | 44.1 | 43.0     |
| 15  | 12                                       | 55.4 | 2                                                 | 15.3 | 42.3    | 335                                               | 54.7 | 30.9     | 205                                              | 25.5 | 52.9    | 275                                               | 46.7 | 43.0     |
| 16  | 27                                       | 57.8 | 17                                                | 15.1 | 43.6    | 350                                               | 55.6 | 31.5     | 220                                              | 28.2 | 53.1    | 290                                               | 49.2 | 43.0     |
| 17  | 43                                       | 00.3 | 32                                                | 15.0 | +4 44.9 | 5                                                 | 56.5 | +15 32.0 | 235                                              | 31.0 | +6 53.2 | 305                                               | 51.8 | +22 43.0 |
| 18  | 58                                       | 02.8 | 47                                                | 14.8 | +4 46.2 | 20                                                | 57.4 | +15 32.5 | 250                                              | 33.7 | +6 53.3 | 320                                               | 54.3 | +22 43.1 |
| 19  | 73                                       | 05.2 | 62                                                | 14.7 | 47.5    | 35                                                | 58.3 | 33.1     | 265                                              | 36.4 | 53.4    | 335                                               | 56.9 | 43.1     |
| 20  | 88                                       | 07.7 | 77                                                | 14.5 | 48.8    | 50                                                | 59.2 | 33.6     | 280                                              | 39.2 | 53.6    | 350                                               | 59.4 | 43.1     |
| 21  | 103                                      | 10.2 | 92                                                | 14.4 | 50.1    | 66                                                | 00.1 | 34.1     | 295                                              | 41.9 | 53.7    | 6                                                 | 02.0 | 43.1     |
| 22  | 118                                      | 12.6 | 107                                               | 14.2 | 51.4    | 81                                                | 01.0 | 34.7     | 310                                              | 44.7 | 53.8    | 21                                                | 04.6 | 43.1     |
| 23  | 133                                      | 15.1 | 122                                               | 14.1 | 52.7    | 96                                                | 01.9 | 35.2     | 325                                              | 47.4 | 53.9    | 36                                                | 07.1 | 43.1     |
| 24  | 148                                      | 17.6 | 137                                               | 13.9 | +4 53.9 | 111                                               | 02.8 | +15 35.7 | 340                                              | 50.2 | +6 54.1 | 51                                                | 09.7 | +22 43.1 |
| Dif | —                                        |      | -1 +13                                            |      |         | +9 +5                                             |      |          | +27 +1                                           |      |         | +26 0                                             |      |          |

| UT  | SOL                                                             |      |     | ● LUNA                                                                                                                                                                |     |      |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                             |       |       | Salida de Luna                                    |      | Puesta de Luna |      |     |      |
|-----|-----------------------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|-------------------------|---------------|--------------------------------------------------|-------|-------|---------------------------------------------------|------|----------------|------|-----|------|
|     | SD: 16 <sup>h</sup> 2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 9 |      |     | Edad: 28 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 58 <sup>h</sup> 9<br>12 <sup>h</sup> : 58 <sup>h</sup> 8<br>20 <sup>h</sup> : 58 <sup>h</sup> 6<br>R°: 52 <sup>m</sup> |     |      |                                                   |                         |               |                                                  |       |       |                                                   |      |                |      |     |      |
|     | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                  | Dif |      | Dec                                               |                         |               | Dif                                              |       | Civil | Náutico                                           | Hora | R°             | Hora | R°  |      |
| h   | °                                                               | '    | °   | '                                                                                                                                                                     | °   | '    | °                                                 | '                       | °             | '                                                | h m   | h m   | h m                                               | h m  | m              | h m  | m   |      |
| 0   | 176                                                             | 31.1 | -11 | 35.3                                                                                                                                                                  | 192 | 44.0 | -22                                               | 06.9                    | 60 N          | 17 00                                            | 17 43 | 18 32 | 8 13                                              | 5    | 15 11          | 103  |     |      |
| 1   | 191                                                             | 31.1 |     | 34.4                                                                                                                                                                  | 207 | 10.0 | 70                                                | -21 56.9 <sup>100</sup> | 58            | 06                                               | 46    | 32    | 7 58                                              | 10   | 25             | 98   |     |      |
| 2   | 206                                                             | 31.2 |     | 33.5                                                                                                                                                                  | 221 | 36.0 | 70                                                | 46.8 <sup>101</sup>     | 56            | 11                                               | 49    | 33    | 45                                                | 14   | 38             | 92   |     |      |
| 3   | 221                                                             | 31.2 |     | 32.6                                                                                                                                                                  | 236 | 02.1 | 71                                                | 36.6 <sup>102</sup>     | 54            | 16                                               | 52    | 33    | 33                                                | 18   | 48             | 89   |     |      |
| 4   | 236                                                             | 31.3 |     | 31.8                                                                                                                                                                  | 250 | 28.4 | 73                                                | 26.2 <sup>104</sup>     | 52            | 20                                               | 55    | 34    | 23                                                | 21   | 15             | 57   | 86  |      |
| 5   | 251                                                             | 31.3 | -11 | 30.9                                                                                                                                                                  | 264 | 54.7 | 73                                                | -21 15.7 <sup>105</sup> | 50            | 17 24                                            | 17 57 | 18 35 | 7 15                                              | 23   | 16             | 06   | 83  |      |
| 6   | 266                                                             | 31.4 | -11 | 30.0                                                                                                                                                                  | 279 | 21.2 | 75                                                | -21 05.1 <sup>106</sup> | 45            | 17 33                                            | 18 03 | 18 37 | 6 56                                              | 29   | 16             | 23   | 78  |      |
| 7   | 281                                                             | 31.4 |     | 29.1                                                                                                                                                                  | 293 | 47.7 | 75                                                | -20 54.3 <sup>108</sup> | 40            | 40                                               | 07    | 39    | 40                                                | 33   | 38             | 72   |     |      |
| 8   | 296                                                             | 31.5 |     | 28.2                                                                                                                                                                  | 308 | 14.4 | 77                                                | 43.5 <sup>108</sup>     | 35            | 46                                               | 12    | 41    | 27                                                | 37   | 16             | 50   | 69  |      |
| 9   | 311                                                             | 31.5 |     | 27.3                                                                                                                                                                  | 322 | 41.2 | 78                                                | 32.5 <sup>110</sup>     | 30            | 17 51                                            | 16    | 44    | 6 15                                              | 40   | 17             | 00   | 66  |      |
| 10  | 326                                                             | 31.6 |     | 26.4                                                                                                                                                                  | 337 | 08.1 | 79                                                | 21.4 <sup>111</sup>     | 20            | 18 01                                            | 23    | 49    | 5 55                                              | 45   | 18             | 60   |     |      |
| 11  | 341                                                             | 31.7 | -11 | 25.6                                                                                                                                                                  | 351 | 35.1 | 80                                                | -20 10.2 <sup>112</sup> | 10 N          | 18 09                                            | 18 31 | 18 55 | 5 38                                              | 49   | 17             | 33   | 56  |      |
| 12  | 356                                                             | 31.7 | -11 | 24.7                                                                                                                                                                  | 6   | 02.2 | 81                                                | -19 58.9 <sup>113</sup> | 0             | 18 17                                            | 18 38 | 19 03 | 5 22                                              | 53   | 17             | 48   | 51  |      |
| 13  | 11                                                              | 31.8 |     | 23.8                                                                                                                                                                  | 20  | 29.4 | 82                                                | 47.5 <sup>114</sup>     | 10 S          | 25                                               | 47    | 12    | 5 05                                              | 58   | 18             | 02   | 47  |      |
| 14  | 26                                                              | 31.8 |     | 22.9                                                                                                                                                                  | 34  | 56.7 | 83                                                | 35.9 <sup>116</sup>     | 20            | 34                                               | 18 57 | 23    | 4 48                                              | 62   | 17             | 43   |     |      |
| 15  | 41                                                              | 31.9 |     | 22.0                                                                                                                                                                  | 49  | 24.1 | 84                                                | 24.3 <sup>116</sup>     | 30            | 44                                               | 19 09 | 38    | 28                                                | 67   | 34             | 38   |     |      |
| 16  | 56                                                              | 31.9 |     | 21.1                                                                                                                                                                  | 63  | 51.7 | 86                                                | 12.5 <sup>118</sup>     | 35            | 50                                               | 17    | 48    | 16                                                | 70   | 44             | 34   |     |      |
| 17  | 71                                                              | 32.0 | -11 | 20.2                                                                                                                                                                  | 78  | 19.3 | 86                                                | -19 00.7 <sup>118</sup> | 40            | 18 57                                            | 19 25 | 19 59 | 4 02                                              | 74   | 18             | 56   | 30  |      |
| 18  | 86                                                              | 32.0 | -11 | 19.3                                                                                                                                                                  | 92  | 47.0 | 87                                                | -18 48.7 <sup>120</sup> | 45            | 19 05                                            | 19 36 | 20 14 | 3 46                                              | 78   | 19             | 09   | 26  |      |
| 19  | 101                                                             | 32.1 |     | 18.4                                                                                                                                                                  | 107 | 14.9 | 89                                                | 36.7 <sup>120</sup>     | 50            | 14                                               | 49    | 32    | 26                                                | 84   | 25             | 21   |     |      |
| 20  | 116                                                             | 32.2 |     | 17.6                                                                                                                                                                  | 121 | 42.9 | 90                                                | 24.6 <sup>121</sup>     | 52            | 19                                               | 19 55 | 41    | 16                                                | 87   | 33             | 18   |     |      |
| 21  | 131                                                             | 32.2 |     | 16.7                                                                                                                                                                  | 136 | 10.9 | 90                                                | -18 12.3 <sup>123</sup> | 54            | 24                                               | 20 02 | 20 52 | 3 05                                              | 90   | 41             | 15   |     |      |
| 22  | 146                                                             | 32.3 |     | 15.8                                                                                                                                                                  | 150 | 39.1 | 92                                                | -18 00.0 <sup>123</sup> | 56            | 29                                               | 10    | 21 04 | 2 53                                              | 94   | 19             | 50   | 12  |      |
| 23  | 161                                                             | 32.3 |     | 14.9                                                                                                                                                                  | 165 | 07.4 | 93                                                | -17 47.6 <sup>124</sup> | 58            | 35                                               | 19    | 18    | 39                                                | 98   | 20             | 01   | 8   |      |
| 24  | 176                                                             | 32.4 | -11 | 14.0                                                                                                                                                                  | 179 | 35.8 | 94                                                | -17 35.1 <sup>125</sup> | 60 S          | 19 42                                            | 20 30 | 21 35 | 2 22                                              | 104  | 20             | 13   | 4   |      |
| UT  | ARIES                                                           |      |     | VENUS                                                                                                                                                                 |     |      | MARTE                                             |                         |               | JÚPITER                                          |       |       | SATURNO                                           |      |                |      |     |      |
|     | PMG: 14 <sup>h</sup> 04 <sup>m</sup> 5                          |      |     | Mag: -4.2<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup>                                                                                                                     |     |      | Mag: +1.0<br>PMG: 16 <sup>h</sup> 35 <sup>m</sup> |                         |               | Mag: -2.5<br>PMG: 1 <sup>h</sup> 16 <sup>m</sup> |       |       | Mag: -0.2<br>PMG: 20 <sup>h</sup> 32 <sup>m</sup> |      |                |      |     |      |
|     | hG ♈                                                            | Dec  |     | hG ♀                                                                                                                                                                  | Dec |      | hG ♂                                              | Dec                     |               | hG ♃                                             | Dec   |       | hG ♄                                              | Dec  |                |      |     |      |
| h   | °                                                               | '    | °   | '                                                                                                                                                                     | °   | '    | °                                                 | '                       | °             | '                                                | °     | '     | °                                                 | '    | °              | '    |     |      |
| 0   | 148                                                             | 17.6 | 137 | 13.9                                                                                                                                                                  | +4  | 53.9 | 111                                               | 02.8                    | +15           | 35.7                                             | 340   | 50.2  | +6                                                | 54.1 | 51             | 09.7 | +22 | 43.1 |
| 1   | 163                                                             | 20.0 | 152 | 13.8                                                                                                                                                                  |     | 55.2 | 126                                               | 03.7                    |               | 36.3                                             | 355   | 52.9  |                                                   | 54.2 | 66             | 12.2 |     | 43.1 |
| 2   | 178                                                             | 22.5 | 167 | 13.7                                                                                                                                                                  |     | 56.5 | 141                                               | 04.5                    |               | 36.8                                             | 10    | 55.6  |                                                   | 54.3 | 81             | 14.8 |     | 43.1 |
| 3   | 193                                                             | 25.0 | 182 | 13.5                                                                                                                                                                  |     | 57.8 | 156                                               | 05.4                    |               | 37.3                                             | 25    | 58.4  |                                                   | 54.4 | 96             | 17.3 |     | 43.2 |
| 4   | 208                                                             | 27.4 | 197 | 13.4                                                                                                                                                                  | +4  | 59.1 | 171                                               | 06.3                    |               | 37.8                                             | 41    | 01.1  |                                                   | 54.6 | 111            | 19.9 |     | 43.2 |
| 5   | 223                                                             | 29.9 | 212 | 13.2                                                                                                                                                                  | +5  | 00.4 | 186                                               | 07.2                    | +15           | 38.4                                             | 56    | 03.9  | +6                                                | 54.7 | 126            | 22.4 | +22 | 43.2 |
| 6   | 238                                                             | 32.3 | 227 | 13.1                                                                                                                                                                  | +5  | 01.7 | 201                                               | 08.1                    | +15           | 38.9                                             | 71    | 06.6  | +6                                                | 54.8 | 141            | 25.0 | +22 | 43.2 |
| 7   | 253                                                             | 34.8 | 242 | 12.9                                                                                                                                                                  |     | 03.0 | 216                                               | 09.0                    |               | 39.4                                             | 86    | 09.4  |                                                   | 54.9 | 156            | 27.5 |     | 43.2 |
| 8   | 268                                                             | 37.3 | 257 | 12.8                                                                                                                                                                  |     | 04.3 | 231                                               | 09.9                    |               | 40.0                                             | 101   | 12.1  |                                                   | 55.0 | 171            | 30.1 |     | 43.2 |
| 9   | 283                                                             | 39.7 | 272 | 12.6                                                                                                                                                                  |     | 05.6 | 246                                               | 10.8                    |               | 40.5                                             | 116   | 14.8  |                                                   | 55.2 | 186            | 32.6 |     | 43.2 |
| 10  | 298                                                             | 42.2 | 287 | 12.5                                                                                                                                                                  |     | 06.9 | 261                                               | 11.7                    |               | 41.0                                             | 131   | 17.6  |                                                   | 55.3 | 201            | 35.2 |     | 43.2 |
| 11  | 313                                                             | 44.7 | 302 | 12.3                                                                                                                                                                  | +5  | 08.1 | 276                                               | 12.6                    | +15           | 41.5                                             | 146   | 20.3  | +6                                                | 55.4 | 216            | 37.7 | +22 | 43.2 |
| 12  | 328                                                             | 47.1 | 317 | 12.2                                                                                                                                                                  | +5  | 09.4 | 291                                               | 13.5                    | +15           | 42.1                                             | 161   | 23.1  | +6                                                | 55.5 | 231            | 40.3 | +22 | 43.2 |
| 13  | 343                                                             | 49.6 | 332 | 12.1                                                                                                                                                                  |     | 10.7 | 306                                               | 14.4                    |               | 42.6                                             | 176   | 25.8  |                                                   | 55.7 | 246            | 42.8 |     | 43.3 |
| 14  | 358                                                             | 52.1 | 347 | 11.9                                                                                                                                                                  |     | 12.0 | 321                                               | 15.3                    |               | 43.1                                             | 191   | 28.6  |                                                   | 55.8 | 261            | 45.4 |     | 43.3 |
| 15  | 13                                                              | 54.5 | 2   | 11.8                                                                                                                                                                  |     | 13.3 | 336                                               | 16.2                    |               | 43.7                                             | 206   | 31.3  |                                                   | 55.9 | 276            | 47.9 |     | 43.3 |
| 16  | 28                                                              | 57.0 | 17  | 11.6                                                                                                                                                                  |     | 14.6 | 351                                               | 17.1                    |               | 44.2                                             | 221   | 34.1  |                                                   | 56.0 | 291            | 50.5 |     | 43.3 |
| 17  | 43                                                              | 59.5 | 32  | 11.5                                                                                                                                                                  | +5  | 15.9 | 6                                                 | 18.0                    | +15           | 44.7                                             | 236   | 36.8  | +6                                                | 56.2 | 306            | 53.0 | +22 | 43.3 |
| 18  | 59                                                              | 01.9 | 47  | 11.3                                                                                                                                                                  | +5  | 17.2 | 21                                                | 18.9                    | +15           | 45.2                                             | 251   | 39.6  | +6                                                | 56.3 | 321            | 55.6 | +22 | 43.3 |
| 19  | 74                                                              | 04.4 | 62  | 11.2                                                                                                                                                                  |     | 18.5 | 36                                                | 19.8                    |               | 45.8                                             | 266   | 42.3  |                                                   | 56.4 | 336            | 58.1 |     | 43.3 |
| 20  | 89                                                              | 06.8 | 77  | 11.0                                                                                                                                                                  |     | 19.7 | 51                                                | 20.7                    |               | 46.3                                             | 281   | 45.0  |                                                   | 56.5 | 352            | 00.7 |     | 43.3 |
| 21  | 104                                                             | 09.3 | 92  | 10.9                                                                                                                                                                  |     | 21.0 | 66                                                | 21.6                    |               | 46.8                                             | 296   | 47.8  |                                                   | 56.7 | 7              | 03.2 |     | 43.3 |
| 22  | 119                                                             | 11.8 | 107 | 10.8                                                                                                                                                                  |     | 22.3 | 81                                                | 22.5                    |               | 47.3                                             | 311   | 50.5  |                                                   | 56.8 | 22             | 05.7 |     | 43.3 |
| 23  | 134                                                             | 14.2 | 122 | 10.6                                                                                                                                                                  |     | 23.6 | 96                                                | 23.4                    |               | 47.9                                             | 326   | 53.3  |                                                   | 56.9 | 37             | 08.3 |     | 43.4 |
| 24  | 149                                                             | 16.7 | 137 | 10.5                                                                                                                                                                  | +5  | 24.9 | 111                                               | 24.3                    | +15           | 48.4                                             | 341   | 56.0  | +6                                                | 57.0 | 52             | 10.8 | +22 | 43.4 |
| Dif | —                                                               |      |     | -1 +13                                                                                                                                                                |     |      | +9 +5                                             |                         |               | +27 +1                                           |       |       | +25 0                                             |      |                |      |     |      |

| UT | SOL                                                             |      |     |      | ● LUNA                                                                                                                                                                                                                                    |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |
|----|-----------------------------------------------------------------|------|-----|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|----|
|    | SD: 16 <sup>h</sup> 2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 8 |      |     |      | Edad: 29 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 58 <sup>m</sup> 4<br>12 <sup>h</sup> : 58 <sup>m</sup> 2<br>20 <sup>h</sup> : 58 <sup>m</sup> 0<br>R°: 49 <sup>m</sup><br>SD: 15 <sup>h</sup> 9<br>PMG: 12 <sup>h</sup> 27 <sup>m</sup> |      |     |      |         |                          |       |               |                |    |                |    |    |    |
|    | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                                                      |      | Dif |      |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |    |
| h  | °                                                               | '    | °   | '    | °                                                                                                                                                                                                                                         | '    | °   | '    | °       | h                        | m     | h             | m              | h  | m              | h  | m  | m  |
| 0  | 176                                                             | 32.4 | -11 | 14.0 | 179                                                                                                                                                                                                                                       | 35.8 | -17 | 35.1 | 60 N    | 5                        | 55    | 6             | 43             | 7  | 26             | 8  | 18 | 2  |
| 1  | 191                                                             | 32.5 |     | 13.1 | 194                                                                                                                                                                                                                                       | 04.3 | 95  | 22.5 | 58      | 54                       | 40    | 20            |                |    |                | 8  | 08 | 6  |
| 2  | 206                                                             | 32.5 |     | 12.2 | 208                                                                                                                                                                                                                                       | 32.9 | 96  | -17  | 09.8    | 56                       | 54    | 37            | 15             |    |                | 7  | 59 | 10 |
| 3  | 221                                                             | 32.6 |     | 11.3 | 223                                                                                                                                                                                                                                       | 01.6 | 97  | -16  | 57.0    | 54                       | 53    | 34            | 11             |    |                | 51 | 14 | 17 |
| 4  | 236                                                             | 32.6 |     | 10.4 | 237                                                                                                                                                                                                                                       | 30.4 | 98  | 44.2 | 52      | 53                       | 32    | 06            |                |    |                | 44 | 16 | 23 |
| 5  | 251                                                             | 32.7 | -11 | 09.5 | 251                                                                                                                                                                                                                                       | 59.3 | 99  | -16  | 31.2    | 50                       | 5     | 52            | 6              | 30 | 7              | 38 | 18 | 17 |
| 6  | 266                                                             | 32.8 | -11 | 08.6 | 266                                                                                                                                                                                                                                       | 28.3 | 100 | -16  | 18.2    | 45                       | 5     | 50            | 6              | 24 | 6              | 25 | 23 | 17 |
| 7  | 281                                                             | 32.8 |     | 07.7 | 280                                                                                                                                                                                                                                       | 57.4 | 101 | -16  | 05.1    | 40                       | 48    | 20            | 47             |    |                | 13 | 28 | 50 |
| 8  | 296                                                             | 32.9 |     | 06.8 | 295                                                                                                                                                                                                                                       | 26.6 | 102 | -15  | 52.0    | 35                       | 46    | 16            | 41             |    |                | 7  | 04 | 31 |
| 9  | 311                                                             | 32.9 |     | 05.9 | 309                                                                                                                                                                                                                                       | 55.9 | 103 | 38.7 | 30      | 44                       | 12    | 36            |                |    |                | 6  | 55 | 35 |
| 10 | 326                                                             | 33.0 |     | 05.1 | 324                                                                                                                                                                                                                                       | 25.3 | 104 | 25.4 | 20      | 38                       | 6     | 04            | 27             |    |                | 40 | 40 | 18 |
| 11 | 341                                                             | 33.1 | -11 | 04.2 | 338                                                                                                                                                                                                                                       | 54.8 | 105 | -15  | 12.1    | 10 N                     | 5     | 57            | 6              | 18 |                | 6  | 27 | 45 |
| 12 | 356                                                             | 33.1 | -11 | 03.3 | 353                                                                                                                                                                                                                                       | 24.5 | 107 | -14  | 58.6    | 0                        | 5     | 52            | 5              | 49 | 6              | 15 | 49 | 18 |
| 13 | 11                                                              | 33.2 |     | 02.4 | 7                                                                                                                                                                                                                                         | 54.2 | 107 | 45.1 | 10 S    | 16                       | 41    | 6             | 02             |    |                | 6  | 03 | 54 |
| 14 | 26                                                              | 33.2 |     | 01.5 | 22                                                                                                                                                                                                                                        | 24.0 | 108 | 31.5 | 20      | 5                        | 05    | 31            | 5              | 54 |                | 5  | 50 | 58 |
| 15 | 41                                                              | 33.3 | -11 | 00.6 | 36                                                                                                                                                                                                                                        | 53.9 | 109 | 17.9 | 30      | 4                        | 50    | 19            | 44             |    |                | 35 | 64 | 12 |
| 16 | 56                                                              | 33.4 | -10 | 59.7 | 51                                                                                                                                                                                                                                        | 23.9 | 110 | -14  | 04.2    | 35                       | 40    | 12            | 38             |    |                | 26 | 67 | 18 |
| 17 | 71                                                              | 33.4 | -10 | 58.8 | 65                                                                                                                                                                                                                                        | 53.9 | 110 | -13  | 50.4    | 40                       | 4     | 29            | 5              | 03 | 5              | 16 | 71 | 19 |
| 18 | 86                                                              | 33.5 | -10 | 57.9 | 80                                                                                                                                                                                                                                        | 24.1 | 112 | -13  | 36.6    | 45                       | 4     | 15            | 4              | 52 | 5              | 23 | 5  | 04 |
| 19 | 101                                                             | 33.6 |     | 57.0 | 94                                                                                                                                                                                                                                        | 54.4 | 113 | 22.7 | 50      | 3                        | 56    | 39            | 14             |    |                | 4  | 50 | 81 |
| 20 | 116                                                             | 33.6 |     | 56.1 | 109                                                                                                                                                                                                                                       | 24.8 | 114 | -13  | 08.8    | 52                       | 47    | 33            | 10             |    |                | 43 | 84 | 51 |
| 21 | 131                                                             | 33.7 |     | 55.2 | 123                                                                                                                                                                                                                                       | 55.2 | 114 | -12  | 54.8    | 54                       | 37    | 26            | 5              | 05 |                | 35 | 87 | 19 |
| 22 | 146                                                             | 33.8 |     | 54.3 | 138                                                                                                                                                                                                                                       | 25.8 | 116 | 40.7 | 56      | 25                       | 18    | 4             | 59             |    |                | 27 | 90 | 20 |
| 23 | 161                                                             | 33.8 |     | 53.4 | 152                                                                                                                                                                                                                                       | 56.4 | 116 | 26.6 | 58      | 3                        | 11    | 4             | 09             | 53 |                | 17 | 94 | 09 |
| 24 | 176                                                             | 33.9 | -10 | 52.5 | 167                                                                                                                                                                                                                                       | 27.1 | 117 | -12  | 12.5    | 60 S                     | 2     | 54            | 3              | 59 | 4              | 4  | 06 | 99 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 14 <sup>h</sup> 00 <sup>m</sup> 6 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |      | Mag: +1.0<br>PMG: 16 <sup>h</sup> 33 <sup>m</sup> |      | Mag: -2.5<br>PMG: 1 <sup>h</sup> 12 <sup>m</sup> |      | Mag: -0.2<br>PMG: 20 <sup>h</sup> 28 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 149                                    | 16.7 | 137                                               | 10.5 | +5                                                | 24.9 | 111                                              | 24.3 | +15                                               | 48.4 |
| 1   | 164                                    | 19.2 | 152                                               | 10.3 |                                                   | 26.2 | 126                                              | 25.2 |                                                   | 48.9 |
| 2   | 179                                    | 21.6 | 167                                               | 10.2 |                                                   | 27.5 | 141                                              | 26.0 |                                                   | 49.5 |
| 3   | 194                                    | 24.1 | 182                                               | 10.0 |                                                   | 28.8 | 156                                              | 26.9 |                                                   | 50.0 |
| 4   | 209                                    | 26.6 | 197                                               | 09.9 |                                                   | 30.0 | 171                                              | 27.8 |                                                   | 50.5 |
| 5   | 224                                    | 29.0 | 212                                               | 09.7 | +5                                                | 31.3 | 186                                              | 28.7 | +15                                               | 51.0 |
| 6   | 239                                    | 31.5 | 227                                               | 09.6 | +5                                                | 32.6 | 201                                              | 29.6 | +15                                               | 51.6 |
| 7   | 254                                    | 33.9 | 242                                               | 09.5 |                                                   | 33.9 | 216                                              | 30.5 |                                                   | 52.1 |
| 8   | 269                                    | 36.4 | 257                                               | 09.3 |                                                   | 35.2 | 231                                              | 31.4 |                                                   | 52.6 |
| 9   | 284                                    | 38.9 | 272                                               | 09.2 |                                                   | 36.5 | 246                                              | 32.3 |                                                   | 53.1 |
| 10  | 299                                    | 41.3 | 287                                               | 09.0 |                                                   | 37.8 | 261                                              | 33.2 |                                                   | 53.7 |
| 11  | 314                                    | 43.8 | 302                                               | 08.9 | +5                                                | 39.0 | 276                                              | 34.1 | +15                                               | 54.2 |
| 12  | 329                                    | 46.3 | 317                                               | 08.7 | +5                                                | 40.3 | 291                                              | 35.0 | +15                                               | 54.7 |
| 13  | 344                                    | 48.7 | 332                                               | 08.6 |                                                   | 41.6 | 306                                              | 35.9 |                                                   | 55.2 |
| 14  | 359                                    | 51.2 | 347                                               | 08.5 |                                                   | 42.9 | 321                                              | 36.8 |                                                   | 55.7 |
| 15  | 14                                     | 53.7 | 2                                                 | 08.3 |                                                   | 44.2 | 336                                              | 37.7 |                                                   | 56.3 |
| 16  | 29                                     | 56.1 | 17                                                | 08.2 |                                                   | 45.5 | 351                                              | 38.5 |                                                   | 56.8 |
| 17  | 44                                     | 58.6 | 32                                                | 08.0 | +5                                                | 46.7 | 6                                                | 39.4 | +15                                               | 57.3 |
| 18  | 60                                     | 01.1 | 47                                                | 07.9 | +5                                                | 48.0 | 21                                               | 40.3 | +15                                               | 57.8 |
| 19  | 75                                     | 03.5 | 62                                                | 07.8 |                                                   | 49.3 | 36                                               | 41.2 |                                                   | 58.4 |
| 20  | 90                                     | 06.0 | 77                                                | 07.6 |                                                   | 50.6 | 51                                               | 42.1 |                                                   | 58.9 |
| 21  | 105                                    | 08.4 | 92                                                | 07.5 |                                                   | 51.9 | 66                                               | 43.0 |                                                   | 59.4 |
| 22  | 120                                    | 10.9 | 107                                               | 07.3 |                                                   | 53.2 | 81                                               | 43.9 | +15                                               | 59.9 |
| 23  | 135                                    | 13.4 | 122                                               | 07.2 |                                                   | 54.4 | 96                                               | 44.8 | +16                                               | 00.5 |
| 24  | 150                                    | 15.8 | 137                                               | 07.0 | +5                                                | 55.7 | 111                                              | 45.7 | +16                                               | 01.0 |
| Dif | —                                      |      | -1 +13                                            |      | +9 +5                                             |      | +27 +1                                           |      | +25 0                                             |      |

| UT  | SOL                                                |      |                                                   | ● LUNA                                                                                                                                                                                |                        |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                   | Puesta de Luna |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 7 |      |                                                   | Edad: 30 <sup>d</sup> 1 PHE {<br>SD: 15:8<br>PMG: 13 <sup>h</sup> 16 <sup>m</sup><br>4 <sup>h</sup> : 57/8<br>12 <sup>h</sup> : 57/6<br>20 <sup>h</sup> : 57/4<br>R°: 45 <sup>m</sup> |                        |                                                   |         |               |                                                  |       |                |                                                   |                |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                                  | Dif                    | Dec                                               |         |               | Dif                                              | Civil | Náutico        | Hora                                              | R°             | Hora     |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                                     | '                      | °                                                 | '       | °             | h m                                              | h m   | h m            | h m m                                             | h m m          | h m m    |
| 0   | 176                                                | 33.9 | -10 52.5                                          | 167                                                                                                                                                                                   | 27.1                   | -12 12.5                                          |         | 60 N          | 17 05                                            | 17 48 | 18 36          | 8 20 2                                            | 18 30 91       |          |
| 1   | 191                                                | 34.0 |                                                   | 181                                                                                                                                                                                   | 58.0 <sup>119</sup>    | -11 58.3 <sup>142</sup>                           |         | 58            | 11                                               | 51    | 37             | 14 5                                              | 34 88          |          |
| 2   | 206                                                | 34.0 |                                                   | 196                                                                                                                                                                                   | 28.8 <sup>118</sup>    | 44.1 <sup>142</sup>                               |         | 56            | 15                                               | 54    | 37             | 09 8                                              | 38 84          |          |
| 3   | 221                                                | 34.1 |                                                   | 210                                                                                                                                                                                   | 59.8 <sup>120</sup>    | 29.8 <sup>143</sup>                               |         | 54            | 20                                               | 56    | 37             | 05 10                                             | 42 8           |          |
| 4   | 236                                                | 34.2 |                                                   | 225                                                                                                                                                                                   | 30.9 <sup>121</sup>    | 15.5 <sup>143</sup>                               |         | 52            | 24                                               | 17 58 | 38             | 8 00 13                                           | 45 79          |          |
| 5   | 251                                                | 34.2 | -10 48.0                                          | 240                                                                                                                                                                                   | 02.0 <sup>121</sup>    | -11 01.1 <sup>144</sup>                           |         | 50            | 17 27                                            | 18 00 | 18 38          | 7 56 16                                           | 18 48 76       |          |
| 6   | 266                                                | 34.3 | -10 47.1                                          | 254                                                                                                                                                                                   | 33.3 <sup>123</sup>    | -10 46.7 <sup>144</sup>                           |         | 45            | 17 35                                            | 18 05 | 18 39          | 7 48 20                                           | 18 55 70       |          |
| 7   | 281                                                | 34.4 |                                                   | 269                                                                                                                                                                                   | 04.6 <sup>123</sup>    | 32.3 <sup>144</sup>                               |         | 40            | 42                                               | 09    | 41             | 41 24                                             | 19 00 66       |          |
| 8   | 296                                                | 34.4 |                                                   | 283                                                                                                                                                                                   | 36.0 <sup>124</sup>    | 17.8 <sup>145</sup>                               |         | 35            | 48                                               | 13    | 43             | 35 28                                             | 04 63          |          |
| 9   | 311                                                | 34.5 |                                                   | 298                                                                                                                                                                                   | 07.5 <sup>125</sup>    | -10 03.3 <sup>145</sup>                           |         | 30            | 17 53                                            | 17    | 45             | 30 31                                             | 08 60          |          |
| 10  | 326                                                | 34.6 |                                                   | 312                                                                                                                                                                                   | 39.0 <sup>125</sup>    | -9 48.8 <sup>145</sup>                            |         | 20            | 18 02                                            | 24    | 50             | 20 37                                             | 15 54          |          |
| 11  | 341                                                | 34.6 | -10 42.6                                          | 327                                                                                                                                                                                   | 10.6 <sup>126</sup>    | -9 34.2 <sup>146</sup>                            |         | 10 N          | 18 10                                            | 18 31 | 18 56          | 7 12 41                                           | 19 21 49       |          |
| 12  | 356                                                | 34.7 | -10 41.7                                          | 341                                                                                                                                                                                   | 42.3 <sup>127</sup>    | -9 19.6 <sup>146</sup>                            |         | 0             | 18 17                                            | 18 38 | 19 02          | 7 04 46                                           | 19 27 44       |          |
| 13  | 11                                                 | 34.8 |                                                   | 356                                                                                                                                                                                   | 14.1 <sup>128</sup>    | -9 04.9 <sup>147</sup>                            |         | 10 S          | 25                                               | 46    | 11             | 6 57 50                                           | 32 40          |          |
| 14  | 26                                                 | 34.8 |                                                   | 39.9                                                                                                                                                                                  | 10 46.0 <sup>129</sup> | -8 50.3 <sup>146</sup>                            |         | 20            | 33                                               | 18 55 | 22             | 48 56                                             | 38 35          |          |
| 15  | 41                                                 | 34.9 |                                                   | 25                                                                                                                                                                                    | 17.9 <sup>129</sup>    | 35.6 <sup>147</sup>                               |         | 30            | 42                                               | 19 07 | 36             | 39 61                                             | 44 30          |          |
| 16  | 56                                                 | 35.0 |                                                   | 39                                                                                                                                                                                    | 49.9 <sup>130</sup>    | 20.9 <sup>147</sup>                               |         | 35            | 48                                               | 14    | 45             | 33 64                                             | 48 27          |          |
| 17  | 71                                                 | 35.1 | -10 37.2                                          | 54                                                                                                                                                                                    | 21.9 <sup>130</sup>    | -8 06.1 <sup>148</sup>                            |         | 40            | 18 54                                            | 19 22 | 19 56          | 6 27 68                                           | 19 52 24       |          |
| 18  | 86                                                 | 35.1 | -10 36.3                                          | 68                                                                                                                                                                                    | 54.1 <sup>132</sup>    | -7 51.4 <sup>147</sup>                            |         | 45            | 19 02                                            | 19 32 | 20 10          | 6 20 72                                           | 19 57 19       |          |
| 19  | 101                                                | 35.2 |                                                   | 83                                                                                                                                                                                    | 26.3 <sup>132</sup>    | 36.6 <sup>148</sup>                               |         | 50            | 11                                               | 45    | 27             | 11 77                                             | 20 03 14       |          |
| 20  | 116                                                | 35.3 |                                                   | 97                                                                                                                                                                                    | 58.6 <sup>133</sup>    | 21.8 <sup>148</sup>                               |         | 52            | 15                                               | 51    | 36             | 07 80                                             | 05 13          |          |
| 21  | 131                                                | 35.3 |                                                   | 112                                                                                                                                                                                   | 30.9 <sup>133</sup>    | -7 07.0 <sup>148</sup>                            |         | 54            | 19                                               | 19 58 | 46             | 6 02 83                                           | 08 10          |          |
| 22  | 146                                                | 35.4 |                                                   | 127                                                                                                                                                                                   | 03.3 <sup>134</sup>    | -6 52.1 <sup>149</sup>                            |         | 56            | 24                                               | 20 05 | 20 57          | 5 57 86                                           | 11 8           |          |
| 23  | 161                                                | 35.5 |                                                   | 141                                                                                                                                                                                   | 35.8 <sup>135</sup>    | 37.3 <sup>148</sup>                               |         | 58            | 30                                               | 13    | 21 10          | 51 89                                             | 15 4           |          |
| 24  | 176                                                | 35.6 | -10 30.8                                          | 156                                                                                                                                                                                   | 08.3 <sup>135</sup>    | -6 22.4 <sup>149</sup>                            |         | 60 S          | 19 36                                            | 20 23 | 21 26          | 5 45 93                                           | 20 19 1        |          |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                       |                        | MARTE                                             |         |               | JÚPITER                                          |       |                | SATURNO                                           |                |          |
|     | PMG: 13 <sup>h</sup> 56 <sup>m</sup> 7             |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |                                                                                                                                                                                       |                        | Mag: +1.0<br>PMG: 16 <sup>h</sup> 32 <sup>m</sup> |         |               | Mag: -2.5<br>PMG: 1 <sup>h</sup> 08 <sup>m</sup> |       |                | Mag: -0.1<br>PMG: 20 <sup>h</sup> 24 <sup>m</sup> |                |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                                   |                        | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |                | hG ♄                                              | Dec            |          |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                     | °                      | '                                                 | '       | °             | '                                                | '     | °              | '                                                 | '              | °        |
| 0   | 150                                                | 15.8 | 137                                               | 07.0                                                                                                                                                                                  | +5 55.7                | 111                                               | 45.7    | +16 01.0      | 343                                              | 02.0  | +7 00.0        | 53                                                | 11.9           | +22 43.6 |
| 1   | 165                                                | 18.3 | 152                                               | 06.9                                                                                                                                                                                  | 57.0                   | 126                                               | 46.6    | 01.5          | 358                                              | 04.7  | +7 00.2        | 68                                                | 14.5           | 43.6     |
| 2   | 180                                                | 20.8 | 167                                               | 06.8                                                                                                                                                                                  | 58.3                   | 141                                               | 47.5    | 02.0          | 13                                               | 07.5  | 00.3           | 83                                                | 17.0           | 43.6     |
| 3   | 195                                                | 23.2 | 182                                               | 06.6                                                                                                                                                                                  | +5 59.6                | 156                                               | 48.3    | 02.5          | 28                                               | 10.2  | 00.4           | 98                                                | 19.5           | 43.6     |
| 4   | 210                                                | 25.7 | 197                                               | 06.5                                                                                                                                                                                  | +6 00.8                | 171                                               | 49.2    | 03.1          | 43                                               | 13.0  | 00.5           | 113                                               | 22.1           | 43.7     |
| 5   | 225                                                | 28.2 | 212                                               | 06.3                                                                                                                                                                                  | +6 02.1                | 186                                               | 50.1    | +16 03.6      | 58                                               | 15.7  | +7 00.7        | 128                                               | 24.6           | +22 43.7 |
| 6   | 240                                                | 30.6 | 227                                               | 06.2                                                                                                                                                                                  | +6 03.4                | 201                                               | 51.0    | +16 04.1      | 73                                               | 18.5  | +7 00.8        | 143                                               | 27.2           | +22 43.7 |
| 7   | 255                                                | 33.1 | 242                                               | 06.1                                                                                                                                                                                  | 04.7                   | 216                                               | 51.9    | 04.6          | 88                                               | 21.2  | 00.9           | 158                                               | 29.7           | 43.7     |
| 8   | 270                                                | 35.5 | 257                                               | 05.9                                                                                                                                                                                  | 06.0                   | 231                                               | 52.8    | 05.1          | 103                                              | 24.0  | 01.0           | 173                                               | 32.2           | 43.7     |
| 9   | 285                                                | 38.0 | 272                                               | 05.8                                                                                                                                                                                  | 07.3                   | 246                                               | 53.7    | 05.7          | 118                                              | 26.7  | 01.2           | 188                                               | 34.8           | 43.7     |
| 10  | 300                                                | 40.5 | 287                                               | 05.6                                                                                                                                                                                  | 08.5                   | 261                                               | 54.6    | 06.2          | 133                                              | 29.5  | 01.3           | 203                                               | 37.3           | 43.7     |
| 11  | 315                                                | 42.9 | 302                                               | 05.5                                                                                                                                                                                  | +6 09.8                | 276                                               | 55.5    | +16 06.7      | 148                                              | 32.2  | +7 01.4        | 218                                               | 39.9           | +22 43.7 |
| 12  | 330                                                | 45.4 | 317                                               | 05.3                                                                                                                                                                                  | +6 11.1                | 291                                               | 56.3    | +16 07.2      | 163                                              | 35.0  | +7 01.5        | 233                                               | 42.4           | +22 43.7 |
| 13  | 345                                                | 47.9 | 332                                               | 05.2                                                                                                                                                                                  | 12.4                   | 306                                               | 57.2    | 07.7          | 178                                              | 37.7  | 01.7           | 248                                               | 44.9           | 43.7     |
| 14  | 0                                                  | 50.3 | 347                                               | 05.1                                                                                                                                                                                  | 13.7                   | 321                                               | 58.1    | 08.3          | 193                                              | 40.5  | 01.8           | 263                                               | 47.5           | 43.8     |
| 15  | 15                                                 | 52.8 | 2                                                 | 04.9                                                                                                                                                                                  | 14.9                   | 336                                               | 59.0    | 08.8          | 208                                              | 43.2  | 01.9           | 278                                               | 50.0           | 43.8     |
| 16  | 30                                                 | 55.3 | 17                                                | 04.8                                                                                                                                                                                  | 16.2                   | 351                                               | 59.9    | 09.3          | 223                                              | 46.0  | 02.0           | 293                                               | 52.6           | 43.8     |
| 17  | 45                                                 | 57.7 | 32                                                | 04.6                                                                                                                                                                                  | +6 17.5                | 7                                                 | 00.8    | +16 09.8      | 238                                              | 48.7  | +7 02.2        | 308                                               | 55.1           | +22 43.8 |
| 18  | 61                                                 | 00.2 | 47                                                | 04.5                                                                                                                                                                                  | +6 18.8                | 22                                                | 01.7    | +16 10.3      | 253                                              | 51.5  | +7 02.3        | 323                                               | 57.6           | +22 43.8 |
| 19  | 76                                                 | 02.7 | 62                                                | 04.4                                                                                                                                                                                  | 20.0                   | 37                                                | 02.6    | 10.8          | 268                                              | 54.2  | 02.4           | 339                                               | 00.7           | 43.8     |
| 20  | 91                                                 | 05.1 | 77                                                | 04.2                                                                                                                                                                                  | 21.3                   | 52                                                | 03.4    | 11.4          | 283                                              | 57.0  | 02.5           | 354                                               | 02.7           | 43.8     |
| 21  | 106                                                | 07.6 | 92                                                | 04.1                                                                                                                                                                                  | 22.6                   | 67                                                | 04.3    | 11.9          | 298                                              | 59.7  | 02.7           | 9                                                 | 05.3           | 43.8     |
| 22  | 121                                                | 10.0 | 107                                               | 03.9                                                                                                                                                                                  | 23.9                   | 82                                                | 05.2    | 12.4          | 314                                              | 02.5  | 02.8           | 24                                                | 07.8           | 43.8     |
| 23  | 136                                                | 12.5 | 122                                               | 03.8                                                                                                                                                                                  | 25.2                   | 97                                                | 06.1    | 12.9          | 329                                              | 05.2  | 02.9           | 39                                                | 10.3           | 43.8     |
| 24  | 151                                                | 15.0 | 137                                               | 03.7                                                                                                                                                                                  | +6 26.4                | 112                                               | 07.0    | +16 13.4      | 344                                              | 08.0  | +7 03.0        | 54                                                | 12.9           | +22 43.9 |
| Dif | —                                                  |      | -1                                                | +13                                                                                                                                                                                   |                        | +9                                                | +5      |               | +28                                              | +1    |                | +25                                               |                | 0        |

| UT  | SOL                                                |      |                                                   | ● LUNA                                                                                                                           |     |                                                   | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |      |       |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|------|-------|------|-----|------|
|     | SD: 16'2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 6 |      |                                                   | Edad: 1 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 57'1<br>12 <sup>h</sup> : 56'9<br>20 <sup>h</sup> : 56'6<br>R°: 43 <sup>m</sup> |     |                                                   |         |                          |                                                  |               |                |                                                   |                |      |       |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                             | Dif | Dec                                               |         | Dif                      | Náutico                                          |               | Civil          | Hora                                              | R°             | Hora | R°    |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                 | °       | '                        | h                                                | m             | h              | m                                                 | h              | m    | h     | m    |     |      |
| 0   | 176                                                | 35.6 | -10                                               | 30.8                                                                                                                             | 156 | 08.3                                              | -6      | 22.4                     | 60 N                                             | 5 50          | 6 38           | 7 21                                              | 8 22           | 0    | 20 01 | 87   |     |      |
| 1   | 191                                                | 35.6 |                                                   | 29.9                                                                                                                             | 170 | 40.9 <sup>136</sup>                               | -6      | 07.5 <sup>149</sup>      | 58                                               | 50            | 35             | 15                                                | 19             | 4    | 02    | 84   |     |      |
| 2   | 206                                                | 35.7 |                                                   | 29.0                                                                                                                             | 185 | 13.5 <sup>136</sup>                               | -5      | 52.6 <sup>149</sup>      | 56                                               | 49            | 33             | 11                                                | 17             | 7    | 02    | 81   |     |      |
| 3   | 221                                                | 35.8 |                                                   | 28.1                                                                                                                             | 199 | 46.2 <sup>137</sup>                               |         | 37.7 <sup>149</sup>      | 54                                               | 49            | 30             | 06                                                | 15             | 10   | 03    | 78   |     |      |
| 4   | 236                                                | 35.9 |                                                   | 27.2                                                                                                                             | 214 | 19.0 <sup>138</sup>                               |         | 22.8 <sup>149</sup>      | 52                                               | 49            | 28             | 7 02                                              | 13             | 12   | 04    | 75   |     |      |
| 5   | 251                                                | 35.9 | -10                                               | 26.3                                                                                                                             | 228 | 51.8 <sup>138</sup>                               | -5      | 07.9 <sup>149</sup>      | 50                                               | 5 48          | 6 26           | 6 59                                              | 8 12           | 14   | 20 04 | 73   |     |      |
| 6   | 266                                                | 36.0 | -10                                               | 25.4                                                                                                                             | 243 | 24.7 <sup>139</sup>                               | -4      | 53.0 <sup>149</sup>      | 45                                               | 5 47          | 6 21           | 6 51                                              | 8 08           | 19   | 20 05 | 69   |     |      |
| 7   | 281                                                | 36.1 |                                                   | 24.5                                                                                                                             | 257 | 57.6 <sup>139</sup>                               |         | 38.0 <sup>150</sup>      | 40                                               | 46            | 17             | 45                                                | 05             | 23   | 06    | 64   |     |      |
| 8   | 296                                                | 36.1 |                                                   | 23.6                                                                                                                             | 272 | 30.6 <sup>140</sup>                               |         | 23.1 <sup>149</sup>      | 35                                               | 44            | 13             | 39                                                | 03             | 26   | 07    | 61   |     |      |
| 9   | 311                                                | 36.2 |                                                   | 22.7                                                                                                                             | 287 | 03.6 <sup>140</sup>                               | -4      | 08.2 <sup>149</sup>      | 30                                               | 42            | 10             | 34                                                | 8 01           | 29   | 08    | 57   |     |      |
| 10  | 326                                                | 36.3 |                                                   | 21.8                                                                                                                             | 301 | 36.7 <sup>141</sup>                               | -3      | 53.2 <sup>150</sup>      | 20                                               | 37            | 6 03           | 25                                                | 7 57           | 34   | 09    | 52   |     |      |
| 11  | 341                                                | 36.4 | -10                                               | 20.9                                                                                                                             | 316 | 09.9 <sup>142</sup>                               | -3      | 38.3 <sup>149</sup>      | 10 N                                             | 5 32          | 5 56           | 6 18                                              | 7 53           | 40   | 20 10 | 48   |     |      |
| 12  | 356                                                | 36.4 | -10                                               | 19.9                                                                                                                             | 330 | 43.1 <sup>142</sup>                               | -3      | 23.3 <sup>150</sup>      | 0                                                | 5 25          | 5 49           | 6 10                                              | 7 50           | 44   | 20 11 | 43   |     |      |
| 13  | 11                                                 | 36.5 |                                                   | 19.0                                                                                                                             | 345 | 16.3 <sup>142</sup>                               | -3      | 08.4 <sup>149</sup>      | 10 S                                             | 16            | 41             | 6 03                                              | 47             | 48   | 12    | 39   |     |      |
| 14  | 26                                                 | 36.6 |                                                   | 18.1                                                                                                                             | 359 | 49.6 <sup>143</sup>                               | -2      | 53.5 <sup>149</sup>      | 20                                               | 5 06          | 32             | 5 55                                              | 44             | 52   | 13    | 34   |     |      |
| 15  | 41                                                 | 36.7 |                                                   | 17.2                                                                                                                             | 14  | 22.9 <sup>143</sup>                               |         | 38.5 <sup>150</sup>      | 30                                               | 4 52          | 21             | 45                                                | 40             | 58   | 14    | 29   |     |      |
| 16  | 56                                                 | 36.8 |                                                   | 16.3                                                                                                                             | 28  | 56.3 <sup>144</sup>                               |         | 23.6 <sup>149</sup>      | 35                                               | 42            | 14             | 40                                                | 37             | 62   | 15    | 26   |     |      |
| 17  | 71                                                 | 36.8 | -10                                               | 15.4                                                                                                                             | 43  | 29.7 <sup>144</sup>                               | -2      | 08.7 <sup>149</sup>      | 40                                               | 4 32          | 5 05           | 5 34                                              | 7 35           | 65   | 20 16 | 22   |     |      |
| 18  | 86                                                 | 36.9 | -10                                               | 14.5                                                                                                                             | 58  | 03.1 <sup>144</sup>                               | -1      | 53.8 <sup>149</sup>      | 45                                               | 4 18          | 4 55           | 5 26                                              | 7 32           | 69   | 20 16 | 19   |     |      |
| 19  | 101                                                | 37.0 |                                                   | 13.6                                                                                                                             | 72  | 36.6 <sup>145</sup>                               |         | 38.8 <sup>150</sup>      | 50                                               | 4 00          | 43             | 17                                                | 28             | 75   | 17    | 14   |     |      |
| 20  | 116                                                | 37.1 |                                                   | 12.7                                                                                                                             | 87  | 10.2 <sup>146</sup>                               |         | 23.9 <sup>149</sup>      | 52                                               | 3 52          | 37             | 13                                                | 27             | 76   | 18    | 12   |     |      |
| 21  | 131                                                | 37.1 |                                                   | 11.8                                                                                                                             | 101 | 43.7 <sup>145</sup>                               | -1      | 09.1 <sup>148</sup>      | 54                                               | 42            | 31             | 09                                                | 25             | 79   | 18    | 10   |     |      |
| 22  | 146                                                | 37.2 |                                                   | 10.8                                                                                                                             | 116 | 17.4 <sup>147</sup>                               | -0      | 54.2 <sup>149</sup>      | 56                                               | 31            | 23             | 5 04                                              | 23             | 82   | 19    | 7    |     |      |
| 23  | 161                                                | 37.3 |                                                   | 09.9                                                                                                                             | 130 | 51.0 <sup>146</sup>                               |         | 39.3 <sup>149</sup>      | 58                                               | 18            | 15             | 4 58                                              | 20             | 86   | 19    | 5    |     |      |
| 24  | 176                                                | 37.4 | -10                                               | 09.0                                                                                                                             | 145 | 24.7 <sup>147</sup>                               | -0      | 24.5 <sup>148</sup>      | 60 S                                             | 3 02          | 4 05           | 4 52                                              | 7 18           | 89   | 20 20 | 1    |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                  |     | MARTE                                             |         |                          | JÚPITER                                          |               |                | SATURNO                                           |                |      |       |      |     |      |
|     | PMG<br>13 <sup>h</sup> 52 <sup>m</sup> 7           |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |                                                                                                                                  |     | Mag: +1.0<br>PMG: 16 <sup>h</sup> 31 <sup>m</sup> |         |                          | Mag: -2.5<br>PMG: 1 <sup>h</sup> 03 <sup>m</sup> |               |                | Mag: -0.1<br>PMG: 20 <sup>h</sup> 20 <sup>m</sup> |                |      |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                              |     | hG ♂                                              | Dec     |                          | hG ♃                                             | Dec           |                | hG ♄                                              | Dec            |      |       |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                 | °       | '                        | °                                                | '             | °              | '                                                 | °              | '    | °     | '    |     |      |
| 0   | 151                                                | 15.0 | 137                                               | 03.7                                                                                                                             | +6  | 26.4                                              | 112     | 07.0                     | +16                                              | 13.4          | 344            | 08.0                                              | +7             | 03.0 | 54    | 12.9 | +22 | 43.9 |
| 1   | 166                                                | 17.4 | 152                                               | 03.5                                                                                                                             |     | 27.7                                              | 127     | 07.9                     |                                                  | 13.9          | 359            | 10.7                                              |                | 03.2 | 69    | 15.4 |     | 43.9 |
| 2   | 181                                                | 19.9 | 167                                               | 03.4                                                                                                                             |     | 29.0                                              | 142     | 08.8                     |                                                  | 14.5          | 14             | 13.5                                              |                | 03.3 | 84    | 17.9 |     | 43.9 |
| 3   | 196                                                | 22.4 | 182                                               | 03.2                                                                                                                             |     | 30.3                                              | 157     | 09.7                     |                                                  | 15.0          | 29             | 16.3                                              |                | 03.4 | 99    | 20.5 |     | 43.9 |
| 4   | 211                                                | 24.8 | 197                                               | 03.1                                                                                                                             |     | 31.5                                              | 172     | 10.5                     |                                                  | 15.5          | 44             | 19.0                                              |                | 03.6 | 114   | 23.0 |     | 43.9 |
| 5   | 226                                                | 27.3 | 212                                               | 03.0                                                                                                                             | +6  | 32.8                                              | 187     | 11.4                     | +16                                              | 16.0          | 59             | 21.8                                              | +7             | 03.7 | 129   | 25.5 | +22 | 43.9 |
| 6   | 241                                                | 29.8 | 227                                               | 02.8                                                                                                                             | +6  | 34.1                                              | 202     | 12.3                     | +16                                              | 16.5          | 74             | 24.5                                              | +7             | 03.8 | 144   | 28.1 | +22 | 43.9 |
| 7   | 256                                                | 32.2 | 242                                               | 02.7                                                                                                                             |     | 35.4                                              | 217     | 13.2                     |                                                  | 17.0          | 89             | 27.3                                              |                | 03.9 | 159   | 30.6 |     | 43.9 |
| 8   | 271                                                | 34.7 | 257                                               | 02.5                                                                                                                             |     | 36.6                                              | 232     | 14.1                     |                                                  | 17.6          | 104            | 30.0                                              |                | 04.1 | 174   | 33.2 |     | 43.9 |
| 9   | 286                                                | 37.2 | 272                                               | 02.4                                                                                                                             |     | 37.9                                              | 247     | 15.0                     |                                                  | 18.1          | 119            | 32.8                                              |                | 04.2 | 189   | 35.7 |     | 43.9 |
| 10  | 301                                                | 39.6 | 287                                               | 02.3                                                                                                                             |     | 39.2                                              | 262     | 15.9                     |                                                  | 18.6          | 134            | 35.5                                              |                | 04.3 | 204   | 38.2 |     | 43.9 |
| 11  | 316                                                | 42.1 | 302                                               | 02.1                                                                                                                             | +6  | 40.5                                              | 277     | 16.7                     | +16                                              | 19.1          | 149            | 38.3                                              | +7             | 04.4 | 219   | 40.8 | +22 | 44.0 |
| 12  | 331                                                | 44.5 | 317                                               | 02.0                                                                                                                             | +6  | 41.7                                              | 292     | 17.6                     | +16                                              | 19.6          | 164            | 41.0                                              | +7             | 04.6 | 234   | 43.3 | +22 | 44.0 |
| 13  | 346                                                | 47.0 | 332                                               | 01.9                                                                                                                             |     | 43.0                                              | 307     | 18.5                     |                                                  | 20.1          | 179            | 43.8                                              |                | 04.7 | 249   | 45.8 |     | 44.0 |
| 14  | 1                                                  | 49.5 | 347                                               | 01.7                                                                                                                             |     | 44.3                                              | 322     | 19.4                     |                                                  | 20.7          | 194            | 46.5                                              |                | 04.8 | 264   | 48.4 |     | 44.0 |
| 15  | 16                                                 | 51.9 | 2                                                 | 01.6                                                                                                                             |     | 45.5                                              | 337     | 20.3                     |                                                  | 21.2          | 209            | 49.3                                              |                | 04.9 | 279   | 50.9 |     | 44.0 |
| 16  | 31                                                 | 54.4 | 17                                                | 01.4                                                                                                                             |     | 46.8                                              | 352     | 21.2                     |                                                  | 21.7          | 224            | 52.0                                              |                | 05.1 | 294   | 53.4 |     | 44.0 |
| 17  | 46                                                 | 56.9 | 32                                                | 01.3                                                                                                                             | +6  | 48.1                                              | 7       | 22.0                     | +16                                              | 22.2          | 239            | 54.8                                              | +7             | 05.2 | 309   | 56.0 | +22 | 44.0 |
| 18  | 61                                                 | 59.3 | 47                                                | 01.2                                                                                                                             | +6  | 49.4                                              | 22      | 22.9                     | +16                                              | 22.7          | 254            | 57.5                                              | +7             | 05.3 | 324   | 58.5 | +22 | 44.0 |
| 19  | 77                                                 | 01.8 | 62                                                | 01.0                                                                                                                             |     | 50.6                                              | 37      | 23.8                     |                                                  | 23.2          | 270            | 00.3                                              |                | 05.5 | 340   | 01.0 |     | 44.0 |
| 20  | 92                                                 | 04.3 | 77                                                | 00.9                                                                                                                             |     | 51.9                                              | 52      | 24.7                     |                                                  | 23.7          | 285            | 03.1                                              |                | 05.6 | 355   | 03.6 |     | 44.0 |
| 21  | 107                                                | 06.7 | 92                                                | 00.7                                                                                                                             |     | 53.2                                              | 67      | 25.6                     |                                                  | 24.2          | 300            | 05.8                                              |                | 05.7 | 10    | 06.1 |     | 44.1 |
| 22  | 122                                                | 09.2 | 107                                               | 00.6                                                                                                                             |     | 54.5                                              | 82      | 26.5                     |                                                  | 24.8          | 315            | 08.6                                              |                | 05.8 | 25    | 08.6 |     | 44.1 |
| 23  | 137                                                | 11.6 | 122                                               | 00.5                                                                                                                             |     | 55.7                                              | 97      | 27.3                     |                                                  | 25.3          | 330            | 11.3                                              |                | 06.0 | 40    | 11.2 |     | 44.1 |
| 24  | 152                                                | 14.1 | 137                                               | 00.3                                                                                                                             | +6  | 57.0                                              | 112     | 28.2                     | +16                                              | 25.8          | 345            | 14.1                                              | +7             | 06.1 | 55    | 13.7 | +22 | 44.1 |
| Dif | —                                                  |      | -1                                                |                                                                                                                                  | +13 |                                                   | +9      |                          | +5                                               |               | +28            |                                                   | +1             |      | +25   |      |     |      |



| UT  | SOL                                                |      |                                                   | ● LUNA                                                                           |     |                                                   | Latitud | Puesta de Sol       | Final del crepúsculo                             |       |         | Salida de Luna                                    |      | Puesta de Luna |          |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|---------------------|--------------------------------------------------|-------|---------|---------------------------------------------------|------|----------------|----------|------|-----|------|
|     | SD: 16:2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 4 |      |                                                   | Edad: 2 <sup>d</sup> 6 PHE {<br>SD: 15:4<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup> |     |                                                   |         |                     |                                                  |       |         |                                                   |      |                |          |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                             | Dif | Dec                                               |         |                     | Dif                                              | Civil | Náutico | Hora                                              | Rº   | Hora           | Rº       |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                | °   | '                                                 | °       | '                   | h m                                              | h m   | h m     | h m                                               | m    | h m            | m        |      |     |      |
| 0   | 176                                                | 37.4 | -10                                               | 09.0                                                                             | 145 | 24.7                                              | -0      | 24.5                | 60 N                                             | 17 10 | 17 53   | 18 41                                             | 8 22 | 1              | 21 28 87 |      |     |      |
| 1   | 191                                                | 37.5 |                                                   | 08.1                                                                             | 159 | 58.4 <sup>147</sup>                               | -0      | 09.6 <sup>149</sup> | 58                                               | 15    | 55      | 41                                                | 23   | 4              | 26 82    |      |     |      |
| 2   | 206                                                | 37.5 |                                                   | 07.2                                                                             | 174 | 32.2 <sup>148</sup>                               | +0      | 05.2 <sup>148</sup> | 56                                               | 20    | 17 58   | 41                                                | 24   | 7              | 23 80    |      |     |      |
| 3   | 221                                                | 37.6 |                                                   | 06.3                                                                             | 189 | 05.9 <sup>147</sup>                               |         | 20.0 <sup>148</sup> | 54                                               | 24    | 18 00   | 41                                                | 25   | 9              | 21 7     |      |     |      |
| 4   | 236                                                | 37.7 |                                                   | 05.4                                                                             | 203 | 39.8 <sup>149</sup>                               |         | 34.8 <sup>148</sup> | 52                                               | 27    | 02      | 41                                                | 25   | 12             | 19 74    |      |     |      |
| 5   | 251                                                | 37.8 | -10                                               | 04.5                                                                             | 218 | 13.6 <sup>148</sup>                               | +0      | 49.6 <sup>148</sup> | 50                                               | 17 31 | 18 04   | 18 41                                             | 8 26 | 14             | 21 17 72 |      |     |      |
| 6   | 266                                                | 37.9 | -10                                               | 03.5                                                                             | 232 | 47.5 <sup>149</sup>                               | +1      | 04.3 <sup>147</sup> | 45                                               | 17 38 | 18 08   | 18 42                                             | 8 27 | 18             | 21 14 67 |      |     |      |
| 7   | 281                                                | 37.9 |                                                   | 02.6                                                                             | 247 | 21.4 <sup>149</sup>                               |         | 19.0 <sup>147</sup> | 40                                               | 44    | 12      | 43                                                | 28   | 22             | 10 63    |      |     |      |
| 8   | 296                                                | 38.0 |                                                   | 01.7                                                                             | 261 | 55.3 <sup>149</sup>                               |         | 33.7 <sup>147</sup> | 35                                               | 50    | 15      | 45                                                | 29   | 26             | 08 59    |      |     |      |
| 9   | 311                                                | 38.1 | -10                                               | 00.8                                                                             | 276 | 29.2 <sup>149</sup>                               | +1      | 48.4 <sup>147</sup> | 30                                               | 17 54 | 18      | 46                                                | 30   | 28             | 05 57    |      |     |      |
| 10  | 326                                                | 38.2 | -9                                                | 59.9                                                                             | 291 | 03.2 <sup>150</sup>                               | +2      | 03.1 <sup>147</sup> | 20                                               | 18 02 | 25      | 51                                                | 31   | 34             | 21 01 52 |      |     |      |
| 11  | 341                                                | 38.3 | -9                                                | 59.0                                                                             | 305 | 37.2 <sup>150</sup>                               | +2      | 17.7 <sup>146</sup> | 10 N                                             | 18 10 | 18 31   | 18 56                                             | 8 33 | 38             | 20 58 46 |      |     |      |
| 12  | 356                                                | 38.4 | -9                                                | 58.0                                                                             | 320 | 11.2 <sup>150</sup>                               | +2      | 32.3 <sup>146</sup> | 0                                                | 18 17 | 18 38   | 19 02                                             | 8 34 | 42             | 20 54 43 |      |     |      |
| 13  | 11                                                 | 38.4 |                                                   | 57.1                                                                             | 334 | 45.3 <sup>151</sup>                               | +2      | 46.9 <sup>146</sup> | 10 S                                             | 24    | 45      | 10                                                | 35   | 47             | 51 38    |      |     |      |
| 14  | 26                                                 | 38.5 |                                                   | 56.2                                                                             | 349 | 19.3 <sup>150</sup>                               | +3      | 01.5 <sup>146</sup> | 20                                               | 32    | 18 54   | 20                                                | 36   | 52             | 47 34    |      |     |      |
| 15  | 41                                                 | 38.6 |                                                   | 55.3                                                                             | 3   | 53.4 <sup>151</sup>                               |         | 16.0 <sup>145</sup> | 30                                               | 40    | 19 05   | 34                                                | 38   | 57             | 43 29    |      |     |      |
| 16  | 56                                                 | 38.7 |                                                   | 54.4                                                                             | 18  | 27.5 <sup>151</sup>                               |         | 30.5 <sup>145</sup> | 35                                               | 46    | 12      | 43                                                | 39   | 60             | 41 26    |      |     |      |
| 17  | 71                                                 | 38.8 | -9                                                | 53.5                                                                             | 33  | 01.6 <sup>151</sup>                               | +3      | 45.0 <sup>145</sup> | 40                                               | 18 51 | 19 19   | 19 53                                             | 8 40 | 63             | 20 38 23 |      |     |      |
| 18  | 86                                                 | 38.9 | -9                                                | 52.5                                                                             | 47  | 35.7 <sup>151</sup>                               | +3      | 59.4 <sup>144</sup> | 45                                               | 18 58 | 19 29   | 20 06                                             | 8 41 | 68             | 20 35 19 |      |     |      |
| 19  | 101                                                | 38.9 |                                                   | 51.6                                                                             | 62  | 09.9 <sup>152</sup>                               | +4      | 13.8 <sup>144</sup> | 50                                               | 19 07 | 41      | 23                                                | 43   | 72             | 31 14    |      |     |      |
| 20  | 116                                                | 39.0 |                                                   | 50.7                                                                             | 76  | 44.0 <sup>151</sup>                               |         | 28.2 <sup>144</sup> | 52                                               | 10    | 46      | 31                                                | 43   | 75             | 30 12    |      |     |      |
| 21  | 131                                                | 39.1 |                                                   | 49.8                                                                             | 91  | 18.2 <sup>152</sup>                               |         | 42.6 <sup>144</sup> | 54                                               | 15    | 19 53   | 40                                                | 44   | 77             | 28 10    |      |     |      |
| 22  | 146                                                | 39.2 |                                                   | 48.9                                                                             | 105 | 52.4 <sup>152</sup>                               | +4      | 56.9 <sup>143</sup> | 56                                               | 19    | 20 00   | 20 51                                             | 45   | 80             | 26 7     |      |     |      |
| 23  | 161                                                | 39.3 |                                                   | 48.0                                                                             | 120 | 26.5 <sup>151</sup>                               | +5      | 11.1 <sup>142</sup> | 58                                               | 25    | 08      | 21 03                                             | 46   | 83             | 24 4     |      |     |      |
| 24  | 176                                                | 39.4 | -9                                                | 47.0                                                                             | 135 | 00.7 <sup>152</sup>                               | +5      | 25.4 <sup>143</sup> | 60 S                                             | 19 31 | 20 17   | 21 18                                             | 8 47 | 86             | 20 21 1  |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                  |     | MARTE                                             |         |                     | JÚPITER                                          |       |         | SATURNO                                           |      |                |          |      |     |      |
|     | PMG: 13 <sup>h</sup> 48 <sup>m</sup> 8             |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |                                                                                  |     | Mag: +1.0<br>PMG: 16 <sup>h</sup> 29 <sup>m</sup> |         |                     | Mag: -2.5<br>PMG: 0 <sup>h</sup> 59 <sup>m</sup> |       |         | Mag: -0.1<br>PMG: 20 <sup>h</sup> 16 <sup>m</sup> |      |                |          |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                              |     | hG ♂                                              | Dec     |                     | hG ♃                                             | Dec   |         | hG ♄                                              | Dec  |                |          |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                | °   | '                                                 | °       | '                   | °                                                | '     | °       | '                                                 | °    | '              |          |      |     |      |
| 0   | 152                                                | 14.1 | 137                                               | 00.3                                                                             | +6  | 57.0                                              | 112     | 28.2                | +16                                              | 25.8  | 345     | 14.1                                              | +7   | 06.1           | 55       | 13.7 | +22 | 44.1 |
| 1   | 167                                                | 16.6 | 152                                               | 00.2                                                                             |     | 58.3                                              | 127     | 29.1                |                                                  | 26.3  | 0       | 16.8                                              |      | 06.2           | 70       | 16.2 |     | 44.1 |
| 2   | 182                                                | 19.0 | 167                                               | 00.1                                                                             | +6  | 59.5                                              | 142     | 30.0                |                                                  | 26.8  | 15      | 19.6                                              |      | 06.3           | 85       | 18.8 |     | 44.1 |
| 3   | 197                                                | 21.5 | 181                                               | 59.9                                                                             | +7  | 00.8                                              | 157     | 30.9                |                                                  | 27.3  | 30      | 22.3                                              |      | 06.5           | 100      | 21.3 |     | 44.1 |
| 4   | 212                                                | 24.0 | 196                                               | 59.8                                                                             |     | 02.1                                              | 172     | 31.8                |                                                  | 27.8  | 45      | 25.1                                              |      | 06.6           | 115      | 23.8 |     | 44.1 |
| 5   | 227                                                | 26.4 | 211                                               | 59.6                                                                             | +7  | 03.3                                              | 187     | 32.6                | +16                                              | 28.3  | 60      | 27.8                                              | +7   | 06.7           | 130      | 26.4 | +22 | 44.1 |
| 6   | 242                                                | 28.9 | 226                                               | 59.5                                                                             | +7  | 04.6                                              | 202     | 33.5                | +16                                              | 28.9  | 75      | 30.6                                              | +7   | 06.8           | 145      | 28.9 | +22 | 44.1 |
| 7   | 257                                                | 31.4 | 241                                               | 59.4                                                                             |     | 05.9                                              | 217     | 34.4                |                                                  | 29.4  | 90      | 33.4                                              |      | 07.0           | 160      | 31.4 |     | 44.2 |
| 8   | 272                                                | 33.8 | 256                                               | 59.2                                                                             |     | 07.2                                              | 232     | 35.3                |                                                  | 29.9  | 105     | 36.1                                              |      | 07.1           | 175      | 34.0 |     | 44.2 |
| 9   | 287                                                | 36.3 | 271                                               | 59.1                                                                             |     | 08.4                                              | 247     | 36.2                |                                                  | 30.4  | 120     | 38.9                                              |      | 07.2           | 190      | 36.5 |     | 44.2 |
| 10  | 302                                                | 38.8 | 286                                               | 59.0                                                                             |     | 09.7                                              | 262     | 37.0                |                                                  | 30.9  | 135     | 41.6                                              |      | 07.4           | 205      | 39.0 |     | 44.2 |
| 11  | 317                                                | 41.2 | 301                                               | 58.8                                                                             | +7  | 11.0                                              | 277     | 37.9                | +16                                              | 31.4  | 150     | 44.4                                              | +7   | 07.5           | 220      | 41.5 | +22 | 44.2 |
| 12  | 332                                                | 43.7 | 316                                               | 58.7                                                                             | +7  | 12.2                                              | 292     | 38.8                | +16                                              | 31.9  | 165     | 47.1                                              | +7   | 07.6           | 235      | 44.1 | +22 | 44.2 |
| 13  | 347                                                | 46.1 | 331                                               | 58.5                                                                             |     | 13.5                                              | 307     | 39.7                |                                                  | 32.4  | 180     | 49.9                                              |      | 07.7           | 250      | 46.6 |     | 44.2 |
| 14  | 2                                                  | 48.6 | 346                                               | 58.4                                                                             |     | 14.8                                              | 322     | 40.6                |                                                  | 32.9  | 195     | 52.6                                              |      | 07.9           | 265      | 49.1 |     | 44.2 |
| 15  | 17                                                 | 51.1 | 1                                                 | 58.3                                                                             |     | 16.0                                              | 337     | 41.4                |                                                  | 33.4  | 210     | 55.4                                              |      | 08.0           | 280      | 51.7 |     | 44.2 |
| 16  | 32                                                 | 53.5 | 16                                                | 58.1                                                                             |     | 17.3                                              | 352     | 42.3                |                                                  | 34.0  | 225     | 58.2                                              |      | 08.1           | 295      | 54.2 |     | 44.2 |
| 17  | 47                                                 | 56.0 | 31                                                | 58.0                                                                             | +7  | 18.6                                              | 7       | 43.2                | +16                                              | 34.5  | 241     | 00.9                                              | +7   | 08.2           | 310      | 56.7 | +22 | 44.2 |
| 18  | 62                                                 | 58.5 | 46                                                | 57.9                                                                             | +7  | 19.8                                              | 22      | 44.1                | +16                                              | 35.0  | 256     | 03.7                                              | +7   | 08.4           | 325      | 59.3 | +22 | 44.3 |
| 19  | 78                                                 | 00.9 | 61                                                | 57.7                                                                             |     | 21.1                                              | 37      | 45.0                |                                                  | 35.5  | 271     | 06.4                                              |      | 08.5           | 341      | 01.8 |     | 44.3 |
| 20  | 93                                                 | 03.4 | 76                                                | 57.6                                                                             |     | 22.4                                              | 52      | 45.8                |                                                  | 36.0  | 286     | 09.2                                              |      | 08.6           | 356      | 04.3 |     | 44.3 |
| 21  | 108                                                | 05.9 | 91                                                | 57.5                                                                             |     | 23.6                                              | 67      | 46.7                |                                                  | 36.5  | 301     | 11.9                                              |      | 08.8           | 11       | 06.8 |     | 44.3 |
| 22  | 123                                                | 08.3 | 106                                               | 57.3                                                                             |     | 24.9                                              | 82      | 47.6                |                                                  | 37.0  | 316     | 14.7                                              |      | 08.9           | 26       | 09.4 |     | 44.3 |
| 23  | 138                                                | 10.8 | 121                                               | 57.2                                                                             |     | 26.1                                              | 97      | 48.5                |                                                  | 37.5  | 331     | 17.5                                              |      | 09.0           | 41       | 11.9 |     | 44.3 |
| 24  | 153                                                | 13.2 | 136                                               | 57.0                                                                             | +7  | 27.4                                              | 112     | 49.4                | +16                                              | 38.0  | 346     | 20.2                                              | +7   | 09.1           | 56       | 14.4 | +22 | 44.3 |
| Dif | —                                                  |      | -1                                                |                                                                                  | +13 |                                                   | +9      |                     | +5                                               |       | +28     |                                                   | +1   |                | +25      |      |     |      |

| UT | SOL                                                |      |         | ● LUNA                 |                                                                                                           |                         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |      |
|----|----------------------------------------------------|------|---------|------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------|---------|--------------------------|------|---------------|----------------|-------|----------------|-------|------|
|    | SD: 16/2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 3 |      |         | Edad: 3 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 55/7<br>12 <sup>h</sup> : 55/5<br>20 <sup>h</sup> : 55/3<br>R°: 43 <sup>m</sup> |                         |         |                          |      |               |                |       |                |       |      |
|    | hG ☉                                               | Dec  |         | hG ☾                   |                                                                                                           | Dif                     |         | Dec                      | Dif  |               | Náutico        | Civil | Hora           | R°    | Hora |
| h  | °                                                  | '    | °       | °                      | '                                                                                                         | °                       | '       | °                        | h    | m             | h              | m     | h              | m     | m    |
| 0  | 176                                                | 39.4 | -9 47.0 | 135                    | 00.7                                                                                                      | +5 25.4                 | 142     | 60 N                     | 5 44 | 6 32          | 7 15           | 8 23  | 2              | 22 55 | 86   |
| 1  | 191                                                | 39.5 | 46.1    | 149                    | 34.9 <sup>152</sup>                                                                                       | 39.6 <sup>142</sup>     |         | 58                       | 45   | 30            | 10             | 27    | 5              | 48    | 83   |
| 2  | 206                                                | 39.5 | 45.2    | 164                    | 09.1 <sup>152</sup>                                                                                       | +5 53.8 <sup>142</sup>  |         | 56                       | 45   | 28            | 06             | 31    | 8              | 43    | 79   |
| 3  | 221                                                | 39.6 | 44.3    | 178                    | 43.4 <sup>153</sup>                                                                                       | +6 07.9 <sup>141</sup>  |         | 54                       | 45   | 26            | 7 02           | 34    | 10             | 38    | 76   |
| 4  | 236                                                | 39.7 | 43.4    | 193                    | 17.6 <sup>152</sup>                                                                                       | 22.0 <sup>141</sup>     |         | 52                       | 45   | 24            | 6 58           | 37    | 13             | 33    | 74   |
| 5  | 251                                                | 39.8 | -9 42.4 | 207                    | 51.8 <sup>152</sup>                                                                                       | +6 36.0 <sup>140</sup>  |         | 50                       | 5 45 | 6 22          | 6 55           | 8 40  | 14             | 22 29 | 72   |
| 6  | 266                                                | 39.9 | -9 41.5 | 222                    | 26.0 <sup>152</sup>                                                                                       | +6 50.0 <sup>140</sup>  |         | 45                       | 5 44 | 6 18          | 6 48           | 8 45  | 20             | 22 21 | 66   |
| 7  | 281                                                | 40.0 | 40.6    | 237                    | 00.2 <sup>152</sup>                                                                                       | +7 04.0 <sup>140</sup>  |         | 40                       | 43   | 14            | 42             | 50    | 24             | 13    | 63   |
| 8  | 296                                                | 40.1 | 39.7    | 251                    | 34.5 <sup>153</sup>                                                                                       | 17.9 <sup>139</sup>     |         | 35                       | 42   | 11            | 37             | 55    | 26             | 07    | 59   |
| 9  | 311                                                | 40.2 | 38.8    | 266                    | 08.7 <sup>152</sup>                                                                                       | 31.8 <sup>139</sup>     |         | 30                       | 40   | 08            | 32             | 8 58  | 30             | 22 02 | 56   |
| 10 | 326                                                | 40.2 | 37.8    | 280                    | 42.9 <sup>152</sup>                                                                                       | 45.6 <sup>138</sup>     |         | 20                       | 36   | 6 02          | 24             | 9 05  | 34             | 21 53 | 51   |
| 11 | 341                                                | 40.3 | -9 36.9 | 295                    | 17.1 <sup>152</sup>                                                                                       | +7 59.4 <sup>138</sup>  |         | 10 N                     | 5 31 | 5 56          | 6 17           | 9 11  | 38             | 21 44 | 47   |
| 12 | 356                                                | 40.4 | -9 36.0 | 309                    | 51.4 <sup>153</sup>                                                                                       | +8 13.2 <sup>138</sup>  |         | 0                        | 5 25 | 5 49          | 6 10           | 9 16  | 43             | 21 37 | 43   |
| 13 | 11                                                 | 40.5 | 35.1    | 324                    | 25.6 <sup>152</sup>                                                                                       | 26.9 <sup>137</sup>     |         | 10 S                     | 17   | 42            | 6 03           | 22    | 47             | 29    | 39   |
| 14 | 26                                                 | 40.6 | 34.2    | 338                    | 59.8 <sup>152</sup>                                                                                       | 40.5 <sup>136</sup>     |         | 20                       | 5 07 | 33            | 5 55           | 28    | 51             | 21    | 35   |
| 15 | 41                                                 | 40.7 | 33.2    | 353                    | 34.0 <sup>152</sup>                                                                                       | +8 54.2 <sup>137</sup>  |         | 30                       | 4 53 | 22            | 47             | 35    | 56             | 12    | 30   |
| 16 | 56                                                 | 40.8 | 32.3    | 8                      | 08.2 <sup>152</sup>                                                                                       | +9 07.7 <sup>135</sup>  |         | 35                       | 45   | 16            | 42             | 39    | 59             | 07    | 27   |
| 17 | 71                                                 | 40.9 | -9 31.4 | 22                     | 42.4 <sup>152</sup>                                                                                       | +9 21.2 <sup>135</sup>  |         | 40                       | 4 34 | 5 08          | 5 36           | 9 43  | 63             | 21 01 | 24   |
| 18 | 86                                                 | 41.0 | -9 30.5 | 37                     | 16.6 <sup>152</sup>                                                                                       | +9 34.7 <sup>135</sup>  |         | 45                       | 4 21 | 4 58          | 5 29           | 9 49  | 66             | 20 54 | 20   |
| 19 | 101                                                | 41.0 | 29.5    | 51                     | 50.7 <sup>151</sup>                                                                                       | +9 48.1 <sup>134</sup>  |         | 50                       | 4 05 | 47            | 21             | 55    | 71             | 45    | 16   |
| 20 | 116                                                | 41.1 | 28.6    | 66                     | 24.9 <sup>152</sup>                                                                                       | +10 01.4 <sup>133</sup> |         | 52                       | 3 57 | 41            | 17             | 9 58  | 74             | 42    | 13   |
| 21 | 131                                                | 41.2 | 27.7    | 80                     | 59.0 <sup>151</sup>                                                                                       | 14.7 <sup>133</sup>     |         | 54                       | 47   | 35            | 13             | 10 01 | 77             | 38    | 11   |
| 22 | 146                                                | 41.3 | 26.8    | 95                     | 33.2 <sup>152</sup>                                                                                       | 28.0 <sup>133</sup>     |         | 56                       | 37   | 28            | 08             | 05    | 79             | 33    | 8    |
| 23 | 161                                                | 41.4 | 25.8    | 110                    | 07.3 <sup>151</sup>                                                                                       | 41.2 <sup>132</sup>     |         | 58                       | 24   | 20            | 5 03           | 09    | 82             | 28    | 5    |
| 24 | 176                                                | 41.5 | -9 24.9 | 124                    | 41.4 <sup>151</sup>                                                                                       | +10 54.3 <sup>131</sup> |         | 60 S                     | 3 09 | 4 11          | 4 57           | 10 13 | 87             | 20 22 | 2    |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 13 <sup>h</sup> 44 <sup>m</sup> 9 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |      | Mag: +1.0<br>PMG: 16 <sup>h</sup> 28 <sup>m</sup> |      | Mag: -2.5<br>PMG: 0 <sup>h</sup> 54 <sup>m</sup> |      | Mag: -0.1<br>PMG: 20 <sup>h</sup> 12 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 153                                    | 13.2 | 136                                               | 57.0 | 112                                               | 49.4 | 346                                              | 20.2 | 56                                                | 14.4 |
| 1   | 168                                    | 15.7 | 151                                               | 56.9 | 127                                               | 50.2 | 1                                                | 23.0 | 71                                                | 16.9 |
| 2   | 183                                    | 18.2 | 166                                               | 56.8 | 142                                               | 51.1 | 16                                               | 25.7 | 86                                                | 19.5 |
| 3   | 198                                    | 20.6 | 181                                               | 56.6 | 157                                               | 52.0 | 31                                               | 28.5 | 101                                               | 22.0 |
| 4   | 213                                    | 23.1 | 196                                               | 56.5 | 172                                               | 52.9 | 46                                               | 31.2 | 116                                               | 24.5 |
| 5   | 228                                    | 25.6 | 211                                               | 56.4 | 187                                               | 53.8 | 61                                               | 34.0 | 131                                               | 27.1 |
| 6   | 243                                    | 28.0 | 226                                               | 56.2 | 202                                               | 54.6 | 76                                               | 36.8 | 146                                               | 29.6 |
| 7   | 258                                    | 30.5 | 241                                               | 56.1 | 217                                               | 55.5 | 91                                               | 39.5 | 161                                               | 32.1 |
| 8   | 273                                    | 33.0 | 256                                               | 56.0 | 232                                               | 56.4 | 106                                              | 42.3 | 176                                               | 34.6 |
| 9   | 288                                    | 35.4 | 271                                               | 55.8 | 247                                               | 57.3 | 121                                              | 45.0 | 191                                               | 37.2 |
| 10  | 303                                    | 37.9 | 286                                               | 55.7 | 262                                               | 58.1 | 136                                              | 47.8 | 206                                               | 39.7 |
| 11  | 318                                    | 40.4 | 301                                               | 55.5 | 277                                               | 59.0 | 151                                              | 50.5 | 221                                               | 42.2 |
| 12  | 333                                    | 42.8 | 316                                               | 55.4 | 292                                               | 59.9 | 166                                              | 53.3 | 236                                               | 44.7 |
| 13  | 348                                    | 45.3 | 331                                               | 55.3 | 308                                               | 00.8 | 181                                              | 56.1 | 251                                               | 47.3 |
| 14  | 3                                      | 47.7 | 346                                               | 55.1 | 323                                               | 01.7 | 196                                              | 58.8 | 266                                               | 49.8 |
| 15  | 18                                     | 50.2 | 1                                                 | 55.0 | 338                                               | 02.5 | 212                                              | 01.6 | 281                                               | 52.3 |
| 16  | 33                                     | 52.7 | 16                                                | 54.9 | 353                                               | 03.4 | 227                                              | 04.3 | 296                                               | 54.8 |
| 17  | 48                                     | 55.1 | 31                                                | 54.7 | 8                                                 | 04.3 | 242                                              | 07.1 | 311                                               | 57.4 |
| 18  | 63                                     | 57.6 | 46                                                | 54.6 | 23                                                | 05.2 | 257                                              | 09.8 | 326                                               | 59.9 |
| 19  | 79                                     | 00.1 | 61                                                | 54.5 | 38                                                | 06.0 | 272                                              | 12.6 | 342                                               | 02.4 |
| 20  | 94                                     | 02.5 | 76                                                | 54.3 | 53                                                | 06.9 | 287                                              | 15.4 | 357                                               | 04.9 |
| 21  | 109                                    | 05.0 | 91                                                | 54.2 | 68                                                | 07.8 | 302                                              | 18.1 | 12                                                | 07.5 |
| 22  | 124                                    | 07.5 | 106                                               | 54.1 | 83                                                | 08.7 | 317                                              | 20.9 | 27                                                | 10.0 |
| 23  | 139                                    | 09.9 | 121                                               | 53.9 | 98                                                | 09.5 | 332                                              | 23.6 | 42                                                | 12.5 |
| 24  | 154                                    | 12.4 | 136                                               | 53.8 | 113                                               | 10.4 | 347                                              | 26.4 | 57                                                | 15.0 |
| Dif | —                                      |      | -1                                                | +13  | +9                                                | +5   | +28                                              | +1   | +25                                               | 0    |

| UT | SOL                                    |      |         |  LUNA |                     |                                                                           | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |       | Puesta de Luna |         |
|----|----------------------------------------|------|---------|----------------------------------------------------------------------------------------|---------------------|---------------------------------------------------------------------------|---------|---------------|----------------------|---------|----------------|-------|----------------|---------|
|    | SD: 16'2                               |      |         | Edad: 4 <sup>d</sup> 6                                                                 | PHE {               | 4 <sup>h</sup> : 55'2<br>12 <sup>h</sup> : 55'0<br>20 <sup>h</sup> : 54'8 |         |               |                      |         |                |       |                |         |
|    | PMG: 12 <sup>h</sup> 13 <sup>m</sup> 2 |      |         |                                                                                        |                     |                                                                           |         |               |                      |         |                |       |                |         |
|    | hG ☉                                   | Dec  |         | hG ☾                                                                                   | Dif                 | Dec                                                                       | Dif     |               | Civil                | Náutico | Hora           | Rº    | Hora           | Rº      |
| h  | °                                      | '    | °       | °                                                                                      | '                   | °                                                                         | '       | °             | h m                  | h m     | h m            | h m m | h m m          | h m m   |
| 0  | 176                                    | 41.5 | -9 24.9 | 124                                                                                    | 41.4                | +10 54.3                                                                  | 60 N    | 17 15         | 17 58                | 18 46   | 8 25           | 2     | ** ** *        | ** ** * |
| 1  | 191                                    | 41.6 | 24.0    | 139                                                                                    | 15.5 <sup>151</sup> | +11 07.4 <sup>131</sup>                                                   | 58      | 20            | 18 00                | 45      | 32             | 6     | ** ** *        | ** ** * |
| 2  | 206                                    | 41.7 | 23.1    | 153                                                                                    | 49.5 <sup>150</sup> | 20.5 <sup>131</sup>                                                       | 56      | 24            | 02                   | 45      | 39             | 9     | ** ** *        | ** ** * |
| 3  | 221                                    | 41.8 | 22.1    | 168                                                                                    | 23.6 <sup>151</sup> | 33.4 <sup>129</sup>                                                       | 54      | 28            | 04                   | 45      | 44             | 13    | 23 54          | 76      |
| 4  | 236                                    | 41.9 | 21.2    | 182                                                                                    | 57.6 <sup>150</sup> | 46.4 <sup>130</sup>                                                       | 52      | 31            | 05                   | 44      | 50             | 14    | 47             | 73      |
| 5  | 251                                    | 42.0 | -9 20.3 | 197                                                                                    | 31.6 <sup>150</sup> | +11 59.2 <sup>128</sup>                                                   | 50      | 17 34         | 18 07                | 18 44   | 8 54           | 17    | 23 41          | 71      |
| 6  | 266                                    | 42.1 | -9 19.4 | 212                                                                                    | 05.6 <sup>150</sup> | +12 12.0 <sup>128</sup>                                                   | 45      | 17 41         | 18 11                | 18 45   | 9 05           | 21    | 23 27          | 66      |
| 7  | 281                                    | 42.2 | 18.4    | 226                                                                                    | 39.6 <sup>150</sup> | 24.8 <sup>128</sup>                                                       | 40      | 47            | 14                   | 45      | 14             | 25    | 16             | 62      |
| 8  | 296                                    | 42.3 | 17.5    | 241                                                                                    | 13.6 <sup>150</sup> | 37.4 <sup>126</sup>                                                       | 35      | 51            | 17                   | 46      | 21             | 28    | 23 06          | 60      |
| 9  | 311                                    | 42.4 | 16.6    | 255                                                                                    | 47.5 <sup>149</sup> | +12 50.1 <sup>127</sup>                                                   | 30      | 17 56         | 20                   | 48      | 28             | 31    | 22 58          | 57      |
| 10 | 326                                    | 42.4 | 15.7    | 270                                                                                    | 21.4 <sup>149</sup> | +13 02.6 <sup>125</sup>                                                   | 20      | 18 03         | 26                   | 51      | 39             | 36    | 44             | 52      |
| 11 | 341                                    | 42.5 | -9 14.7 | 284                                                                                    | 55.3 <sup>149</sup> | +13 15.1 <sup>125</sup>                                                   | 10 N    | 18 10         | 18 31                | 18 56   | 9 49           | 40    | 22 31          | 48      |
| 12 | 356                                    | 42.6 | -9 13.8 | 299                                                                                    | 29.1 <sup>148</sup> | +13 27.5 <sup>124</sup>                                                   | 0       | 18 16         | 18 37                | 19 02   | 9 59           | 44    | 22 20          | 44      |
| 13 | 11                                     | 42.7 | 12.9    | 314                                                                                    | 03.0 <sup>149</sup> | 39.9 <sup>124</sup>                                                       | 10 S    | 23            | 44                   | 09      | 10 09          | 47    | 22 08          | 41      |
| 14 | 26                                     | 42.8 | 11.9    | 328                                                                                    | 36.8 <sup>148</sup> | +13 52.2 <sup>123</sup>                                                   | 20      | 30            | 18 53                | 19      | 19             | 52    | 21 56          | 37      |
| 15 | 41                                     | 42.9 | 11.0    | 343                                                                                    | 10.5 <sup>147</sup> | +14 04.5 <sup>123</sup>                                                   | 30      | 38            | 19 03                | 32      | 31             | 56    | 42             | 33      |
| 16 | 56                                     | 43.0 | 10.1    | 357                                                                                    | 44.3 <sup>148</sup> | 16.6 <sup>121</sup>                                                       | 35      | 43            | 09                   | 40      | 38             | 59    | 34             | 30      |
| 17 | 71                                     | 43.1 | -9 09.2 | 12                                                                                     | 18.0 <sup>147</sup> | +14 28.7 <sup>121</sup>                                                   | 40      | 18 49         | 19 16                | 19 50   | 10 46          | 62    | 21 25          | 27      |
| 18 | 86                                     | 43.2 | -9 08.2 | 26                                                                                     | 51.7 <sup>147</sup> | +14 40.8 <sup>121</sup>                                                   | 45      | 18 55         | 19 25                | 20 02   | 10 55          | 66    | 21 14          | 23      |
| 19 | 101                                    | 43.3 | 07.3    | 41                                                                                     | 25.3 <sup>146</sup> | +14 52.8 <sup>120</sup>                                                   | 50      | 19 03         | 36                   | 18      | 11 06          | 72    | 21 01          | 19      |
| 20 | 116                                    | 43.4 | 06.4    | 55                                                                                     | 59.0 <sup>147</sup> | +15 04.7 <sup>119</sup>                                                   | 52      | 06            | 42                   | 26      | 12             | 73    | 20 55          | 17      |
| 21 | 131                                    | 43.5 | 05.4    | 70                                                                                     | 32.6 <sup>146</sup> | 16.5 <sup>118</sup>                                                       | 54      | 10            | 48                   | 35      | 18             | 76    | 49             | 13      |
| 22 | 146                                    | 43.6 | 04.5    | 85                                                                                     | 06.1 <sup>145</sup> | 28.3 <sup>118</sup>                                                       | 56      | 14            | 19 54                | 45      | 24             | 79    | 41             | 11      |
| 23 | 161                                    | 43.7 | 03.6    | 99                                                                                     | 39.6 <sup>145</sup> | 39.9 <sup>116</sup>                                                       | 58      | 19            | 20 02                | 20 56   | 31             | 83    | 33             | 8       |
| 24 | 176                                    | 43.8 | -9 02.7 | 114                                                                                    | 13.1 <sup>145</sup> | +15 51.6 <sup>117</sup>                                                   | 60 S    | 19 25         | 20 10                | 21 10   | 11 40          | 87    | 20 24          | 3       |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 13 <sup>h</sup> 40 <sup>m</sup> 9 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |      | Mag: +1.1<br>PMG: 16 <sup>h</sup> 26 <sup>m</sup> |      | Mag: -2.5<br>PMG: 0 <sup>h</sup> 50 <sup>m</sup> |      | Mag: -0.1<br>PMG: 20 <sup>h</sup> 08 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |
| 0   | 154                                    | 12.4 | 136                                               | 53.8 | +7                                                | 57.7 | 113                                              | 10.4 | +16                                               | 50.1 |
| 1   | 169                                    | 14.8 | 151                                               | 53.7 | +7                                                | 58.9 | 128                                              | 11.3 |                                                   | 50.6 |
| 2   | 184                                    | 17.3 | 166                                               | 53.5 | +8                                                | 00.2 | 143                                              | 12.2 |                                                   | 51.1 |
| 3   | 199                                    | 19.8 | 181                                               | 53.4 |                                                   | 01.4 | 158                                              | 13.0 |                                                   | 51.6 |
| 4   | 214                                    | 22.2 | 196                                               | 53.2 |                                                   | 02.7 | 173                                              | 13.9 |                                                   | 52.1 |
| 5   | 229                                    | 24.7 | 211                                               | 53.1 | +8                                                | 04.0 | 188                                              | 14.8 | +16                                               | 52.6 |
| 6   | 244                                    | 27.2 | 226                                               | 53.0 | +8                                                | 05.2 | 203                                              | 15.7 | +16                                               | 53.1 |
| 7   | 259                                    | 29.6 | 241                                               | 52.8 |                                                   | 06.5 | 218                                              | 16.5 |                                                   | 53.6 |
| 8   | 274                                    | 32.1 | 256                                               | 52.7 |                                                   | 07.7 | 233                                              | 17.4 |                                                   | 54.1 |
| 9   | 289                                    | 34.6 | 271                                               | 52.6 |                                                   | 09.0 | 248                                              | 18.3 |                                                   | 54.6 |
| 10  | 304                                    | 37.0 | 286                                               | 52.4 |                                                   | 10.2 | 263                                              | 19.2 |                                                   | 55.1 |
| 11  | 319                                    | 39.5 | 301                                               | 52.3 | +8                                                | 11.5 | 278                                              | 20.0 | +16                                               | 55.6 |
| 12  | 334                                    | 42.0 | 316                                               | 52.2 | +8                                                | 12.7 | 293                                              | 20.9 | +16                                               | 56.1 |
| 13  | 349                                    | 44.4 | 331                                               | 52.0 |                                                   | 14.0 | 308                                              | 21.8 |                                                   | 56.6 |
| 14  | 4                                      | 46.9 | 346                                               | 51.9 |                                                   | 15.2 | 323                                              | 22.6 |                                                   | 57.1 |
| 15  | 19                                     | 49.3 | 1                                                 | 51.8 |                                                   | 16.5 | 338                                              | 23.5 |                                                   | 57.6 |
| 16  | 34                                     | 51.8 | 16                                                | 51.6 |                                                   | 17.7 | 353                                              | 24.4 |                                                   | 58.1 |
| 17  | 49                                     | 54.3 | 31                                                | 51.5 | +8                                                | 19.0 | 8                                                | 25.3 | +16                                               | 58.6 |
| 18  | 64                                     | 56.7 | 46                                                | 51.4 | +8                                                | 20.2 | 23                                               | 26.1 | +16                                               | 59.1 |
| 19  | 79                                     | 59.2 | 61                                                | 51.2 |                                                   | 21.5 | 38                                               | 27.0 | +16                                               | 59.6 |
| 20  | 95                                     | 01.7 | 76                                                | 51.1 |                                                   | 22.7 | 53                                               | 27.9 | +17                                               | 00.1 |
| 21  | 110                                    | 04.1 | 91                                                | 51.0 |                                                   | 24.0 | 68                                               | 28.8 |                                                   | 00.6 |
| 22  | 125                                    | 06.6 | 106                                               | 50.8 |                                                   | 25.3 | 83                                               | 29.6 |                                                   | 01.1 |
| 23  | 140                                    | 09.1 | 121                                               | 50.7 |                                                   | 26.5 | 98                                               | 30.5 |                                                   | 01.6 |
| 24  | 155                                    | 11.5 | 136                                               | 50.6 | +8                                                | 27.8 | 113                                              | 31.4 | +17                                               | 02.1 |
| Dif | —                                      |      | -1                                                | +13  |                                                   | +9   | +5                                               | +28  |                                                   | +1   |

| UT | SOL                                                |      |    | ☾ LUNA                                                                     |                                                                                                           |                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |         |       | Puesta de Luna |    |      |    |    |    |    |    |
|----|----------------------------------------------------|------|----|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------------|------|---------------|----------------|---------|-------|----------------|----|------|----|----|----|----|----|
|    | SD: 16'2<br>PMG: 12 <sup>h</sup> 13 <sup>m</sup> 0 |      |    | Edad: 5 <sup>d</sup> 6<br>SD: 14'9<br>PMG: 16 <sup>h</sup> 53 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 54'7<br>12 <sup>h</sup> : 54'6<br>20 <sup>h</sup> : 54'5<br>R°: 46 <sup>m</sup> |                     |         |                          |      |               |                |         |       |                |    |      |    |    |    |    |    |
|    | hG ☉                                               | Dec  |    |                                                                            |                                                                                                           | hG ☾                |         | Dif                      | Dec  |               | Dif            | Náutico | Civil | Hora           | R° | Hora | R° |    |    |    |    |
| h  | °                                                  | '    | °  | '                                                                          | °                                                                                                         | '                   | °       | '                        | h    | m             | h              | m       | h     | m              | h  | m    | h  | m  |    |    |    |
| 0  | 176                                                | 43.8 | -9 | 02.7                                                                       | 114                                                                                                       | 13.1                | +15     | 51.6                     | 60 N | 5             | 39             | 6       | 27    | 7              | 09 | 8    | 27 | 5  | 0  | 21 | 88 |
| 1  | 191                                                | 43.9 |    | 01.7                                                                       | 128                                                                                                       | 46.6 <sup>145</sup> | +16     | 03.1 <sup>115</sup>      | 58   | 40            |                | 25      |       | 05             |    | 38   | 9  |    | 11 | 83 |    |
| 2  | 206                                                | 44.0 | -9 | 00.8                                                                       | 143                                                                                                       | 20.0 <sup>144</sup> |         | 14.6 <sup>115</sup>      | 56   | 40            | 23             |         | 7     | 01             | 48 | 13   |    | 0  | 02 | 79 |    |
| 3  | 221                                                | 44.1 | -8 | 59.9                                                                       | 157                                                                                                       | 53.4 <sup>144</sup> |         | 26.0 <sup>114</sup>      | 54   | 41            | 21             |         | 6     | 57             | 8  | 57   | 16 | ** | ** | *  |    |
| 4  | 236                                                | 44.2 |    | 58.9                                                                       | 172                                                                                                       | 26.7 <sup>143</sup> |         | 37.3 <sup>113</sup>      | 52   | 41            | 20             |         |       | 54             | 9  | 04   | 19 | ** | ** | *  |    |
| 5  | 251                                                | 44.3 | -8 | 58.0                                                                       | 187                                                                                                       | 00.0 <sup>143</sup> | +16     | 48.6 <sup>113</sup>      | 50   | 5             | 41             | 6       | 18    | 6              | 51 | 9    | 11 | 21 | ** | ** | *  |
| 6  | 266                                                | 44.4 | -8 | 57.1                                                                       | 201                                                                                                       | 33.3 <sup>143</sup> | +16     | 59.8 <sup>112</sup>      | 45   | 5             | 41             | 6       | 15    | 6              | 44 | 9    | 26 | 26 | ** | ** | *  |
| 7  | 281                                                | 44.5 |    | 56.1                                                                       | 216                                                                                                       | 06.5 <sup>142</sup> | +17     | 10.9 <sup>111</sup>      | 40   | 40            |                | 12      |       | 39             |    | 39   | 29 |    | ** | ** | *  |
| 8  | 296                                                | 44.6 |    | 55.2                                                                       | 230                                                                                                       | 39.7 <sup>142</sup> |         | 21.9 <sup>110</sup>      | 35   | 39            | 09             |         | 34    |                | 49 | 32   |    |    | ** | ** | *  |
| 9  | 311                                                | 44.7 |    | 54.3                                                                       | 245                                                                                                       | 12.9 <sup>142</sup> |         | 32.8 <sup>109</sup>      | 30   | 38            |                | 06      |       | 30             |    | 9    | 59 | 34 | 23 | 55 | 56 |
| 10 | 326                                                | 44.8 |    | 53.3                                                                       | 259                                                                                                       | 46.0 <sup>141</sup> |         | 43.7 <sup>109</sup>      | 20   | 35            | 6              | 00      |       | 23             |    | 10   | 15 | 39 |    | 36 | 52 |
| 11 | 341                                                | 44.9 | -8 | 52.4                                                                       | 274                                                                                                       | 19.0 <sup>140</sup> | +17     | 54.5 <sup>108</sup>      | 10 N | 5             | 30             | 5       | 55    | 6              | 16 | 10   | 29 | 42 | 23 | 19 | 50 |
| 12 | 356                                                | 45.0 | -8 | 51.5                                                                       | 288                                                                                                       | 52.1 <sup>141</sup> | +18     | 05.2 <sup>107</sup>      | 0    | 5             | 24             | 5       | 49    | 6              | 10 | 10   | 43 | 45 | 23 | 04 | 47 |
| 13 | 11                                                 | 45.1 |    | 50.5                                                                       | 303                                                                                                       | 25.0 <sup>139</sup> |         | 15.8 <sup>106</sup>      | 10 S | 17            |                | 42      |       | 6              | 03 | 10   | 56 | 49 | 22 | 49 | 44 |
| 14 | 26                                                 | 45.2 |    | 49.6                                                                       | 317                                                                                                       | 58.0 <sup>140</sup> |         | 26.4 <sup>106</sup>      | 20   | 5             | 08             | 34      |       | 5              | 56 | 11   | 11 | 52 |    | 33 | 40 |
| 15 | 41                                                 | 45.3 |    | 48.7                                                                       | 332                                                                                                       | 30.9 <sup>139</sup> |         | 36.9 <sup>105</sup>      | 30   | 4             | 55             | 24      |       | 48             |    | 27   | 57 |    | 15 | 36 |    |
| 16 | 56                                                 | 45.4 |    | 47.7                                                                       | 347                                                                                                       | 03.7 <sup>138</sup> |         | 47.2 <sup>103</sup>      | 35   | 47            |                | 18      |       | 44             |    | 37   | 59 |    | 22 | 04 | 34 |
| 17 | 71                                                 | 45.5 | -8 | 46.8                                                                       | 1                                                                                                         | 36.5 <sup>138</sup> | +18     | 57.5 <sup>103</sup>      | 40   | 4             | 37             | 5       | 10    | 5              | 38 | 11   | 48 | 62 | 21 | 52 | 31 |
| 18 | 86                                                 | 45.6 | -8 | 45.9                                                                       | 16                                                                                                        | 09.3 <sup>138</sup> | +19     | 07.8 <sup>103</sup>      | 45   | 4             | 25             | 5       | 01    | 5              | 32 | 12   | 01 | 66 | 21 | 37 | 28 |
| 19 | 101                                                | 45.7 |    | 44.9                                                                       | 30                                                                                                        | 42.0 <sup>137</sup> |         | 17.9 <sup>101</sup>      | 50   | 09            | 4              | 50      |       | 24             |    | 18   | 70 |    | 20 | 20 | 23 |
| 20 | 116                                                | 45.8 |    | 44.0                                                                       | 45                                                                                                        | 14.6 <sup>136</sup> |         | 27.9 <sup>100</sup>      | 52   | 4             | 01             | 45      |       | 21             |    | 25   | 73 |    | 12 | 21 |    |
| 21 | 131                                                | 45.9 |    | 43.1                                                                       | 59                                                                                                        | 47.3 <sup>137</sup> |         | 37.9 <sup>100</sup>      | 54   | 3             | 52             | 39      |       | 17             |    | 34   | 76 |    | 21 | 02 | 19 |
| 22 | 146                                                | 46.0 |    | 42.1                                                                       | 74                                                                                                        | 19.8 <sup>135</sup> |         | 47.8 <sup>99</sup>       | 56   | 42            |                | 33      |       | 13             |    | 43   | 80 |    | 20 | 52 | 15 |
| 23 | 161                                                | 46.1 |    | 41.2                                                                       | 88                                                                                                        | 52.3 <sup>135</sup> | +19     | 57.6 <sup>98</sup>       | 58   | 31            |                | 25      |       | 08             |    | 12   | 54 | 84 |    | 41 | 11 |
| 24 | 176                                                | 46.2 | -8 | 40.3                                                                       | 103                                                                                                       | 24.8 <sup>135</sup> | +20     | 07.3 <sup>97</sup>       | 60 S | 3             | 17             | 4       | 17    | 5              | 03 | 13   | 07 | 89 | 20 | 27 | 6  |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>13 <sup>h</sup> 37 <sup>m</sup> 0 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |      | Mag: +1.1<br>PMG: 16 <sup>h</sup> 25 <sup>m</sup> |      | Mag: -2.5<br>PMG: 0 <sup>h</sup> 46 <sup>m</sup> |      | Mag: -0.1<br>PMG: 20 <sup>h</sup> 04 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 155                                      | 11.5 | 136                                               | 50.6 | +8                                                | 27.8 | 113                                              | 31.4 | +17                                               | 02.1 | 348 | 32.6 | +7 | 15.3 | 58  | 15.5 | +22 | 44.7 |
| 1   | 170                                      | 14.0 | 151                                               | 50.4 |                                                   | 29.0 | 128                                              | 32.2 |                                                   | 02.6 | 3   | 35.4 |    | 15.4 | 73  | 18.0 |     | 44.8 |
| 2   | 185                                      | 16.5 | 166                                               | 50.3 |                                                   | 30.2 | 143                                              | 33.1 |                                                   | 03.1 | 18  | 38.2 |    | 15.5 | 88  | 20.5 |     | 44.8 |
| 3   | 200                                      | 18.9 | 181                                               | 50.2 |                                                   | 31.5 | 158                                              | 34.0 |                                                   | 03.6 | 33  | 40.9 |    | 15.7 | 103 | 23.1 |     | 44.8 |
| 4   | 215                                      | 21.4 | 196                                               | 50.0 |                                                   | 32.7 | 173                                              | 34.9 |                                                   | 04.1 | 48  | 43.7 |    | 15.8 | 118 | 25.6 |     | 44.8 |
| 5   | 230                                      | 23.8 | 211                                               | 49.9 | +8                                                | 34.0 | 188                                              | 35.7 | +17                                               | 04.6 | 63  | 46.4 | +7 | 15.9 | 133 | 28.1 | +22 | 44.8 |
| 6   | 245                                      | 26.3 | 226                                               | 49.8 | +8                                                | 35.2 | 203                                              | 36.6 | +17                                               | 05.1 | 78  | 49.2 | +7 | 16.0 | 148 | 30.6 | +22 | 44.8 |
| 7   | 260                                      | 28.8 | 241                                               | 49.6 |                                                   | 36.5 | 218                                              | 37.5 |                                                   | 05.6 | 93  | 52.0 |    | 16.2 | 163 | 33.1 |     | 44.8 |
| 8   | 275                                      | 31.2 | 256                                               | 49.5 |                                                   | 37.7 | 233                                              | 38.3 |                                                   | 06.1 | 108 | 54.7 |    | 16.3 | 178 | 35.6 |     | 44.8 |
| 9   | 290                                      | 33.7 | 271                                               | 49.4 |                                                   | 39.0 | 248                                              | 39.2 |                                                   | 06.6 | 123 | 57.5 |    | 16.4 | 193 | 38.2 |     | 44.8 |
| 10  | 305                                      | 36.2 | 286                                               | 49.2 |                                                   | 40.2 | 263                                              | 40.1 |                                                   | 07.1 | 139 | 00.2 |    | 16.6 | 208 | 40.7 |     | 44.8 |
| 11  | 320                                      | 38.6 | 301                                               | 49.1 | +8                                                | 41.5 | 278                                              | 40.9 | +17                                               | 07.6 | 154 | 03.0 | +7 | 16.7 | 223 | 43.2 | +22 | 44.8 |
| 12  | 335                                      | 41.1 | 316                                               | 49.0 | +8                                                | 42.7 | 293                                              | 41.8 | +17                                               | 08.1 | 169 | 05.8 | +7 | 16.8 | 238 | 45.7 | +22 | 44.9 |
| 13  | 350                                      | 43.6 | 331                                               | 48.8 |                                                   | 44.0 | 308                                              | 42.7 |                                                   | 08.6 | 184 | 08.5 |    | 16.9 | 253 | 48.2 |     | 44.9 |
| 14  | 5                                        | 46.0 | 346                                               | 48.7 |                                                   | 45.2 | 323                                              | 43.6 |                                                   | 09.1 | 199 | 11.3 |    | 17.1 | 268 | 50.7 |     | 44.9 |
| 15  | 20                                       | 48.5 | 1                                                 | 48.6 |                                                   | 46.5 | 338                                              | 44.4 |                                                   | 09.6 | 214 | 14.0 |    | 17.2 | 283 | 53.2 |     | 44.9 |
| 16  | 35                                       | 50.9 | 16                                                | 48.4 |                                                   | 47.7 | 353                                              | 45.3 |                                                   | 10.1 | 229 | 16.8 |    | 17.3 | 298 | 55.8 |     | 44.9 |
| 17  | 50                                       | 53.4 | 31                                                | 48.3 | +8                                                | 48.9 | 8                                                | 46.2 | +17                                               | 10.6 | 244 | 19.6 | +7 | 17.5 | 313 | 58.3 | +22 | 44.9 |
| 18  | 65                                       | 55.9 | 46                                                | 48.2 | +8                                                | 50.2 | 23                                               | 47.0 | +17                                               | 11.1 | 259 | 22.3 | +7 | 17.6 | 329 | 00.8 | +22 | 44.9 |
| 19  | 80                                       | 58.3 | 61                                                | 48.0 |                                                   | 51.4 | 38                                               | 47.9 |                                                   | 11.5 | 274 | 25.1 |    | 17.7 | 344 | 03.3 |     | 44.9 |
| 20  | 96                                       | 00.8 | 76                                                | 47.9 |                                                   | 52.7 | 53                                               | 48.8 |                                                   | 12.0 | 289 | 27.9 |    | 17.8 | 359 | 05.8 |     | 44.9 |
| 21  | 111                                      | 03.3 | 91                                                | 47.8 |                                                   | 53.9 | 68                                               | 49.6 |                                                   | 12.5 | 304 | 30.6 |    | 18.0 | 14  | 08.3 |     | 44.9 |
| 22  | 126                                      | 05.7 | 106                                               | 47.6 |                                                   | 55.2 | 83                                               | 50.5 |                                                   | 13.0 | 319 | 33.4 |    | 18.1 | 29  | 10.8 |     | 44.9 |
| 23  | 141                                      | 08.2 | 121                                               | 47.5 |                                                   | 56.4 | 98                                               | 51.4 |                                                   | 13.5 | 334 | 36.1 |    | 18.2 | 44  | 13.4 |     | 45.0 |
| 24  | 156                                      | 10.7 | 136                                               | 47.4 | +8                                                | 57.6 | 113                                              | 52.2 | +17                                               | 14.0 | 349 | 38.9 | +7 | 18.4 | 59  | 15.9 | +22 | 45.0 |
| Dif | —                                        |      | -1                                                |      | +12                                               |      | +9                                               |      | +5                                                |      | +28 |      | +1 |      | +25 |      | 0   |      |

| UT | SOL                                    |                                      |  LUNA |       |                                                                           |                        | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |      | Puesta de Luna |     |   |
|----|----------------------------------------|--------------------------------------|----------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------|------------------------|---------|---------------|----------------------|-------|----------------|------|----------------|-----|---|
|    | SD: 16:2                               |                                      | Edad: 6 <sup>d</sup> 6                                                                 | PHE { | 4 <sup>h</sup> : 54:4<br>12 <sup>h</sup> : 54:3<br>20 <sup>h</sup> : 54:3 | Civil                  |         |               | Náutico              | Hora  | R°             | Hora | R°             |     |   |
|    | PMG: 12 <sup>h</sup> 12 <sup>m</sup> 8 | PMG: 17 <sup>h</sup> 39 <sup>m</sup> |                                                                                        |       |                                                                           | R°: 48 <sup>m</sup>    |         |               |                      |       |                |      |                |     |   |
|    | hG ☉                                   | Dec                                  | hG ☾                                                                                   | Dif   | Dec                                                                       | Dif                    |         |               |                      |       |                |      |                |     |   |
| h  | °                                      | '                                    | °                                                                                      | '     | °                                                                         | '                      | °       | h m           | h m                  | h m   | h m            | h m  | m              | h m | m |
| 0  | 176                                    | 46.2                                 | -8 40.3                                                                                |       | 103 24.8                                                                  | +20 07.3               | 60 N    | 17 20         | 18 03                | 18 51 | 8 32           | 9    | 1 49           | 88  |   |
| 1  | 191                                    | 46.3                                 |                                                                                        | 39.3  | 117 57.2 <sup>134</sup>                                                   | 16.9 <sup>96</sup>     | 58      | 25            | 04                   | 50    | 8 47           | 15   | 34             | 82  |   |
| 2  | 206                                    | 46.5                                 |                                                                                        | 38.4  | 132 29.6 <sup>134</sup>                                                   | 26.4 <sup>95</sup>     | 56      | 28            | 06                   | 49    | 9 01           | 19   | 21             | 78  |   |
| 3  | 221                                    | 46.6                                 |                                                                                        | 37.4  | 147 01.9 <sup>133</sup>                                                   | 35.8 <sup>94</sup>     | 54      | 32            | 07                   | 48    | 13             | 21   | 10             | 75  |   |
| 4  | 236                                    | 46.7                                 |                                                                                        | 36.5  | 161 34.2 <sup>133</sup>                                                   | 45.2 <sup>94</sup>     | 52      | 35            | 09                   | 48    | 23             | 24   | 1 00           | 72  |   |
| 5  | 251                                    | 46.8                                 | -8 35.6                                                                                |       | 176 06.4 <sup>132</sup>                                                   | +20 54.4 <sup>92</sup> | 50      | 17 38         | 18 10                | 18 48 | 9 32           | 27   | 0 52           | 69  |   |
| 6  | 266                                    | 46.9                                 | -8 34.6                                                                                |       | 190 38.6 <sup>132</sup>                                                   | +21 03.6 <sup>92</sup> | 45      | 17 44         | 18 13                | 18 47 | 9 52           | 31   | 0 33           | 65  |   |
| 7  | 281                                    | 47.0                                 |                                                                                        | 33.7  | 205 10.7 <sup>131</sup>                                                   | 12.6 <sup>90</sup>     | 40      | 49            | 16                   | 47    | 10 08          | 34   | 18             | 62  |   |
| 8  | 296                                    | 47.1                                 |                                                                                        | 32.8  | 219 42.8 <sup>131</sup>                                                   | 21.6 <sup>90</sup>     | 35      | 53            | 19                   | 48    | 21             | 37   | 0 06           | 58  |   |
| 9  | 311                                    | 47.2                                 |                                                                                        | 31.8  | 234 14.8 <sup>130</sup>                                                   | 30.5 <sup>89</sup>     | 30      | 17 57         | 21                   | 49    | 33             | 39   | ** ** *        | **  |   |
| 10 | 326                                    | 47.3                                 |                                                                                        | 30.9  | 248 46.8 <sup>130</sup>                                                   | 39.3 <sup>88</sup>     | 20      | 18 04         | 26                   | 52    | 10 54          | 42   | ** ** *        | **  |   |
| 11 | 341                                    | 47.4                                 | -8 29.9                                                                                |       | 263 18.7 <sup>129</sup>                                                   | +21 48.0 <sup>87</sup> | 10 N    | 18 10         | 18 31                | 18 56 | 11 11          | 45   | ** ** *        | **  |   |
| 12 | 356                                    | 47.5                                 | -8 29.0                                                                                |       | 277 50.5 <sup>128</sup>                                                   | +21 56.5 <sup>85</sup> | 0       | 18 16         | 18 37                | 19 01 | 11 28          | 48   | 23 51          | 48  |   |
| 13 | 11                                     | 47.6                                 |                                                                                        | 28.1  | 292 22.3 <sup>128</sup>                                                   | +22 05.0 <sup>85</sup> | 10 S    | 22            | 43                   | 08    | 11 45          | 50   | 33             | 46  |   |
| 14 | 26                                     | 47.7                                 |                                                                                        | 27.1  | 306 54.1 <sup>128</sup>                                                   | 13.4 <sup>84</sup>     | 20      | 29            | 18 51                | 17    | 12 03          | 53   | 23 13          | 44  |   |
| 15 | 41                                     | 47.8                                 |                                                                                        | 26.2  | 321 25.8 <sup>127</sup>                                                   | 21.7 <sup>83</sup>     | 30      | 36            | 19 01                | 29    | 24             | 56   | 22 51          | 41  |   |
| 16 | 56                                     | 47.9                                 |                                                                                        | 25.2  | 335 57.4 <sup>126</sup>                                                   | 29.9 <sup>82</sup>     | 35      | 41            | 06                   | 37    | 36             | 59   | 38             | 39  |   |
| 17 | 71                                     | 48.1                                 | -8 24.3                                                                                |       | 350 29.0 <sup>126</sup>                                                   | +22 38.0 <sup>81</sup> | 40      | 18 46         | 19 13                | 19 47 | 12 50          | 61   | 22 23          | 37  |   |
| 18 | 86                                     | 48.2                                 | -8 23.4                                                                                |       | 5 00.6 <sup>126</sup>                                                     | +22 46.0 <sup>80</sup> | 45      | 18 51         | 19 22                | 19 58 | 13 07          | 64   | 22 05          | 34  |   |
| 19 | 101                                    | 48.3                                 |                                                                                        | 22.4  | 19 32.1 <sup>125</sup>                                                    | +22 53.9 <sup>79</sup> | 50      | 18 59         | 32                   | 20 13 | 28             | 69   | 21 43          | 31  |   |
| 20 | 116                                    | 48.4                                 |                                                                                        | 21.5  | 34 03.5 <sup>124</sup>                                                    | +23 01.7 <sup>78</sup> | 52      | 19 02         | 37                   | 21    | 38             | 71   | 33             | 28  |   |
| 21 | 131                                    | 48.5                                 |                                                                                        | 20.5  | 48 34.9 <sup>124</sup>                                                    | 09.4 <sup>77</sup>     | 54      | 05            | 43                   | 29    | 13 50          | 73   | 21             | 26  |   |
| 22 | 146                                    | 48.6                                 |                                                                                        | 19.6  | 63 06.2 <sup>123</sup>                                                    | 17.0 <sup>76</sup>     | 56      | 09            | 49                   | 38    | 14 03          | 76   | 21 07          | 23  |   |
| 23 | 161                                    | 48.7                                 |                                                                                        | 18.7  | 77 37.5 <sup>123</sup>                                                    | 24.5 <sup>75</sup>     | 58      | 14            | 19 56                | 20 49 | 18             | 81   | 20 52          | 18  |   |
| 24 | 176                                    | 48.8                                 | -8 17.7                                                                                |       | 92 08.7 <sup>122</sup>                                                    | +23 31.9 <sup>74</sup> | 60 S    | 19 19         | 20 04                | 21 02 | 14 36          | 87   | 20 33          | 12  |   |

| UT | ARIES                             |                                      | VENUS                                |                                     | MARTE                                |          | JÚPITER   |         | SATURNO   |          |
|----|-----------------------------------|--------------------------------------|--------------------------------------|-------------------------------------|--------------------------------------|----------|-----------|---------|-----------|----------|
|    | PMG                               |                                      | Mag: -4.2                            |                                     | Mag: +1.1                            |          | Mag: -2.5 |         | Mag: -0.1 |          |
|    | 13 <sup>h</sup> 33 <sup>m</sup> 1 | PMG: 14 <sup>h</sup> 53 <sup>m</sup> | PMG: 16 <sup>h</sup> 24 <sup>m</sup> | PMG: 0 <sup>h</sup> 41 <sup>m</sup> | PMG: 20 <sup>h</sup> 00 <sup>m</sup> |          |           |         |           |          |
|    | hG ♈                              | hG ♀                                 | Dec                                  | hG ♂                                | Dec                                  | hG ♃     | Dec       | hG ♄    | Dec       |          |
| h  | °                                 | '                                    | °                                    | °                                   | '                                    | °        | '         | °       | '         |          |
| 0  | 156                               | 10.7                                 | 136 47.4                             | +8 57.6                             | 113 52.2                             | +17 14.0 | 349 38.9  | +7 18.4 | 59 15.9   | +22 45.0 |
| 1  | 171                               | 13.1                                 | 151 47.2                             | +8 58.9                             | 128 53.1                             | 14.5     | 4 41.7    | 18.5    | 74 18.4   | 45.0     |
| 2  | 186                               | 15.6                                 | 166 47.1                             | +9 00.1                             | 143 54.0                             | 15.0     | 19 44.4   | 18.6    | 89 20.9   | 45.0     |
| 3  | 201                               | 18.1                                 | 181 47.0                             | 01.4                                | 158 54.8                             | 15.5     | 34 47.2   | 18.7    | 104 23.4  | 45.0     |
| 4  | 216                               | 20.5                                 | 196 46.8                             | 02.6                                | 173 55.7                             | 16.0     | 49 50.0   | 18.9    | 119 25.9  | 45.0     |
| 5  | 231                               | 23.0                                 | 211 46.7                             | +9 03.9                             | 188 56.6                             | +17 16.5 | 64 52.7   | +7 19.0 | 134 28.4  | +22 45.0 |
| 6  | 246                               | 25.4                                 | 226 46.6                             | +9 05.1                             | 203 57.4                             | +17 17.0 | 79 55.5   | +7 19.1 | 149 30.9  | +22 45.0 |
| 7  | 261                               | 27.9                                 | 241 46.4                             | 06.3                                | 218 58.3                             | 17.5     | 94 58.2   | 19.3    | 164 33.4  | 45.0     |
| 8  | 276                               | 30.4                                 | 256 46.3                             | 07.6                                | 233 59.2                             | 17.9     | 110 01.0  | 19.4    | 179 36.0  | 45.0     |
| 9  | 291                               | 32.8                                 | 271 46.2                             | 08.8                                | 249 00.0                             | 18.4     | 125 03.8  | 19.5    | 194 38.5  | 45.0     |
| 10 | 306                               | 35.3                                 | 286 46.0                             | 10.1                                | 264 00.9                             | 18.9     | 140 06.5  | 19.6    | 209 41.0  | 45.0     |
| 11 | 321                               | 37.8                                 | 301 45.9                             | +9 11.3                             | 279 01.8                             | +17 19.4 | 155 09.3  | +7 19.8 | 224 43.5  | +22 45.1 |
| 12 | 336                               | 40.2                                 | 316 45.8                             | +9 12.5                             | 294 02.6                             | +17 19.9 | 170 12.1  | +7 19.9 | 239 46.0  | +22 45.1 |
| 13 | 351                               | 42.7                                 | 331 45.6                             | 13.8                                | 309 03.5                             | 20.4     | 185 14.8  | 20.0    | 254 48.5  | 45.1     |
| 14 | 6                                 | 45.2                                 | 346 45.5                             | 15.0                                | 324 04.4                             | 20.9     | 200 17.6  | 20.2    | 269 51.0  | 45.1     |
| 15 | 21                                | 47.6                                 | 1 45.4                               | 16.2                                | 339 05.2                             | 21.4     | 215 20.3  | 20.3    | 284 53.5  | 45.1     |
| 16 | 36                                | 50.1                                 | 16 45.3                              | 17.5                                | 354 06.1                             | 21.9     | 230 23.1  | 20.4    | 299 56.0  | 45.1     |
| 17 | 51                                | 52.6                                 | 31 45.1                              | +9 18.7                             | 9 07.0                               | +17 22.4 | 245 25.9  | +7 20.5 | 314 58.5  | +22 45.1 |
| 18 | 66                                | 55.0                                 | 46 45.0                              | +9 19.9                             | 24 07.8                              | +17 22.8 | 260 28.6  | +7 20.7 | 330 01.1  | +22 45.1 |
| 19 | 81                                | 57.5                                 | 61 44.9                              | 21.2                                | 39 08.7                              | 23.3     | 275 31.4  | 20.8    | 345 03.6  | 45.1     |
| 20 | 96                                | 59.9                                 | 76 44.7                              | 22.4                                | 54 09.6                              | 23.8     | 290 34.2  | 20.9    | 0 06.1    | 45.1     |
| 21 | 112                               | 02.4                                 | 91 44.6                              | 23.7                                | 69 10.4                              | 24.3     | 305 36.9  | 21.1    | 15 08.6   | 45.1     |
| 22 | 127                               | 04.9                                 | 106 44.5                             | 24.9                                | 84 11.3                              | 24.8     | 320 39.7  | 21.2    | 30 11.1   | 45.1     |
| 23 | 142                               | 07.3                                 | 121 44.3                             | 26.1                                | 99 12.2                              | 25.3     | 335 42.5  | 21.3    | 45 13.6   | 45.2     |
| 24 | 157                               | 09.8                                 | 136 44.2                             | +9 27.4                             | 114 13.0                             | +17 25.8 | 350 45.2  | +7 21.5 | 60 16.1   | +22 45.2 |

|     |   |    |     |    |    |     |    |     |
|-----|---|----|-----|----|----|-----|----|-----|
| Dif | — | -1 | +12 | +9 | +5 | +28 | +1 | +25 |
|-----|---|----|-----|----|----|-----|----|-----|

| UT | SOL                                                |      |         | ☾ LUNA                                                                                                    |                     |          | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |         |    |   |
|----|----------------------------------------------------|------|---------|-----------------------------------------------------------------------------------------------------------|---------------------|----------|---------|--------------------------|---------|---------------|----------------|-------|----------------|---------|----|---|
|    | SD: 16'1<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> 7 |      |         | Edad: 7 <sup>d</sup> 6<br>SD: 14'8<br>PMG: 18 <sup>h</sup> 27 <sup>m</sup>                                |                     |          |         |                          |         |               |                |       |                |         |    |   |
|    |                                                    |      |         | PHE {<br>4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'3<br>R°: 51 <sup>m</sup> |                     |          |         |                          |         |               |                |       |                |         |    |   |
|    | hG ☉                                               | Dec  |         | hG ☾                                                                                                      | Dif                 | Dec      | Dif     |                          | Náutico | Civil         |                | Hora  | R°             | Hora    | R° |   |
| h  | °                                                  | '    | °       | °                                                                                                         | '                   | °        | '       | °                        | h       | m             | h              | m     | h              | m       | h  | m |
| 0  | 176                                                | 48.8 | -8 17.7 | 92                                                                                                        | 08.7                | +23 31.9 | 73      | 60 N                     | 5 33    | 6 21          | 7 03           | 8 41  | 18             | 3 17    | 84 |   |
| 1  | 191                                                | 48.9 | 16.8    | 106                                                                                                       | 39.8 <sup>121</sup> | 39.2     | 71      | 58                       | 35      | 20            | 6 59           | 9 02  | 24             | 2 56    | 78 |   |
| 2  | 206                                                | 49.0 | 15.8    | 121                                                                                                       | 11.0 <sup>122</sup> | 46.3     | 71      | 56                       | 35      | 18            | 56             | 20    | 28             | 39      | 74 |   |
| 3  | 221                                                | 49.2 | 14.9    | 135                                                                                                       | 42.0 <sup>120</sup> | +23 53.4 | 69      | 54                       | 36      | 17            | 53             | 34    | 32             | 25      | 70 |   |
| 4  | 236                                                | 49.3 | 14.0    | 150                                                                                                       | 13.0 <sup>120</sup> | +24 00.3 | 69      | 52                       | 37      | 16            | 50             | 47    | 34             | 12      | 68 |   |
| 5  | 251                                                | 49.4 | -8 13.0 | 164                                                                                                       | 44.0 <sup>120</sup> | +24 07.2 | 69      | 50                       | 5 37    | 6 14          | 6 47           | 9 59  | 35             | 2 01    | 66 |   |
| 6  | 266                                                | 49.5 | -8 12.1 | 179                                                                                                       | 14.8 <sup>118</sup> | +24 13.9 | 67      | 45                       | 5 38    | 6 11          | 6 41           | 10 23 | 38             | 1 38    | 63 |   |
| 7  | 281                                                | 49.6 | 11.1    | 193                                                                                                       | 45.7 <sup>119</sup> | 20.6     | 67      | 40                       | 37      | 09            | 36             | 42    | 40             | 20      | 60 |   |
| 8  | 296                                                | 49.7 | 10.2    | 208                                                                                                       | 16.5 <sup>118</sup> | 27.1     | 65      | 35                       | 37      | 06            | 32             | 10 58 | 42             | 1 04    | 58 |   |
| 9  | 311                                                | 49.8 | 09.2    | 222                                                                                                       | 47.2 <sup>117</sup> | 33.5     | 64      | 30                       | 36      | 6 04          | 28             | 11 12 | 44             | 0 51    | 56 |   |
| 10 | 326                                                | 49.9 | 08.3    | 237                                                                                                       | 17.9 <sup>117</sup> | 39.8     | 63      | 20                       | 33      | 5 59          | 21             | 36    | 46             | 28      | 54 |   |
| 11 | 341                                                | 50.1 | -8 07.4 | 251                                                                                                       | 48.5 <sup>116</sup> | +24 46.0 | 62      | 10 N                     | 5 29    | 5 54          | 6 15           | 11 56 | 48             | 0 09    | 51 |   |
| 12 | 356                                                | 50.2 | -8 06.4 | 266                                                                                                       | 19.1 <sup>116</sup> | +24 52.1 | 61      | 0                        | 5 24    | 5 48          | 6 09           | 12 16 | 49             | ** ** * | ** |   |
| 13 | 11                                                 | 50.3 | 05.5    | 280                                                                                                       | 49.6 <sup>115</sup> | +24 58.0 | 59      | 10 S                     | 17      | 42            | 6 03           | 35    | 52             | ** ** * | ** |   |
| 14 | 26                                                 | 50.4 | 04.5    | 295                                                                                                       | 20.1 <sup>115</sup> | +25 03.9 | 59      | 20                       | 5 09    | 35            | 5 57           | 12 56 | 53             | 23 57   | 48 |   |
| 15 | 41                                                 | 50.5 | 03.6    | 309                                                                                                       | 50.5 <sup>114</sup> | 09.6     | 57      | 30                       | 4 57    | 25            | 50             | 13 20 | 56             | 32      | 47 |   |
| 16 | 56                                                 | 50.6 | 02.6    | 324                                                                                                       | 20.8 <sup>113</sup> | 15.3     | 57      | 35                       | 49      | 20            | 45             | 35    | 57             | 17      | 46 |   |
| 17 | 71                                                 | 50.7 | -8 01.7 | 338                                                                                                       | 51.1 <sup>113</sup> | +25 20.8 | 55      | 40                       | 4 40    | 5 13          | 5 40           | 13 51 | 59             | 23 00   | 44 |   |
| 18 | 86                                                 | 50.9 | -8 00.8 | 353                                                                                                       | 21.4 <sup>113</sup> | +25 26.2 | 54      | 45                       | 4 28    | 5 04          | 5 35           | 14 11 | 61             | 22 39   | 43 |   |
| 19 | 101                                                | 51.0 | -7 59.8 | 7                                                                                                         | 51.6 <sup>112</sup> | 31.4     | 52      | 50                       | 13      | 4 54          | 28             | 37    | 63             | 14      | 40 |   |
| 20 | 116                                                | 51.1 | 58.9    | 22                                                                                                        | 21.8 <sup>112</sup> | 36.6     | 52      | 52                       | 4 06    | 49            | 25             | 14 49 | 65             | 22 01   | 39 |   |
| 21 | 131                                                | 51.2 | 57.9    | 36                                                                                                        | 51.9 <sup>111</sup> | 41.6     | 50      | 54                       | 3 57    | 44            | 21             | 15 03 | 67             | 21 47   | 37 |   |
| 22 | 146                                                | 51.3 | 57.0    | 51                                                                                                        | 21.9 <sup>110</sup> | 46.5     | 49      | 56                       | 48      | 38            | 17             | 19    | 69             | 30      | 35 |   |
| 23 | 161                                                | 51.4 | 56.0    | 65                                                                                                        | 51.9 <sup>110</sup> | 51.3     | 48      | 58                       | 37      | 31            | 13             | 15 39 | 73             | 21 10   | 31 |   |
| 24 | 176                                                | 51.5 | -7 55.1 | 80                                                                                                        | 21.9 <sup>110</sup> | +25 56.0 | 47      | 60 S                     | 3 24    | 4 23          | 5 08           | 16 03 | 80             | 20 45   | 25 |   |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                          |          | SATURNO                                           |      |          |     |  |  |  |  |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|--------------------------------------------------|----------|---------------------------------------------------|------|----------|-----|--|--|--|--|
|     | PMG<br>13 <sup>h</sup> 29 <sup>m</sup> 1 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |      | Mag: +1.1<br>PMG: 16 <sup>h</sup> 22 <sup>m</sup> |     | Mag: -2.5<br>PMG: 0 <sup>h</sup> 37 <sup>m</sup> |          | Mag: -0.1<br>PMG: 19 <sup>h</sup> 56 <sup>m</sup> |      |          |     |  |  |  |  |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                             | Dec      | hG ♄                                              | Dec  |          |     |  |  |  |  |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '   | °                                                | '        | °                                                 | '    |          |     |  |  |  |  |
| 0   | 157                                      | 09.8 | 136                                               | 44.2 | +9 27.4                                           | 114 | 13.0                                             | +17 25.8 | 350                                               | 45.2 | +22 45.2 |     |  |  |  |  |
| 1   | 172                                      | 12.3 | 151                                               | 44.1 | 28.6                                              | 129 | 13.9                                             | 26.3     | 5                                                 | 48.0 | 45.2     |     |  |  |  |  |
| 2   | 187                                      | 14.7 | 166                                               | 43.9 | 29.8                                              | 144 | 14.8                                             | 26.7     | 20                                                | 50.7 | 45.2     |     |  |  |  |  |
| 3   | 202                                      | 17.2 | 181                                               | 43.8 | 31.1                                              | 159 | 15.6                                             | 27.2     | 35                                                | 53.5 | 45.2     |     |  |  |  |  |
| 4   | 217                                      | 19.7 | 196                                               | 43.7 | 32.3                                              | 174 | 16.5                                             | 27.7     | 50                                                | 56.3 | 45.2     |     |  |  |  |  |
| 5   | 232                                      | 22.1 | 211                                               | 43.5 | +9 33.5                                           | 189 | 17.3                                             | +17 28.2 | 65                                                | 59.0 | +22 45.2 |     |  |  |  |  |
| 6   | 247                                      | 24.6 | 226                                               | 43.4 | +9 34.7                                           | 204 | 18.2                                             | +17 28.7 | 81                                                | 01.8 | +22 45.2 |     |  |  |  |  |
| 7   | 262                                      | 27.0 | 241                                               | 43.3 | 36.0                                              | 219 | 19.1                                             | 29.2     | 96                                                | 04.6 | 45.2     |     |  |  |  |  |
| 8   | 277                                      | 29.5 | 256                                               | 43.1 | 37.2                                              | 234 | 19.9                                             | 29.7     | 111                                               | 07.3 | 45.2     |     |  |  |  |  |
| 9   | 292                                      | 32.0 | 271                                               | 43.0 | 38.4                                              | 249 | 20.8                                             | 30.1     | 126                                               | 10.1 | 45.2     |     |  |  |  |  |
| 10  | 307                                      | 34.4 | 286                                               | 42.9 | 39.7                                              | 264 | 21.7                                             | 30.6     | 141                                               | 12.9 | 45.2     |     |  |  |  |  |
| 11  | 322                                      | 36.9 | 301                                               | 42.8 | +9 40.9                                           | 279 | 22.5                                             | +17 31.1 | 156                                               | 15.6 | +22 45.3 |     |  |  |  |  |
| 12  | 337                                      | 39.4 | 316                                               | 42.6 | +9 42.1                                           | 294 | 23.4                                             | +17 31.6 | 171                                               | 18.4 | +22 45.3 |     |  |  |  |  |
| 13  | 352                                      | 41.8 | 331                                               | 42.5 | 43.4                                              | 309 | 24.2                                             | 32.1     | 186                                               | 21.2 | 45.3     |     |  |  |  |  |
| 14  | 7                                        | 44.3 | 346                                               | 42.4 | 44.6                                              | 324 | 25.1                                             | 32.6     | 201                                               | 23.9 | 45.3     |     |  |  |  |  |
| 15  | 22                                       | 46.8 | 1                                                 | 42.2 | 45.8                                              | 339 | 26.0                                             | 33.1     | 216                                               | 26.7 | 45.3     |     |  |  |  |  |
| 16  | 37                                       | 49.2 | 16                                                | 42.1 | 47.0                                              | 354 | 26.8                                             | 33.5     | 231                                               | 29.4 | 45.3     |     |  |  |  |  |
| 17  | 52                                       | 51.7 | 31                                                | 42.0 | +9 48.3                                           | 9   | 27.7                                             | +17 34.0 | 246                                               | 32.2 | +22 45.3 |     |  |  |  |  |
| 18  | 67                                       | 54.2 | 46                                                | 41.8 | +9 49.5                                           | 24  | 28.6                                             | +17 34.5 | 261                                               | 35.0 | +22 45.3 |     |  |  |  |  |
| 19  | 82                                       | 56.6 | 61                                                | 41.7 | 50.7                                              | 39  | 29.4                                             | 35.0     | 276                                               | 37.7 | 45.3     |     |  |  |  |  |
| 20  | 97                                       | 59.1 | 76                                                | 41.6 | 51.9                                              | 54  | 30.3                                             | 35.5     | 291                                               | 40.5 | 45.3     |     |  |  |  |  |
| 21  | 113                                      | 01.5 | 91                                                | 41.4 | 53.2                                              | 69  | 31.1                                             | 36.0     | 306                                               | 43.3 | 45.3     |     |  |  |  |  |
| 22  | 128                                      | 04.0 | 106                                               | 41.3 | 54.4                                              | 84  | 32.0                                             | 36.4     | 321                                               | 46.0 | 45.3     |     |  |  |  |  |
| 23  | 143                                      | 06.5 | 121                                               | 41.2 | 55.6                                              | 99  | 32.9                                             | 36.9     | 336                                               | 48.8 | 45.4     |     |  |  |  |  |
| 24  | 158                                      | 08.9 | 136                                               | 41.1 | +9 56.8                                           | 114 | 33.7                                             | +17 37.4 | 351                                               | 51.6 | +22 45.4 |     |  |  |  |  |
| Dif | —                                        |      | -1                                                | +12  |                                                   | +9  | +5                                               |          | +28                                               |      | +1       | +25 |  |  |  |  |

| UT | SOL                                    |      |         | ☾ LUNA                 |                                                                                                                              |                       | Latitud | Puesta de Sol | Final del crepúsculo                 |       |         | Salida de Luna      |    | Puesta de Luna |    |
|----|----------------------------------------|------|---------|------------------------|------------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|---------------|--------------------------------------|-------|---------|---------------------|----|----------------|----|
|    | SD: 16 <sup>h</sup> 1                  |      |         | Edad: 8 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 54 <sup>h</sup> /3<br>12 <sup>h</sup> : 54 <sup>h</sup> /3<br>20 <sup>h</sup> : 54 <sup>h</sup> /4 |                       |         |               |                                      |       |         |                     |    |                |    |
|    | PMG: 12 <sup>h</sup> 12 <sup>m</sup> 5 |      |         |                        |                                                                                                                              | SD: 14 <sup>h</sup> 8 |         |               | PMG: 19 <sup>h</sup> 18 <sup>m</sup> |       |         | R°: 52 <sup>m</sup> |    |                |    |
|    | hG ☉                                   | Dec  |         | hG ☾                   | Dif                                                                                                                          | Dec                   | Dif     |               |                                      | Civil | Náutico | Hora                | R° | Hora           | R° |
| h  | °                                      | '    | °       | °                      | '                                                                                                                            | °                     | '       | °             | h m                                  | h m   | h m     | h m m               |    | h m m          |    |
| 0  | 176                                    | 51.5 | -7 55.1 | 80                     | 21.9                                                                                                                         | +25 56.0              | 46      | 60 N          | 17 26                                | 18 08 | 18 56   | 8 59 36             |    | 4 41 70        |    |
| 1  | 191                                    | 51.7 |         | 94                     | 51.8 <sup>109</sup>                                                                                                          | +26 00.6              | 46      | 58            | 29                                   | 09    | 54      | 9 26 41             |    | 4 14 66        |    |
| 2  | 206                                    | 51.8 |         | 109                    | 21.7 <sup>109</sup>                                                                                                          |                       | 44      | 56            | 33                                   | 10    | 53      | 9 48 42             |    | 3 53 63        |    |
| 3  | 221                                    | 51.9 |         | 123                    | 51.5 <sup>108</sup>                                                                                                          |                       | 43      | 54            | 36                                   | 11    | 52      | 10 06 44            |    | 35 62          |    |
| 4  | 236                                    | 52.0 |         | 138                    | 21.3 <sup>108</sup>                                                                                                          |                       | 42      | 52            | 38                                   | 12    | 51      | 21 45               |    | 20 61          |    |
| 5  | 251                                    | 52.1 | -7 50.3 | 152                    | 51.0 <sup>107</sup>                                                                                                          | +26 17.6              | 41      | 50            | 17 41                                | 18 13 | 18 51   | 10 34 46            |    | 3 07 60        |    |
| 6  | 266                                    | 52.3 | -7 49.4 | 167                    | 20.7 <sup>107</sup>                                                                                                          | +26 21.6              | 40      | 45            | 17 46                                | 18 16 | 18 50   | 11 01 47            |    | 2 41 57        |    |
| 7  | 281                                    | 52.4 |         | 181                    | 50.3 <sup>106</sup>                                                                                                          |                       | 38      | 40            | 51                                   | 18    | 50      | 22 49               |    | 20 56          |    |
| 8  | 296                                    | 52.5 |         | 196                    | 19.9 <sup>106</sup>                                                                                                          |                       | 37      | 35            | 55                                   | 20    | 50      | 40 49               |    | 2 02 56        |    |
| 9  | 311                                    | 52.6 |         | 210                    | 49.4 <sup>105</sup>                                                                                                          |                       | 36      | 30            | 17 59                                | 23    | 50      | 11 56 49            |    | 1 47 55        |    |
| 10 | 326                                    | 52.7 |         | 225                    | 18.9 <sup>105</sup>                                                                                                          |                       | 34      | 20            | 18 05                                | 27    | 53      | 12 22 50            |    | 22 53          |    |
| 11 | 341                                    | 52.8 | -7 44.7 | 239                    | 48.4 <sup>105</sup>                                                                                                          | +26 39.5              | 34      | 10 N          | 18 10                                | 18 32 | 18 56   | 12 44 51            |    | 1 00 52        |    |
| 12 | 356                                    | 53.0 | -7 43.7 | 254                    | 17.8 <sup>104</sup>                                                                                                          | +26 42.7              | 32      | 0             | 18 16                                | 18 37 | 19 01   | 13 05 52            |    | 0 39 51        |    |
| 13 | 11                                     | 53.1 |         | 268                    | 47.2 <sup>104</sup>                                                                                                          |                       | 30      | 10 S          | 21                                   | 42    | 07      | 27 52               |    | 0 19 50        |    |
| 14 | 26                                     | 53.2 |         | 283                    | 16.5 <sup>103</sup>                                                                                                          |                       | 30      | 20            | 27                                   | 49    | 16      | 13 49 53            |    | ** ** *        |    |
| 15 | 41                                     | 53.3 |         | 297                    | 45.8 <sup>103</sup>                                                                                                          |                       | 28      | 30            | 34                                   | 18 58 | 27      | 14 16 53            |    | ** ** *        |    |
| 16 | 56                                     | 53.4 |         | 312                    | 15.1 <sup>103</sup>                                                                                                          |                       | 27      | 35            | 38                                   | 19 04 | 34      | 32 53               |    | ** ** *        |    |
| 17 | 71                                     | 53.6 | -7 39.0 | 326                    | 44.3 <sup>102</sup>                                                                                                          | +26 56.8              | 26      | 40            | 18 43                                | 19 10 | 19 43   | 14 50 54            |    | 23 44 52       |    |
| 18 | 86                                     | 53.7 | -7 38.0 | 341                    | 13.5 <sup>102</sup>                                                                                                          | +26 59.2              | 24      | 45            | 18 48                                | 19 18 | 19 54   | 15 12 54            |    | 23 22 52       |    |
| 19 | 101                                    | 53.8 |         | 355                    | 42.6 <sup>101</sup>                                                                                                          | +27 01.5              | 23      | 50            | 54                                   | 28    | 20 09   | 40 55               |    | 22 54 51       |    |
| 20 | 116                                    | 53.9 |         | 10                     | 11.7 <sup>101</sup>                                                                                                          |                       | 22      | 52            | 18 57                                | 32    | 15      | 15 54 55            |    | 40 51          |    |
| 21 | 131                                    | 54.0 |         | 24                     | 40.8 <sup>101</sup>                                                                                                          |                       | 20      | 54            | 19 01                                | 38    | 23      | 16 10 55            |    | 24 51          |    |
| 22 | 146                                    | 54.2 |         | 39                     | 09.8 <sup>100</sup>                                                                                                          |                       | 19      | 56            | 04                                   | 43    | 32      | 28 57               |    | 22 05 51       |    |
| 23 | 161                                    | 54.3 |         | 53                     | 38.9 <sup>101</sup>                                                                                                          |                       | 18      | 58            | 08                                   | 50    | 42      | 16 52 57            |    | 21 41 51       |    |
| 24 | 176                                    | 54.4 | -7 32.3 | 68                     | 07.8 <sup>99</sup>                                                                                                           | +27 11.1              | 17      | 60 S          | 19 13                                | 19 57 | 20 55   | 17 23 58            |    | 21 10 49       |    |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                          |          | SATURNO                                           |      |         |     |      |          |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|--------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 13 <sup>h</sup> 25 <sup>m</sup> 2 |      | Mag: -4.2<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |      | Mag: +1.1<br>PMG: 16 <sup>h</sup> 21 <sup>m</sup> |     | Mag: -2.5<br>PMG: 0 <sup>h</sup> 32 <sup>m</sup> |          | Mag: -0.1<br>PMG: 19 <sup>h</sup> 52 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                             | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '   | °                                                | '        | °                                                 | '    |         |     |      |          |
| 0   | 158                                    | 08.9 | 136                                               | 41.1 | +9 56.8                                           | 114 | 33.7                                             | +17 37.4 | 351                                               | 51.6 | +7 24.5 | 61  | 16.2 | +22 45.4 |
| 1   | 173                                    | 11.4 | 151                                               | 40.9 | 58.1                                              | 129 | 34.6                                             | 37.9     | 6                                                 | 54.3 | 24.7    | 76  | 18.7 | 45.4     |
| 2   | 188                                    | 13.9 | 166                                               | 40.8 | +9 59.3                                           | 144 | 35.4                                             | 38.4     | 21                                                | 57.1 | 24.8    | 91  | 21.2 | 45.4     |
| 3   | 203                                    | 16.3 | 181                                               | 40.7 | +10 00.5                                          | 159 | 36.3                                             | 38.8     | 36                                                | 59.9 | 24.9    | 106 | 23.7 | 45.4     |
| 4   | 218                                    | 18.8 | 196                                               | 40.5 | 01.7                                              | 174 | 37.2                                             | 39.3     | 52                                                | 02.6 | 25.1    | 121 | 26.2 | 45.4     |
| 5   | 233                                    | 21.3 | 211                                               | 40.4 | +10 03.0                                          | 189 | 38.0                                             | +17 39.8 | 67                                                | 05.4 | +7 25.2 | 136 | 28.7 | +22 45.4 |
| 6   | 248                                    | 23.7 | 226                                               | 40.3 | +10 04.2                                          | 204 | 38.9                                             | +17 40.3 | 82                                                | 08.2 | +7 25.3 | 151 | 31.2 | +22 45.4 |
| 7   | 263                                    | 26.2 | 241                                               | 40.1 | 05.4                                              | 219 | 39.7                                             | 40.8     | 97                                                | 10.9 | 25.4    | 166 | 33.7 | 45.4     |
| 8   | 278                                    | 28.7 | 256                                               | 40.0 | 06.6                                              | 234 | 40.6                                             | 41.3     | 112                                               | 13.7 | 25.6    | 181 | 36.2 | 45.4     |
| 9   | 293                                    | 31.1 | 271                                               | 39.9 | 07.9                                              | 249 | 41.5                                             | 41.7     | 127                                               | 16.4 | 25.7    | 196 | 38.7 | 45.4     |
| 10  | 308                                    | 33.6 | 286                                               | 39.7 | 09.1                                              | 264 | 42.3                                             | 42.2     | 142                                               | 19.2 | 25.8    | 211 | 41.2 | 45.4     |
| 11  | 323                                    | 36.0 | 301                                               | 39.6 | +10 10.3                                          | 279 | 43.2                                             | +17 42.7 | 157                                               | 22.0 | +7 26.0 | 226 | 43.7 | +22 45.5 |
| 12  | 338                                    | 38.5 | 316                                               | 39.5 | +10 11.5                                          | 294 | 44.0                                             | +17 43.2 | 172                                               | 24.7 | +7 26.1 | 241 | 46.2 | +22 45.5 |
| 13  | 353                                    | 41.0 | 331                                               | 39.4 | 12.7                                              | 309 | 44.9                                             | 43.7     | 187                                               | 27.5 | 26.2    | 256 | 48.7 | 45.5     |
| 14  | 8                                      | 43.4 | 346                                               | 39.2 | 14.0                                              | 324 | 45.8                                             | 44.1     | 202                                               | 30.3 | 26.3    | 271 | 51.2 | 45.5     |
| 15  | 23                                     | 45.9 | 1                                                 | 39.1 | 15.2                                              | 339 | 46.6                                             | 44.6     | 217                                               | 33.0 | 26.5    | 286 | 53.7 | 45.5     |
| 16  | 38                                     | 48.4 | 16                                                | 39.0 | 16.4                                              | 354 | 47.5                                             | 45.1     | 232                                               | 35.8 | 26.6    | 301 | 56.2 | 45.5     |
| 17  | 53                                     | 50.8 | 31                                                | 38.8 | +10 17.6                                          | 9   | 48.3                                             | +17 45.6 | 247                                               | 38.6 | +7 26.7 | 316 | 58.7 | +22 45.5 |
| 18  | 68                                     | 53.3 | 46                                                | 38.7 | +10 18.8                                          | 24  | 49.2                                             | +17 46.0 | 262                                               | 41.3 | +7 26.9 | 332 | 01.2 | +22 45.5 |
| 19  | 83                                     | 55.8 | 61                                                | 38.6 | 20.0                                              | 39  | 50.0                                             | 46.5     | 277                                               | 44.1 | 27.0    | 347 | 03.7 | 45.5     |
| 20  | 98                                     | 58.2 | 76                                                | 38.4 | 21.3                                              | 54  | 50.9                                             | 47.0     | 292                                               | 46.9 | 27.1    | 2   | 06.2 | 45.5     |
| 21  | 114                                    | 00.7 | 91                                                | 38.3 | 22.5                                              | 69  | 51.8                                             | 47.5     | 307                                               | 49.6 | 27.3    | 17  | 08.7 | 45.5     |
| 22  | 129                                    | 03.2 | 106                                               | 38.2 | 23.7                                              | 84  | 52.6                                             | 48.0     | 322                                               | 52.4 | 27.4    | 32  | 11.2 | 45.5     |
| 23  | 144                                    | 05.6 | 121                                               | 38.1 | 24.9                                              | 99  | 53.5                                             | 48.4     | 337                                               | 55.2 | 27.5    | 47  | 13.7 | 45.5     |
| 24  | 159                                    | 08.1 | 136                                               | 37.9 | +10 26.1                                          | 114 | 54.3                                             | +17 48.9 | 352                                               | 57.9 | +7 27.6 | 62  | 16.2 | +22 45.6 |
| Dif | —                                      |      | -1 +12                                            |      | +9 +5                                             |     | +28 +1                                           |          | +25 0                                             |      |         |     |      |          |

| UT  | SOL                                    |      |                                                   | LUNA                   |                                                                                    |                                                   |                                      |                     | Latitud                                          | Principio del crepúsculo |         | Salida de Sol                                     | Salida de Luna |          | Puesta de Luna |  |
|-----|----------------------------------------|------|---------------------------------------------------|------------------------|------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------------------|---------------------|--------------------------------------------------|--------------------------|---------|---------------------------------------------------|----------------|----------|----------------|--|
|     | SD: 16'1                               |      |                                                   | Edad: 9 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 54'5<br>12 <sup>h</sup> : 54'6<br>20 <sup>h</sup> : 54'7 | SD: 14'8                                          | PMG: 20 <sup>h</sup> 10 <sup>m</sup> | R°: 52 <sup>m</sup> |                                                  |                          |         |                                                   |                |          |                |  |
|     | PMG: 12 <sup>h</sup> 12 <sup>m</sup> 3 |      |                                                   |                        |                                                                                    |                                                   |                                      |                     |                                                  |                          |         |                                                   |                |          |                |  |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                   | Dif                                                                                | Dec                                               | Dif                                  |                     | Náutico                                          | Civil                    |         | Hora                                              | R°             | Hora     | R°             |  |
| h   | °                                      | '    | °                                                 | °                      | '                                                                                  | °                                                 | '                                    | °                   | h m                                              | h m                      | h m     | h m                                               | m              | h m      | m              |  |
| 0   | 176                                    | 54.4 | -7 32.3                                           | 68                     | 07.8                                                                               | +27 11.1                                          | 15                                   | 60 N                | 5 28                                             | 6 16                     | 6 58    | 9 35                                              | 64             | 5 51     | 45             |  |
| 1   | 191                                    | 54.5 |                                                   | 82                     | 36.8                                                                               |                                                   | 100                                  | 58                  | 29                                               | 15                       | 54      | 10 07                                             | 61             | 5 20     | 47             |  |
| 2   | 206                                    | 54.7 |                                                   | 97                     | 05.7                                                                               |                                                   | 99                                   | 56                  | 31                                               | 13                       | 51      |                                                   | 30 60          | 4 56     | 48             |  |
| 3   | 221                                    | 54.8 |                                                   | 111                    | 34.6                                                                               |                                                   | 99                                   | 54                  | 32                                               | 12                       | 48      | 10 50                                             | 58             | 37       | 49             |  |
| 4   | 236                                    | 54.9 |                                                   | 126                    | 03.4                                                                               |                                                   | 98                                   | 52                  | 32                                               | 11                       | 45      | 11 06                                             | 58             | 21       | 49             |  |
| 5   | 251                                    | 55.0 | -7 27.6                                           | 140                    | 32.2                                                                               | +27 17.3                                          | 10                                   | 50                  | 5 33                                             | 6 10                     | 6 43    | 11 20                                             | 57             | 4 07     | 50             |  |
| 6   | 266                                    | 55.1 | -7 26.6                                           | 155                    | 01.0                                                                               | +27 18.2                                          | 9                                    | 45                  | 5 34                                             | 6 08                     | 6 38    | 11 48                                             | 57             | 3 38     | 51             |  |
| 7   | 281                                    | 55.3 |                                                   | 169                    | 29.8                                                                               |                                                   | 98                                   | 40                  | 35                                               | 06                       | 33      | 12 11                                             | 55             | 3 16     | 51             |  |
| 8   | 296                                    | 55.4 |                                                   | 183                    | 58.6                                                                               |                                                   | 98                                   | 35                  | 34                                               | 04                       | 29      |                                                   | 29 55          | 2 58     | 51             |  |
| 9   | 311                                    | 55.5 |                                                   | 198                    | 27.3                                                                               |                                                   | 97                                   | 30                  | 34                                               | 6 02                     | 26      | 12 45                                             | 55             | 42       | 51             |  |
| 10  | 326                                    | 55.6 |                                                   | 212                    | 56.0                                                                               |                                                   | 97                                   | 20                  | 32                                               | 5 58                     | 20      | 13 12                                             | 54             | 2 15     | 52             |  |
| 11  | 341                                    | 55.8 | -7 21.9                                           | 227                    | 24.7                                                                               | +27 20.4                                          | 2                                    | 10 N                | 5 29                                             | 5 53                     | 6 14    | 13 35                                             | 53             | 1 52     | 52             |  |
| 12  | 356                                    | 55.9 | -7 20.9                                           | 241                    | 53.3                                                                               | +27 20.4                                          | 0                                    | 0                   | 5 24                                             | 5 48                     | 6 09    | 13 57                                             | 52             | 1 30     | 52             |  |
| 13  | 11                                     | 56.0 |                                                   | 256                    | 22.0                                                                               |                                                   | 97                                   | 10 S                | 18                                               | 42                       | 6 04    | 14 19                                             | 51             | 1 09     | 52             |  |
| 14  | 26                                     | 56.1 |                                                   | 19.0                   | 270 50.6                                                                           |                                                   | 96                                   | 20                  | 5 09                                             | 36                       | 5 58    | 14 42                                             | 51             | 0 45     | 53             |  |
| 15  | 41                                     | 56.3 |                                                   | 18.0                   | 285 19.2                                                                           |                                                   | 96                                   | 30                  | 4 58                                             | 27                       | 51      | 15 09                                             | 49             | 19       | 52             |  |
| 16  | 56                                     | 56.4 |                                                   | 17.1                   | 299 47.8                                                                           |                                                   | 96                                   | 35                  | 51                                               | 21                       | 47      | 25 49                                             |                | 0 03     | 52             |  |
| 17  | 71                                     | 56.5 | -7 16.1                                           | 314                    | 16.4                                                                               | +27 18.6                                          | 6                                    | 40                  | 4 42                                             | 5 15                     | 5 43    | 15 44                                             | 47             | *** ** * |                |  |
| 18  | 86                                     | 56.6 | -7 15.2                                           | 328                    | 44.9                                                                               | +27 17.8                                          | 8                                    | 45                  | 4 31                                             | 5 07                     | 5 37    | 16 06                                             | 47             | *** ** * |                |  |
| 19  | 101                                    | 56.8 |                                                   | 14.2                   | 343 13.5                                                                           |                                                   | 96                                   | 50                  | 17                                               | 4 58                     | 31      | 35 45                                             |                | 23 45    | 63             |  |
| 20  | 116                                    | 56.9 |                                                   | 13.3                   | 357 42.0                                                                           |                                                   | 95                                   | 52                  | 10                                               | 53                       | 28      | 16 49                                             | 44             | 31       | 64             |  |
| 21  | 131                                    | 57.0 |                                                   | 12.3                   | 12 10.5                                                                            |                                                   | 95                                   | 54                  | 4 02                                             | 48                       | 25      | 17 05                                             | 43             | 23 15    | 66             |  |
| 22  | 146                                    | 57.1 |                                                   | 11.4                   | 26 39.0                                                                            |                                                   | 95                                   | 56                  | 3 53                                             | 42                       | 21      | 25 40                                             |                | 22 56    | 67             |  |
| 23  | 161                                    | 57.3 |                                                   | 10.4                   | 41 07.5                                                                            |                                                   | 95                                   | 58                  | 43                                               | 36                       | 17      | 17 49                                             | 37             | 22 32    | 70             |  |
| 24  | 176                                    | 57.4 | -7 09.5                                           | 55                     | 36.0                                                                               | +27 10.3                                          | 16                                   | 60 S                | 3 31                                             | 4 28                     | 5 13    | 18 21                                             | 32             | 21 59    | 77             |  |
| UT  | ARIES                                  |      | VENUS                                             |                        |                                                                                    | MARTE                                             |                                      |                     | JÚPITER                                          |                          |         | SATURNO                                           |                |          |                |  |
|     | PMG: 13 <sup>h</sup> 21 <sup>m</sup> 3 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |                        |                                                                                    | Mag: +1.1<br>PMG: 16 <sup>h</sup> 19 <sup>m</sup> |                                      |                     | Mag: -2.5<br>PMG: 0 <sup>h</sup> 28 <sup>m</sup> |                          |         | Mag: -0.1<br>PMG: 19 <sup>h</sup> 48 <sup>m</sup> |                |          |                |  |
|     | hG ♈                                   |      | hG ♀                                              | Dec                    |                                                                                    | hG ♂                                              | Dec                                  |                     | hG ♃                                             | Dec                      |         | hG ♄                                              | Dec            |          |                |  |
| h   | °                                      | '    | °                                                 | '                      | °                                                                                  | '                                                 | °                                    | '                   | °                                                | '                        | °       | '                                                 | °              | '        |                |  |
| 0   | 159                                    | 08.1 | 136                                               | 37.9                   | +10 26.1                                                                           | 114                                               | 54.3                                 | +17 48.9            | 352                                              | 57.9                     | +7 27.6 | 62                                                | 16.2           | +22 45.6 |                |  |
| 1   | 174                                    | 10.5 | 151                                               | 37.8                   |                                                                                    | 129                                               | 55.2                                 |                     | 8                                                | 00.7                     |         | 77                                                | 18.7           |          |                |  |
| 2   | 189                                    | 13.0 | 166                                               | 37.7                   |                                                                                    | 144                                               | 56.0                                 |                     | 23                                               | 03.5                     |         | 92                                                | 21.2           |          |                |  |
| 3   | 204                                    | 15.5 | 181                                               | 37.5                   |                                                                                    | 159                                               | 56.9                                 |                     | 38                                               | 06.2                     |         | 107                                               | 23.7           |          |                |  |
| 4   | 219                                    | 17.9 | 196                                               | 37.4                   |                                                                                    | 174                                               | 57.8                                 |                     | 53                                               | 09.0                     |         | 122                                               | 26.2           |          |                |  |
| 5   | 234                                    | 20.4 | 211                                               | 37.3                   | +10 32.2                                                                           | 189                                               | 58.6                                 | +17 51.3            | 68                                               | 11.8                     | +7 28.3 | 137                                               | 28.7           | +22 45.6 |                |  |
| 6   | 249                                    | 22.9 | 226                                               | 37.1                   | +10 33.4                                                                           | 204                                               | 59.5                                 | +17 51.8            | 83                                               | 14.5                     | +7 28.4 | 152                                               | 31.2           | +22 45.6 |                |  |
| 7   | 264                                    | 25.3 | 241                                               | 37.0                   |                                                                                    | 220                                               | 00.3                                 |                     | 98                                               | 17.3                     |         | 167                                               | 33.7           |          |                |  |
| 8   | 279                                    | 27.8 | 256                                               | 36.9                   |                                                                                    | 235                                               | 01.2                                 |                     | 113                                              | 20.1                     |         | 182                                               | 36.2           |          |                |  |
| 9   | 294                                    | 30.3 | 271                                               | 36.8                   |                                                                                    | 250                                               | 02.0                                 |                     | 128                                              | 22.8                     |         | 197                                               | 38.7           |          |                |  |
| 10  | 309                                    | 32.7 | 286                                               | 36.6                   |                                                                                    | 265                                               | 02.9                                 |                     | 143                                              | 25.6                     |         | 212                                               | 41.2           |          |                |  |
| 11  | 324                                    | 35.2 | 301                                               | 36.5                   | +10 39.5                                                                           | 280                                               | 03.7                                 | +17 54.1            | 158                                              | 28.4                     | +7 29.1 | 227                                               | 43.7           | +22 45.6 |                |  |
| 12  | 339                                    | 37.6 | 316                                               | 36.4                   | +10 40.7                                                                           | 295                                               | 04.6                                 | +17 54.6            | 173                                              | 31.1                     | +7 29.2 | 242                                               | 46.2           | +22 45.7 |                |  |
| 13  | 354                                    | 40.1 | 331                                               | 36.2                   |                                                                                    | 310                                               | 05.5                                 |                     | 188                                              | 33.9                     |         | 257                                               | 48.7           |          |                |  |
| 14  | 9                                      | 42.6 | 346                                               | 36.1                   |                                                                                    | 325                                               | 06.3                                 |                     | 203                                              | 36.7                     |         | 272                                               | 51.2           |          |                |  |
| 15  | 24                                     | 45.0 | 1                                                 | 36.0                   |                                                                                    | 340                                               | 07.2                                 |                     | 218                                              | 39.4                     |         | 287                                               | 53.7           |          |                |  |
| 16  | 39                                     | 47.5 | 16                                                | 35.9                   |                                                                                    | 355                                               | 08.0                                 |                     | 233                                              | 42.2                     |         | 302                                               | 56.2           |          |                |  |
| 17  | 54                                     | 50.0 | 31                                                | 35.7                   | +10 46.7                                                                           | 10                                                | 08.9                                 | +17 57.0            | 248                                              | 45.0                     | +7 29.8 | 317                                               | 58.7           | +22 45.7 |                |  |
| 18  | 69                                     | 52.4 | 46                                                | 35.6                   | +10 47.9                                                                           | 25                                                | 09.7                                 | +17 57.5            | 263                                              | 47.7                     | +7 30.0 | 333                                               | 01.1           | +22 45.7 |                |  |
| 19  | 84                                     | 54.9 | 61                                                | 35.5                   |                                                                                    | 40                                                | 10.6                                 |                     | 278                                              | 50.5                     |         | 348                                               | 03.6           |          |                |  |
| 20  | 99                                     | 57.4 | 76                                                | 35.3                   |                                                                                    | 55                                                | 11.4                                 |                     | 293                                              | 53.2                     |         | 3                                                 | 06.1           |          |                |  |
| 21  | 114                                    | 59.8 | 91                                                | 35.2                   |                                                                                    | 70                                                | 12.3                                 |                     | 308                                              | 56.0                     |         | 18                                                | 08.6           |          |                |  |
| 22  | 130                                    | 02.3 | 106                                               | 35.1                   |                                                                                    | 85                                                | 13.1                                 |                     | 323                                              | 58.8                     |         | 33                                                | 11.1           |          |                |  |
| 23  | 145                                    | 04.8 | 121                                               | 34.9                   |                                                                                    | 100                                               | 14.0                                 | +17 59.8            | 339                                              | 01.5                     |         | 48                                                | 13.6           |          |                |  |
| 24  | 160                                    | 07.2 | 136                                               | 34.8                   | +10 55.2                                                                           | 115                                               | 14.9                                 | +18 00.3            | 354                                              | 04.3                     | +7 30.7 | 63                                                | 16.1           | +22 45.7 |                |  |
| Dif | —                                      |      | -1                                                |                        | +12                                                                                | +9                                                |                                      | +5                  | +28                                              |                          | +1      | +25                                               |                | 0        |                |  |



| UT  | SOL                                    |      |                                                   | LUNA                                                                                                                              |          |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                             |          |         | Salida de Luna                                    |          | Puesta de Luna |    |   |
|-----|----------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|----------|---------------|--------------------------------------------------|----------|---------|---------------------------------------------------|----------|----------------|----|---|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                   | Edad: 10 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 54/9<br>12 <sup>h</sup> : 55/0<br>20 <sup>h</sup> : 55/2<br>R°: 51 <sup>m</sup> |          |                                                   |          |               |                                                  |          |         |                                                   |          |                |    |   |
|     | PMG: 12 <sup>h</sup> 12 <sup>m</sup> 1 |      |                                                   |                                                                                                                                   | SD: 14'9 |                                                   |          |               | PMG: 21 <sup>h</sup> 02 <sup>m</sup>             |          |         |                                                   |          |                |    |   |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                                                                                                                              | Dif      | Dec                                               | Dif      |               |                                                  | Civil    | Náutico | Hora                                              | R°       | Hora           | R° |   |
| h   | °                                      | '    | °                                                 | °                                                                                                                                 | '        | °                                                 | '        | °             | h m                                              | h m      | h m     | h m m                                             | m        | h m m          | m  |   |
| 0   | 176                                    | 57.4 | -7 09.5                                           | 55                                                                                                                                | 36.0     | +27 10.3                                          | 18       | 60 N          | 17 31                                            | 18 12    | 19 01   | 10 39 85                                          | 6 36 23  |                |    |   |
| 1   | 191                                    | 57.5 | 08.5                                              | 70                                                                                                                                | 04.5     | 08.5                                              | 18       | 58            | 34                                               | 13       | 18 59   | 11 08 78                                          | 6 07 29  |                |    |   |
| 2   | 206                                    | 57.6 | 07.5                                              | 84                                                                                                                                | 33.0     | 06.7                                              | 18       | 56            | 37                                               | 14       | 57      | 30 75                                             | 5 44 34  |                |    |   |
| 3   | 221                                    | 57.8 | 06.6                                              | 99                                                                                                                                | 01.5     | 04.6                                              | 21       | 54            | 40                                               | 15       | 56      | 11 48 72                                          | 26 36    |                |    |   |
| 4   | 236                                    | 57.9 | 05.6                                              | 113                                                                                                                               | 29.9     | 02.5                                              | 21       | 52            | 42                                               | 16       | 55      | 12 04 69                                          | 5 10 38  |                |    |   |
| 5   | 251                                    | 58.0 | -7 04.7                                           | 127                                                                                                                               | 58.4     | +27 00.2                                          | 23       | 50            | 17 44                                            | 18 17    | 18 54   | 12 17 68                                          | 4 57 39  |                |    |   |
| 6   | 266                                    | 58.2 | -7 03.7                                           | 142                                                                                                                               | 26.9     | +26 57.8                                          | 24       | 45            | 17 49                                            | 18 19    | 18 53   | 12 45 64                                          | 4 29 42  |                |    |   |
| 7   | 281                                    | 58.3 | 02.8                                              | 156                                                                                                                               | 55.3     | 55.2                                              | 26       | 40            | 53                                               | 20       | 52      | 13 06 62                                          | 4 07 44  |                |    |   |
| 8   | 296                                    | 58.4 | 01.8                                              | 171                                                                                                                               | 23.8     | 52.5                                              | 27       | 35            | 17 57                                            | 22       | 51      | 24 60                                             | 3 49 46  |                |    |   |
| 9   | 311                                    | 58.5 | -7 00.9                                           | 185                                                                                                                               | 52.3     | 49.6                                              | 29       | 30            | 18 00                                            | 24       | 52      | 13 40 58                                          | 33 47    |                |    |   |
| 10  | 326                                    | 58.7 | -6 59.9                                           | 200                                                                                                                               | 20.7     | 46.7                                              | 29       | 20            | 06                                               | 28       | 53      | 14 06 56                                          | 3 07 49  |                |    |   |
| 11  | 341                                    | 58.8 | -6 58.9                                           | 214                                                                                                                               | 49.2     | +26 43.5                                          | 32       | 10 N          | 18 11                                            | 18 32    | 18 56   | 14 28 54                                          | 2 44 50  |                |    |   |
| 12  | 356                                    | 58.9 | -6 58.0                                           | 229                                                                                                                               | 17.7     | +26 40.3                                          | 32       | 0             | 18 15                                            | 18 36    | 19 00   | 14 49 52                                          | 2 22 52  |                |    |   |
| 13  | 11                                     | 59.1 | 57.0                                              | 243                                                                                                                               | 46.1     | 36.9                                              | 34       | 10 S          | 20                                               | 41       | 06      | 15 10 50                                          | 2 01 53  |                |    |   |
| 14  | 26                                     | 59.2 | 56.1                                              | 258                                                                                                                               | 14.6     | 33.4                                              | 35       | 20            | 26                                               | 48       | 14      | 33 47                                             | 1 38 55  |                |    |   |
| 15  | 41                                     | 59.3 | 55.1                                              | 272                                                                                                                               | 43.1     | 29.7                                              | 37       | 30            | 32                                               | 18 56    | 25      | 15 58 45                                          | 1 11 56  |                |    |   |
| 16  | 56                                     | 59.5 | 54.2                                              | 287                                                                                                                               | 11.6     | 25.9                                              | 38       | 35            | 35                                               | 19 01    | 31      | 16 14 43                                          | 0 55 58  |                |    |   |
| 17  | 71                                     | 59.6 | -6 53.2                                           | 301                                                                                                                               | 40.2     | +26 21.9                                          | 40       | 40            | 18 40                                            | 19 07    | 19 40   | 16 31 42                                          | 0 36 59  |                |    |   |
| 18  | 86                                     | 59.7 | -6 52.2                                           | 316                                                                                                                               | 08.7     | +26 17.9                                          | 40       | 45            | 18 44                                            | 19 14    | 19 50   | 16 53 38                                          | 0 14 61  |                |    |   |
| 19  | 101                                    | 59.8 | 51.3                                              | 330                                                                                                                               | 37.2     | 13.6                                              | 43       | 50            | 50                                               | 23       | 20 04   | 17 20 34                                          | *** ** * |                |    |   |
| 20  | 117                                    | 00.0 | 50.3                                              | 345                                                                                                                               | 05.8     | 09.3                                              | 43       | 52            | 53                                               | 28       | 10      | 33 32                                             | *** ** * |                |    |   |
| 21  | 132                                    | 00.1 | 49.4                                              | 359                                                                                                                               | 34.3     | 04.8                                              | 45       | 54            | 56                                               | 33       | 18      | 17 48 30                                          | *** ** * |                |    |   |
| 22  | 147                                    | 00.2 | 48.4                                              | 14                                                                                                                                | 02.9     | +26 00.2                                          | 46       | 56            | 18 59                                            | 38       | 26      | 18 05 27                                          | *** ** * |                |    |   |
| 23  | 162                                    | 00.4 | 47.5                                              | 28                                                                                                                                | 31.5     | +25 55.4                                          | 48       | 58            | 19 03                                            | 44       | 36      | 26 23                                             | 23 42 85 |                |    |   |
| 24  | 177                                    | 00.5 | -6 46.5                                           | 43                                                                                                                                | 00.1     | +25 50.5                                          | 49       | 60 S          | 19 07                                            | 19 51    | 20 47   | 18 53 16                                          | 23 16 91 |                |    |   |
| UT  | ARIES                                  |      | VENUS                                             |                                                                                                                                   |          | MARTE                                             |          |               | JÚPITER                                          |          |         | SATURNO                                           |          |                |    |   |
|     | PMG: 13 <sup>h</sup> 17 <sup>m</sup> 3 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |                                                                                                                                   |          | Mag: +1.1<br>PMG: 16 <sup>h</sup> 18 <sup>m</sup> |          |               | Mag: -2.5<br>PMG: 0 <sup>h</sup> 24 <sup>m</sup> |          |         | Mag: -0.1<br>PMG: 19 <sup>h</sup> 44 <sup>m</sup> |          |                |    |   |
|     | hG ♈                                   |      | hG ♀                                              | Dec                                                                                                                               |          | hG ♂                                              | Dec      |               | hG ♃                                             | Dec      |         | hG ♄                                              | Dec      |                |    |   |
| h   | °                                      | '    | °                                                 | '                                                                                                                                 | °        | '                                                 | °        | '             | °                                                | '        | °       | '                                                 | °        | '              | °  | ' |
| 0   | 160                                    | 07.2 | 136 34.8                                          | +10 55.2                                                                                                                          | 115 14.9 | +18 00.3                                          | 354 04.3 | +7 30.7       | 63 16.1                                          | +22 45.7 |         |                                                   |          |                |    |   |
| 1   | 175                                    | 09.7 | 151 34.7                                          | 56.4                                                                                                                              | 130 15.7 | 00.8                                              | 9 07.1   | 30.9          | 78 18.6                                          | 45.8     |         |                                                   |          |                |    |   |
| 2   | 190                                    | 12.1 | 166 34.6                                          | 57.6                                                                                                                              | 145 16.6 | 01.2                                              | 24 09.8  | 31.0          | 93 21.1                                          | 45.8     |         |                                                   |          |                |    |   |
| 3   | 205                                    | 14.6 | 181 34.4                                          | +10 58.8                                                                                                                          | 160 17.4 | 01.7                                              | 39 12.6  | 31.1          | 108 23.6                                         | 45.8     |         |                                                   |          |                |    |   |
| 4   | 220                                    | 17.1 | 196 34.3                                          | +11 00.0                                                                                                                          | 175 18.3 | 02.2                                              | 54 15.4  | 31.2          | 123 26.1                                         | 45.8     |         |                                                   |          |                |    |   |
| 5   | 235                                    | 19.5 | 211 34.2                                          | +11 01.2                                                                                                                          | 190 19.1 | +18 02.6                                          | 69 18.1  | +7 31.4       | 138 28.6                                         | +22 45.8 |         |                                                   |          |                |    |   |
| 6   | 250                                    | 22.0 | 226 34.0                                          | +11 02.4                                                                                                                          | 205 20.0 | +18 03.1                                          | 84 20.9  | +7 31.5       | 153 31.1                                         | +22 45.8 |         |                                                   |          |                |    |   |
| 7   | 265                                    | 24.5 | 241 33.9                                          | 03.6                                                                                                                              | 220 20.8 | 03.6                                              | 99 23.7  | 31.6          | 168 33.5                                         | 45.8     |         |                                                   |          |                |    |   |
| 8   | 280                                    | 26.9 | 256 33.8                                          | 04.8                                                                                                                              | 235 21.7 | 04.1                                              | 114 26.4 | 31.8          | 183 36.0                                         | 45.8     |         |                                                   |          |                |    |   |
| 9   | 295                                    | 29.4 | 271 33.7                                          | 06.0                                                                                                                              | 250 22.5 | 04.5                                              | 129 29.2 | 31.9          | 198 38.5                                         | 45.8     |         |                                                   |          |                |    |   |
| 10  | 310                                    | 31.9 | 286 33.5                                          | 07.2                                                                                                                              | 265 23.4 | 05.0                                              | 144 32.0 | 32.0          | 213 41.0                                         | 45.8     |         |                                                   |          |                |    |   |
| 11  | 325                                    | 34.3 | 301 33.4                                          | +11 08.4                                                                                                                          | 280 24.2 | +18 05.5                                          | 159 34.7 | +7 32.2       | 228 43.5                                         | +22 45.8 |         |                                                   |          |                |    |   |
| 12  | 340                                    | 36.8 | 316 33.3                                          | +11 09.6                                                                                                                          | 295 25.1 | +18 05.9                                          | 174 37.5 | +7 32.3       | 243 46.0                                         | +22 45.8 |         |                                                   |          |                |    |   |
| 13  | 355                                    | 39.3 | 331 33.1                                          | 10.8                                                                                                                              | 310 25.9 | 06.4                                              | 189 40.3 | 32.4          | 258 48.5                                         | 45.8     |         |                                                   |          |                |    |   |
| 14  | 10                                     | 41.7 | 346 33.0                                          | 12.0                                                                                                                              | 325 26.8 | 06.9                                              | 204 43.0 | 32.5          | 273 51.0                                         | 45.9     |         |                                                   |          |                |    |   |
| 15  | 25                                     | 44.2 | 1 32.9                                            | 13.2                                                                                                                              | 340 27.6 | 07.3                                              | 219 45.8 | 32.7          | 288 53.5                                         | 45.9     |         |                                                   |          |                |    |   |
| 16  | 40                                     | 46.6 | 16 32.8                                           | 14.4                                                                                                                              | 355 28.5 | 07.8                                              | 234 48.6 | 32.8          | 303 56.0                                         | 45.9     |         |                                                   |          |                |    |   |
| 17  | 55                                     | 49.1 | 31 32.6                                           | +11 15.6                                                                                                                          | 10 29.3  | +18 08.3                                          | 249 51.3 | +7 32.9       | 318 58.4                                         | +22 45.9 |         |                                                   |          |                |    |   |
| 18  | 70                                     | 51.6 | 46 32.5                                           | +11 16.8                                                                                                                          | 25 30.2  | +18 08.7                                          | 264 54.1 | +7 33.1       | 334 00.9                                         | +22 45.9 |         |                                                   |          |                |    |   |
| 19  | 85                                     | 54.0 | 61 32.4                                           | 18.0                                                                                                                              | 40 31.0  | 09.2                                              | 279 56.9 | 33.2          | 349 03.4                                         | 45.9     |         |                                                   |          |                |    |   |
| 20  | 100                                    | 56.5 | 76 32.2                                           | 19.2                                                                                                                              | 55 31.9  | 09.7                                              | 294 59.6 | 33.3          | 4 05.9                                           | 45.9     |         |                                                   |          |                |    |   |
| 21  | 115                                    | 59.0 | 91 32.1                                           | 20.4                                                                                                                              | 70 32.7  | 10.1                                              | 310 02.4 | 33.4          | 19 08.4                                          | 45.9     |         |                                                   |          |                |    |   |
| 22  | 131                                    | 01.4 | 106 32.0                                          | 21.6                                                                                                                              | 85 33.6  | 10.6                                              | 325 05.2 | 33.6          | 34 10.9                                          | 45.9     |         |                                                   |          |                |    |   |
| 23  | 146                                    | 03.9 | 121 31.9                                          | 22.8                                                                                                                              | 100 34.4 | 11.1                                              | 340 08.0 | 33.7          | 49 13.4                                          | 45.9     |         |                                                   |          |                |    |   |
| 24  | 161                                    | 06.4 | 136 31.7                                          | +11 24.0                                                                                                                          | 115 35.3 | +18 11.5                                          | 355 10.7 | +7 33.8       | 64 15.9                                          | +22 45.9 |         |                                                   |          |                |    |   |
| Dif | —                                      |      | -1                                                | +12                                                                                                                               | +9       | +5                                                | +28      | +1            | +25                                              |          | 0       |                                                   |          |                |    |   |

| UT | SOL                                    |      |         | O LUNA                                                                                                                                                                   |                       |          |                                      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |   |
|----|----------------------------------------|------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|----------|--------------------------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|---|
|    | SD: 16 <sup>h</sup> 1                  |      |         | Edad: 11 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 55 <sup>m</sup> 4<br>12 <sup>h</sup> : 55 <sup>m</sup> 5<br>20 <sup>h</sup> : 55 <sup>m</sup> 7<br>R°: 51 <sup>m</sup> |                       |          |                                      |         |                          |       |               |                |    |                |    |   |
|    | PMG: 12 <sup>h</sup> 11 <sup>m</sup> 9 |      |         |                                                                                                                                                                          | SD: 15 <sup>h</sup> 1 |          | PMG: 21 <sup>h</sup> 53 <sup>m</sup> |         |                          |       |               |                |    |                |    |   |
|    | hG ☉                                   | Dec  |         | hG ☾                                                                                                                                                                     | Dif                   | Dec      | Dif                                  |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |   |
| h  | °                                      | '    | °       | °                                                                                                                                                                        | '                     | °        | '                                    | °       | h                        | m     | h             | m              | h  | m              | h  | m |
| 0  | 177                                    | 00.5 | -6 46.5 | 43                                                                                                                                                                       | 00.1                  | +25 50.5 | 50                                   | 60 N    | 5 22                     | 6 10  | 6 52          | 12 04          | 94 | 6 59           | 12 |   |
| 1  | 192                                    | 00.6 | 45.5    | 57                                                                                                                                                                       | 28.7                  | 45.5     | 50                                   | 58      | 24                       | 09    | 49            | 26             | 88 | 36             | 18 |   |
| 2  | 207                                    | 00.8 | 44.6    | 71                                                                                                                                                                       | 57.4                  | 40.3     | 52                                   | 56      | 26                       | 09    | 46            | 12             | 45 | 83             | 18 |   |
| 3  | 222                                    | 00.9 | 43.6    | 86                                                                                                                                                                       | 26.0                  | 35.0     | 53                                   | 54      | 27                       | 08    | 43            | 13             | 00 | 80             | 6  |   |
| 4  | 237                                    | 01.0 | 42.7    | 100                                                                                                                                                                      | 54.7                  | 29.5     | 55                                   | 52      | 28                       | 07    | 41            | 13             | 77 | 5              | 48 |   |
| 5  | 252                                    | 01.2 | -6 41.7 | 115                                                                                                                                                                      | 23.4                  | +25 24.0 | 55                                   | 50      | 5 29                     | 6 06  | 6 39          | 13 25          | 74 | 5 36           | 31 |   |
| 6  | 267                                    | 01.3 | -6 40.7 | 129                                                                                                                                                                      | 52.1                  | +25 18.3 | 57                                   | 45      | 5 31                     | 6 05  | 6 34          | 13 49          | 70 | 5 11           | 35 |   |
| 7  | 282                                    | 01.4 | 39.8    | 144                                                                                                                                                                      | 20.9                  | 12.4     | 59                                   | 40      | 32                       | 03    | 30            | 14 08          | 67 | 4 51           | 38 |   |
| 8  | 297                                    | 01.6 | 38.8    | 158                                                                                                                                                                      | 49.6                  | 06.4     | 60                                   | 35      | 32                       | 01    | 27            | 24             | 64 | 35             | 40 |   |
| 9  | 312                                    | 01.7 | 37.9    | 173                                                                                                                                                                      | 18.4                  | +25 00.3 | 61                                   | 30      | 32                       | 6 00  | 24            | 14 38          | 61 | 4 20           | 43 |   |
| 10 | 327                                    | 01.8 | 36.9    | 187                                                                                                                                                                      | 47.3                  | +24 54.1 | 62                                   | 20      | 30                       | 5 56  | 18            | 15 02          | 57 | 3 56           | 46 |   |
| 11 | 342                                    | 02.0 | -6 35.9 | 202                                                                                                                                                                      | 16.1                  | +24 47.7 | 64                                   | 10 N    | 5 28                     | 5 52  | 6 13          | 15 22          | 54 | 3 34           | 49 |   |
| 12 | 357                                    | 02.1 | -6 35.0 | 216                                                                                                                                                                      | 45.0                  | +24 41.2 | 65                                   | 0       | 5 24                     | 5 48  | 6 09          | 15 41          | 51 | 3 14           | 52 |   |
| 13 | 12                                     | 02.2 | 34.0    | 231                                                                                                                                                                      | 13.9                  | 34.6     | 66                                   | 10 S    | 18                       | 43    | 6 04          | 16 00          | 48 | 2 54           | 54 |   |
| 14 | 27                                     | 02.4 | 33.1    | 245                                                                                                                                                                      | 42.8                  | 27.8     | 68                                   | 20      | 10                       | 36    | 5 59          | 20             | 44 | 33             | 56 |   |
| 15 | 42                                     | 02.5 | 32.1    | 260                                                                                                                                                                      | 11.7                  | 20.9     | 69                                   | 30      | 5 00                     | 28    | 53            | 43             | 41 | 2 07           | 60 |   |
| 16 | 57                                     | 02.7 | 31.1    | 274                                                                                                                                                                      | 40.7                  | 13.9     | 70                                   | 35      | 4 53                     | 23    | 49            | 16 57          | 38 | 1 53           | 62 |   |
| 17 | 72                                     | 02.8 | -6 30.2 | 289                                                                                                                                                                      | 09.7                  | +24 06.8 | 71                                   | 40      | 4 45                     | 5 17  | 5 45          | 17 13          | 35 | 1 35           | 65 |   |
| 18 | 87                                     | 02.9 | -6 29.2 | 303                                                                                                                                                                      | 38.8                  | +23 59.5 | 73                                   | 45      | 4 34                     | 5 10  | 5 40          | 17 31          | 32 | 1 15           | 67 |   |
| 19 | 102                                    | 03.1 | 28.2    | 318                                                                                                                                                                      | 07.8                  | 52.1     | 74                                   | 50      | 21                       | 5 01  | 35            | 17 54          | 27 | 0 48           | 72 |   |
| 20 | 117                                    | 03.2 | 27.3    | 332                                                                                                                                                                      | 36.9                  | 44.5     | 76                                   | 52      | 14                       | 4 57  | 32            | 18 05          | 25 | 35             | 74 |   |
| 21 | 132                                    | 03.3 | 26.3    | 347                                                                                                                                                                      | 06.1                  | 36.9     | 76                                   | 54      | 4 07                     | 52    | 29            | 18             | 21 | 21             | 76 |   |
| 22 | 147                                    | 03.5 | 25.4    | 1                                                                                                                                                                        | 35.2                  | 29.1     | 78                                   | 56      | 3 59                     | 47    | 26            | 32             | 18 | 0 03           | 80 |   |
| 23 | 162                                    | 03.6 | 24.4    | 16                                                                                                                                                                       | 04.4                  | 21.1     | 80                                   | 58      | 49                       | 41    | 22            | 18 49          | 14 | ** ** *        | ** |   |
| 24 | 177                                    | 03.7 | -6 23.4 | 30                                                                                                                                                                       | 33.7                  | +23 13.1 | 80                                   | 60 S    | 3 38                     | 4 34  | 5 18          | 19 09          | 8  | ** ** *        | ** |   |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                          |          | SATURNO                                           |      |         |     |      |          |   |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|--------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|---|
|     | PMG: 13 <sup>h</sup> 13 <sup>m</sup> 4 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.1<br>PMG: 16 <sup>h</sup> 17 <sup>m</sup> |     | Mag: -2.5<br>PMG: 0 <sup>h</sup> 19 <sup>m</sup> |          | Mag: -0.1<br>PMG: 19 <sup>h</sup> 40 <sup>m</sup> |      |         |     |      |          |   |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                             | Dec      | hG ♄                                              | Dec  |         |     |      |          |   |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '   | °                                                | '        | °                                                 | '    |         |     |      |          |   |
| 0   | 161                                    | 06.4 | 136                                               | 31.7 | +11 24.0                                          | 115 | 35.3                                             | +18 11.5 | 355                                               | 10.7 | +7 33.8 | 64  | 15.9 | +22 45.9 |   |
| 1   | 176                                    | 08.8 | 151                                               | 31.6 | 25.2                                              | 130 | 36.1                                             | 12.0     | 10                                                | 13.5 | 34.0    | 79  | 18.4 | 45.9     |   |
| 2   | 191                                    | 11.3 | 166                                               | 31.5 | 26.4                                              | 145 | 37.0                                             | 12.5     | 25                                                | 16.3 | 34.1    | 94  | 20.8 | 45.9     |   |
| 3   | 206                                    | 13.8 | 181                                               | 31.3 | 27.6                                              | 160 | 37.8                                             | 12.9     | 40                                                | 19.0 | 34.2    | 109 | 23.3 | 46.0     |   |
| 4   | 221                                    | 16.2 | 196                                               | 31.2 | 28.8                                              | 175 | 38.7                                             | 13.4     | 55                                                | 21.8 | 34.3    | 124 | 25.8 | 46.0     |   |
| 5   | 236                                    | 18.7 | 211                                               | 31.1 | +11 30.0                                          | 190 | 39.5                                             | +18 13.9 | 70                                                | 24.6 | +7 34.5 | 139 | 28.3 | +22 46.0 |   |
| 6   | 251                                    | 21.1 | 226                                               | 31.0 | +11 31.1                                          | 205 | 40.4                                             | +18 14.3 | 85                                                | 27.3 | +7 34.6 | 154 | 30.8 | +22 46.0 |   |
| 7   | 266                                    | 23.6 | 241                                               | 30.8 | 32.3                                              | 220 | 41.2                                             | 14.8     | 100                                               | 30.1 | 34.7    | 169 | 33.3 | 46.0     |   |
| 8   | 281                                    | 26.1 | 256                                               | 30.7 | 33.5                                              | 235 | 42.1                                             | 15.3     | 115                                               | 32.9 | 34.9    | 184 | 35.8 | 46.0     |   |
| 9   | 296                                    | 28.5 | 271                                               | 30.6 | 34.7                                              | 250 | 42.9                                             | 15.7     | 130                                               | 35.6 | 35.0    | 199 | 38.2 | 46.0     |   |
| 10  | 311                                    | 31.0 | 286                                               | 30.4 | 35.9                                              | 265 | 43.8                                             | 16.2     | 145                                               | 38.4 | 35.1    | 214 | 40.7 | 46.0     |   |
| 11  | 326                                    | 33.5 | 301                                               | 30.3 | +11 37.1                                          | 280 | 44.6                                             | +18 16.7 | 160                                               | 41.2 | +7 35.2 | 229 | 43.2 | +22 46.0 |   |
| 12  | 341                                    | 35.9 | 316                                               | 30.2 | +11 38.3                                          | 295 | 45.5                                             | +18 17.1 | 175                                               | 43.9 | +7 35.4 | 244 | 45.7 | +22 46.0 |   |
| 13  | 356                                    | 38.4 | 331                                               | 30.1 | 39.5                                              | 310 | 46.3                                             | 17.6     | 190                                               | 46.7 | 35.5    | 259 | 48.2 | 46.0     |   |
| 14  | 11                                     | 40.9 | 346                                               | 29.9 | 40.7                                              | 325 | 47.2                                             | 18.0     | 205                                               | 49.5 | 35.6    | 274 | 50.7 | 46.0     |   |
| 15  | 26                                     | 43.3 | 1                                                 | 29.8 | 41.9                                              | 340 | 48.0                                             | 18.5     | 220                                               | 52.2 | 35.8    | 289 | 53.2 | 46.0     |   |
| 16  | 41                                     | 45.8 | 16                                                | 29.7 | 43.1                                              | 355 | 48.9                                             | 19.0     | 235                                               | 55.0 | 35.9    | 304 | 55.6 | 46.0     |   |
| 17  | 56                                     | 48.2 | 31                                                | 29.5 | +11 44.2                                          | 10  | 49.7                                             | +18 19.4 | 250                                               | 57.8 | +7 36.0 | 319 | 58.1 | +22 46.1 |   |
| 18  | 71                                     | 50.7 | 46                                                | 29.4 | +11 45.4                                          | 25  | 50.6                                             | +18 19.9 | 266                                               | 00.5 | +7 36.1 | 335 | 00.6 | +22 46.1 |   |
| 19  | 86                                     | 53.2 | 61                                                | 29.3 | 46.6                                              | 40  | 51.4                                             | 20.4     | 281                                               | 03.3 | 36.3    | 350 | 03.1 | 46.1     |   |
| 20  | 101                                    | 55.6 | 76                                                | 29.2 | 47.8                                              | 55  | 52.3                                             | 20.8     | 296                                               | 06.1 | 36.4    | 5   | 05.6 | 46.1     |   |
| 21  | 116                                    | 58.1 | 91                                                | 29.0 | 49.0                                              | 70  | 53.1                                             | 21.3     | 311                                               | 08.8 | 36.5    | 20  | 08.1 | 46.1     |   |
| 22  | 132                                    | 00.6 | 106                                               | 28.9 | 50.2                                              | 85  | 54.0                                             | 21.7     | 326                                               | 11.6 | 36.7    | 35  | 10.5 | 46.1     |   |
| 23  | 147                                    | 03.0 | 121                                               | 28.8 | 51.4                                              | 100 | 54.8                                             | 22.2     | 341                                               | 14.4 | 36.8    | 50  | 13.0 | 46.1     |   |
| 24  | 162                                    | 05.5 | 136                                               | 28.7 | +11 52.5                                          | 115 | 55.7                                             | +18 22.7 | 356                                               | 17.1 | +7 36.9 | 65  | 15.5 | +22 46.1 |   |
| Dif | —                                      |      | -1                                                | +12  |                                                   | +8  | +5                                               |          | +28                                               |      | +1      |     | +25  |          | 0 |

| UT  | SOL                                      |      |                                                   | ☾ LUNA                                                                                                                                                                |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       |         | Salida de Luna                                    |       | Puesta de Luna |    |
|-----|------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|---------|---------------------------------------------------|-------|----------------|----|
|     | SD: 16 <sup>h</sup> 1                    |      |                                                   | Edad: 12 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 56 <sup>h</sup> 0<br>12 <sup>h</sup> : 56 <sup>h</sup> 2<br>20 <sup>h</sup> : 56 <sup>h</sup> 4<br>R°: 48 <sup>m</sup> |                     |                                                   |         |               |                                                  |       |         |                                                   |       |                |    |
|     | PMG: 12 <sup>h</sup> 11 <sup>m</sup> 6   |      |                                                   | SD: 15 <sup>h</sup> 2<br>PMG: 22 <sup>h</sup> 44 <sup>m</sup>                                                                                                         |                     |                                                   |         |               |                                                  |       |         |                                                   |       |                |    |
|     | hG ☉                                     | Dec  |                                                   | hG ☾                                                                                                                                                                  | Dif                 | Dec                                               | Dif     |               |                                                  | Civil | Náutico | Hora                                              | R°    | Hora           | R° |
| h   | °                                        | '    | °                                                 | °                                                                                                                                                                     | '                   | °                                                 | '       | °             | h m                                              | h m   | h m     | h m                                               | m     | h m            | m  |
| 0   | 177                                      | 03.7 | -6 23.4                                           | 30                                                                                                                                                                    | 33.7                | +23 13.1                                          | 82      | 60 N          | 17 36                                            | 18 17 | 19 06   | 13 38                                             | 97    | 7 11           | 6  |
| 1   | 192                                      | 03.9 |                                                   | 45                                                                                                                                                                    | 02.9 <sup>102</sup> | +23 04.9                                          | 82      | 58            | 39                                               | 18    | 03      | 13 54                                             | 91    | 6 54           | 11 |
| 2   | 207                                      | 04.0 |                                                   | 59                                                                                                                                                                    | 32.2 <sup>103</sup> | +22 56.6                                          | 83      | 56            | 41                                               | 18    | 01      | 14 08                                             | 87    | 40             | 15 |
| 3   | 222                                      | 04.2 |                                                   | 74                                                                                                                                                                    | 01.6 <sup>104</sup> |                                                   | 84      | 54            | 43                                               | 19    | 00      | 20                                                | 83    | 27             | 19 |
| 4   | 237                                      | 04.3 |                                                   | 88                                                                                                                                                                    | 30.9 <sup>103</sup> |                                                   | 85      | 52            | 46                                               | 19    | 58      | 30                                                | 80    | 17             | 21 |
| 5   | 252                                      | 04.4 | -6 18.6                                           | 103                                                                                                                                                                   | 00.3 <sup>104</sup> | +22 31.0                                          | 87      | 50            | 17 48                                            | 18 20 | 18 57   | 14 39                                             | 78    | 6 07           | 23 |
| 6   | 267                                      | 04.6 | -6 17.7                                           | 117                                                                                                                                                                   | 29.8 <sup>105</sup> | +22 22.2                                          | 88      | 45            | 17 52                                            | 18 21 | 18 55   | 14 59                                             | 72    | 5 46           | 29 |
| 7   | 282                                      | 04.7 |                                                   | 131                                                                                                                                                                   | 59.3 <sup>105</sup> |                                                   | 89      | 40            | 55                                               | 22    | 54      | 15 15                                             | 68    | 29             | 33 |
| 8   | 297                                      | 04.8 |                                                   | 146                                                                                                                                                                   | 28.8 <sup>105</sup> | +22 04.3                                          | 90      | 35            | 17 59                                            | 24    | 53      | 28                                                | 65    | 15             | 36 |
| 9   | 312                                      | 05.0 |                                                   | 160                                                                                                                                                                   | 58.3 <sup>105</sup> | +21 55.2                                          | 91      | 30            | 18 01                                            | 25    | 53      | 39                                                | 62    | 5 03           | 38 |
| 10  | 327                                      | 05.1 |                                                   | 175                                                                                                                                                                   | 27.9 <sup>106</sup> |                                                   | 93      | 20            | 06                                               | 28    | 54      | 15 59                                             | 57    | 4 42           | 42 |
| 11  | 342                                      | 05.3 | -6 12.8                                           | 189                                                                                                                                                                   | 57.6 <sup>107</sup> | +21 36.5                                          | 94      | 10 N          | 18 11                                            | 18 32 | 18 56   | 16 16                                             | 53    | 4 23           | 46 |
| 12  | 357                                      | 05.4 | -6 11.9                                           | 204                                                                                                                                                                   | 27.2 <sup>106</sup> | +21 27.0                                          | 95      | 0             | 18 15                                            | 18 36 | 19 00   | 16 32                                             | 49    | 4 06           | 50 |
| 13  | 12                                       | 05.5 |                                                   | 218                                                                                                                                                                   | 56.9 <sup>107</sup> |                                                   | 96      | 10 S          | 19                                               | 40    | 05      | 16 48                                             | 45    | 3 48           | 53 |
| 14  | 27                                       | 05.7 |                                                   | 233                                                                                                                                                                   | 26.7 <sup>108</sup> | +21 07.7                                          | 97      | 20            | 24                                               | 46    | 12      | 17 04                                             | 42    | 29             | 57 |
| 15  | 42                                       | 05.8 |                                                   | 247                                                                                                                                                                   | 56.4 <sup>107</sup> | +20 57.8                                          | 99      | 30            | 30                                               | 54    | 22      | 24                                                | 36    | 3 07           | 62 |
| 16  | 57                                       | 06.0 |                                                   | 262                                                                                                                                                                   | 26.3 <sup>109</sup> |                                                   | 99      | 35            | 33                                               | 18 58 | 29      | 35                                                | 33    | 2 55           | 64 |
| 17  | 72                                       | 06.1 | -6 07.1                                           | 276                                                                                                                                                                   | 56.1 <sup>108</sup> | +20 37.8                                          | 101     | 40            | 18 37                                            | 19 04 | 19 37   | 17 48                                             | 30    | 2 40           | 67 |
| 18  | 87                                       | 06.2 | -6 06.1                                           | 291                                                                                                                                                                   | 26.0 <sup>109</sup> | +20 27.6                                          | 102     | 45            | 18 41                                            | 19 11 | 19 46   | 18 03                                             | 26    | 2 22           | 71 |
| 19  | 102                                      | 06.4 |                                                   | 305                                                                                                                                                                   | 55.9 <sup>109</sup> |                                                   | 103     | 50            | 46                                               | 19    | 59      | 21 21                                             | 2     | 2 00           | 76 |
| 20  | 117                                      | 06.5 |                                                   | 320                                                                                                                                                                   | 25.9 <sup>110</sup> | +20 06.9                                          | 104     | 52            | 48                                               | 23    | 20 05   | 30                                                | 18    | 1 49           | 79 |
| 21  | 132                                      | 06.7 |                                                   | 334                                                                                                                                                                   | 55.9 <sup>110</sup> | +19 56.4                                          | 105     | 54            | 51                                               | 28    | 12      | 39                                                | 16    | 37             | 82 |
| 22  | 147                                      | 06.8 |                                                   | 349                                                                                                                                                                   | 26.0 <sup>111</sup> |                                                   | 106     | 56            | 54                                               | 32    | 20      | 18 50                                             | 13    | 23             | 86 |
| 23  | 162                                      | 06.9 |                                                   | 3                                                                                                                                                                     | 56.1 <sup>111</sup> |                                                   | 108     | 58            | 18 57                                            | 38    | 29      | 19 03                                             | 8     | 1 07           | 90 |
| 24  | 177                                      | 07.1 | -6 00.3                                           | 18                                                                                                                                                                    | 26.2 <sup>111</sup> | +19 24.2                                          | 108     | 60 S          | 19 01                                            | 19 45 | 20 40   | 19 17                                             | 4     | 0 47           | 97 |
| UT  | ARIES                                    |      | VENUS                                             |                                                                                                                                                                       |                     | MARTE                                             |         |               | JÚPITER                                          |       |         | SATURNO                                           |       |                |    |
|     | PMG<br>13 <sup>h</sup> 09 <sup>m</sup> 5 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |                                                                                                                                                                       |                     | Mag: +1.1<br>PMG: 16 <sup>h</sup> 15 <sup>m</sup> |         |               | Mag: -2.5<br>PMG: 0 <sup>h</sup> 15 <sup>m</sup> |       |         | Mag: -0.1<br>PMG: 19 <sup>h</sup> 36 <sup>m</sup> |       |                |    |
|     | hG ♈                                     | hG ♀ |                                                   | Dec                                                                                                                                                                   |                     | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |         | hG ♄                                              | Dec   |                |    |
| h   | °                                        | '    | °                                                 | '                                                                                                                                                                     | °                   | °                                                 | '       | °             | °                                                | '     | °       | °                                                 | '     | °              |    |
| 0   | 162                                      | 05.5 | 136                                               | 28.7                                                                                                                                                                  | +11 52.5            | 115                                               | 55.7    | +18 22.7      | 356                                              | 17.1  | +7 36.9 | 65                                                | 15.5  | +22 46.1       |    |
| 1   | 177                                      | 08.0 | 151                                               | 28.5                                                                                                                                                                  | 53.7                | 130                                               | 56.5    | 23.1          | 11                                               | 19.9  | 37.0    | 80                                                | 18.0  | 46.1           |    |
| 2   | 192                                      | 10.4 | 166                                               | 28.4                                                                                                                                                                  | 54.9                | 145                                               | 57.4    | 23.6          | 26                                               | 22.7  | 37.2    | 95                                                | 20.5  | 46.1           |    |
| 3   | 207                                      | 12.9 | 181                                               | 28.3                                                                                                                                                                  | 56.1                | 160                                               | 58.2    | 24.0          | 41                                               | 25.4  | 37.3    | 110                                               | 23.0  | 46.1           |    |
| 4   | 222                                      | 15.4 | 196                                               | 28.1                                                                                                                                                                  | 57.3                | 175                                               | 59.0    | 24.5          | 56                                               | 28.2  | 37.4    | 125                                               | 25.4  | 46.1           |    |
| 5   | 237                                      | 17.8 | 211                                               | 28.0                                                                                                                                                                  | +11 58.5            | 190                                               | 59.9    | +18 25.0      | 71                                               | 31.0  | +7 37.6 | 140                                               | 27.9  | +22 46.1       |    |
| 6   | 252                                      | 20.3 | 226                                               | 27.9                                                                                                                                                                  | +11 59.6            | 206                                               | 00.7    | +18 25.4      | 86                                               | 33.7  | +7 37.7 | 155                                               | 30.4  | +22 46.2       |    |
| 7   | 267                                      | 22.7 | 241                                               | 27.8                                                                                                                                                                  | +12 00.8            | 221                                               | 01.6    | 25.9          | 101                                              | 36.5  | 37.8    | 170                                               | 32.9  | 46.2           |    |
| 8   | 282                                      | 25.2 | 256                                               | 27.6                                                                                                                                                                  | 02.0                | 236                                               | 02.4    | 26.3          | 116                                              | 39.3  | 37.9    | 185                                               | 35.4  | 46.2           |    |
| 9   | 297                                      | 27.7 | 271                                               | 27.5                                                                                                                                                                  | 03.2                | 251                                               | 03.3    | 26.8          | 131                                              | 42.0  | 38.1    | 200                                               | 37.8  | 46.2           |    |
| 10  | 312                                      | 30.1 | 286                                               | 27.4                                                                                                                                                                  | 04.4                | 266                                               | 04.1    | 27.3          | 146                                              | 44.8  | 38.2    | 215                                               | 40.3  | 46.2           |    |
| 11  | 327                                      | 32.6 | 301                                               | 27.2                                                                                                                                                                  | +12 05.5            | 281                                               | 05.0    | +18 27.7      | 161                                              | 47.6  | +7 38.3 | 230                                               | 42.8  | +22 46.2       |    |
| 12  | 342                                      | 35.1 | 316                                               | 27.1                                                                                                                                                                  | +12 06.7            | 296                                               | 05.8    | +18 28.2      | 176                                              | 50.3  | +7 38.5 | 245                                               | 45.3  | +22 46.2       |    |
| 13  | 357                                      | 37.5 | 331                                               | 27.0                                                                                                                                                                  | 07.9                | 311                                               | 06.7    | 28.6          | 191                                              | 53.1  | 38.6    | 260                                               | 47.8  | 46.2           |    |
| 14  | 12                                       | 40.0 | 346                                               | 26.9                                                                                                                                                                  | 09.1                | 326                                               | 07.5    | 29.1          | 206                                              | 55.9  | 38.7    | 275                                               | 50.2  | 46.2           |    |
| 15  | 27                                       | 42.5 | 1                                                 | 26.7                                                                                                                                                                  | 10.3                | 341                                               | 08.3    | 29.5          | 221                                              | 58.6  | 38.8    | 290                                               | 52.7  | 46.2           |    |
| 16  | 42                                       | 44.9 | 16                                                | 26.6                                                                                                                                                                  | 11.4                | 356                                               | 09.2    | 30.0          | 237                                              | 01.4  | 39.0    | 305                                               | 55.2  | 46.2           |    |
| 17  | 57                                       | 47.4 | 31                                                | 26.5                                                                                                                                                                  | +12 12.6            | 11                                                | 10.0    | +18 30.5      | 252                                              | 04.2  | +7 39.1 | 320                                               | 57.7  | +22 46.2       |    |
| 18  | 72                                       | 49.9 | 46                                                | 26.4                                                                                                                                                                  | +12 13.8            | 26                                                | 10.9    | +18 30.9      | 267                                              | 06.9  | +7 39.2 | 336                                               | 00.2  | +22 46.2       |    |
| 19  | 87                                       | 52.3 | 61                                                | 26.2                                                                                                                                                                  | 15.0                | 41                                                | 11.7    | 31.4          | 282                                              | 09.7  | 39.4    | 351                                               | 02.6  | 46.2           |    |
| 20  | 102                                      | 54.8 | 76                                                | 26.1                                                                                                                                                                  | 16.1                | 56                                                | 12.6    | 31.8          | 297                                              | 12.5  | 39.5    | 6                                                 | 05.1  | 46.3           |    |
| 21  | 117                                      | 57.2 | 91                                                | 26.0                                                                                                                                                                  | 17.3                | 71                                                | 13.4    | 32.3          | 312                                              | 15.2  | 39.6    | 21                                                | 07.6  | 46.3           |    |
| 22  | 132                                      | 59.7 | 106                                               | 25.8                                                                                                                                                                  | 18.5                | 86                                                | 14.2    | 32.7          | 327                                              | 18.0  | 39.7    | 36                                                | 10.1  | 46.3           |    |
| 23  | 148                                      | 02.2 | 121                                               | 25.7                                                                                                                                                                  | 19.7                | 101                                               | 15.1    | 33.2          | 342                                              | 20.8  | 39.9    | 51                                                | 12.5  | 46.3           |    |
| 24  | 163                                      | 04.6 | 136                                               | 25.6                                                                                                                                                                  | +12 20.8            | 116                                               | 15.9    | +18 33.6      | 357                                              | 23.5  | +7 40.0 | 66                                                | 15.0  | +22 46.3       |    |
| Dif | —                                        |      | -1 +12                                            |                                                                                                                                                                       | +8 +5               |                                                   |         |               | +28 +1                                           |       |         |                                                   | +25 0 |                |    |

| UT | SOL                                    |      |         | LUNA                    |                                                                                                                           |                         | Latitud | Principio del crepúsculo             |         | Salida de Sol | Salida de Luna      |       | Puesta de Luna |      |    |
|----|----------------------------------------|------|---------|-------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------------------|---------|--------------------------------------|---------|---------------|---------------------|-------|----------------|------|----|
|    | SD: 16 <sup>h</sup> 1                  |      |         | Edad: 13 <sup>d</sup> 6 | PHE {<br>4 <sup>h</sup> : 56 <sup>m</sup> 6<br>12 <sup>h</sup> : 56 <sup>m</sup> 8<br>20 <sup>h</sup> : 57 <sup>m</sup> 0 |                         |         |                                      |         |               |                     |       |                |      |    |
|    | PMG: 12 <sup>h</sup> 11 <sup>m</sup> 4 |      |         |                         |                                                                                                                           | SD: 15 <sup>h</sup> 4   |         | PMG: 23 <sup>h</sup> 32 <sup>m</sup> |         |               | R°: 48 <sup>m</sup> |       |                |      |    |
|    | hG ☉                                   | Dec  |         | hG ☾                    | Dif                                                                                                                       | Dec                     | Dif     |                                      | Náutico | Civil         |                     | Hora  | R°             | Hora | R° |
| h  | °                                      | '    | °       | °                       | '                                                                                                                         | °                       | '       | °                                    | h       | m             | h                   | m     | h              | m    | m  |
| 0  | 177                                    | 07.1 | -6 00.3 | 18                      | 26.2                                                                                                                      | +19 24.2                |         | 60 N                                 | 5 16    | 6 04          | 6 46                | 15 15 | 95             | 7 17 | 3  |
| 1  | 192                                    | 07.2 | -5 59.3 | 32                      | 56.3 <sup>111</sup>                                                                                                       | 13.2 <sup>110</sup>     |         | 58                                   | 19      | 04            | 43                  | 25    | 92             | 7 05 | 7  |
| 2  | 207                                    | 07.4 |         | 47                      | 26.6 <sup>113</sup>                                                                                                       | +19 02.2 <sup>110</sup> |         | 56                                   | 21      | 04            | 41                  | 35    | 87             | 6 55 | 11 |
| 3  | 222                                    | 07.5 |         | 61                      | 56.8 <sup>112</sup>                                                                                                       | +18 51.0 <sup>112</sup> |         | 54                                   | 22      | 03            | 38                  | 43    | 84             | 46   | 14 |
| 4  | 237                                    | 07.7 |         | 76                      | 27.1 <sup>113</sup>                                                                                                       | 39.8 <sup>112</sup>     |         | 52                                   | 24      | 03            | 36                  | 50    | 82             | 38   | 17 |
| 5  | 252                                    | 07.8 | -5 55.5 | 90                      | 57.4 <sup>113</sup>                                                                                                       | +18 28.4 <sup>114</sup> |         | 50                                   | 5 25    | 6 02          | 6 35                | 15 57 | 79             | 6 30 | 20 |
| 6  | 267                                    | 07.9 | -5 54.5 | 105                     | 27.8 <sup>114</sup>                                                                                                       | +18 16.9 <sup>115</sup> |         | 45                                   | 5 27    | 6 01          | 6 30                | 16 11 | 73             | 6 15 | 24 |
| 7  | 282                                    | 08.1 |         | 119                     | 58.2 <sup>114</sup>                                                                                                       | +18 05.3 <sup>116</sup> |         | 40                                   | 29      | 6 00          | 27                  | 23    | 69             | 6 02 | 28 |
| 8  | 297                                    | 08.2 |         | 134                     | 28.6 <sup>114</sup>                                                                                                       | +17 53.7 <sup>116</sup> |         | 35                                   | 29      | 5 59          | 24                  | 33    | 65             | 5 51 | 32 |
| 9  | 312                                    | 08.4 |         | 148                     | 59.1 <sup>115</sup>                                                                                                       | 41.9 <sup>118</sup>     |         | 30                                   | 30      | 57            | 21                  | 41    | 62             | 41   | 35 |
| 10 | 327                                    | 08.5 |         | 163                     | 29.6 <sup>115</sup>                                                                                                       | 30.0 <sup>119</sup>     |         | 20                                   | 29      | 54            | 17                  | 16 56 | 57             | 24   | 40 |
| 11 | 342                                    | 08.7 | -5 49.7 | 178                     | 00.1 <sup>115</sup>                                                                                                       | +17 18.1 <sup>119</sup> |         | 10 N                                 | 5 27    | 5 51          | 6 12                | 17 09 | 52             | 5 09 | 45 |
| 12 | 357                                    | 08.8 | -5 48.7 | 192                     | 30.7 <sup>116</sup>                                                                                                       | +17 06.0 <sup>121</sup> |         | 0                                    | 5 23    | 5 47          | 6 08                | 17 21 | 48             | 4 56 | 48 |
| 13 | 12                                     | 08.9 |         | 207                     | 01.3 <sup>116</sup>                                                                                                       | +16 53.8 <sup>122</sup> |         | 10 S                                 | 18      | 43            | 6 04                | 33    | 43             | 41   | 53 |
| 14 | 27                                     | 09.1 |         | 221                     | 32.0 <sup>117</sup>                                                                                                       | 41.6 <sup>122</sup>     |         | 20                                   | 11      | 37            | 5 59                | 17 46 | 38             | 26   | 57 |
| 15 | 42                                     | 09.2 |         | 236                     | 02.7 <sup>117</sup>                                                                                                       | 29.2 <sup>124</sup>     |         | 30                                   | 5 01    | 30            | 54                  | 18 00 | 33             | 4 09 | 62 |
| 16 | 57                                     | 09.4 |         | 250                     | 33.4 <sup>117</sup>                                                                                                       | 16.8 <sup>124</sup>     |         | 35                                   | 4 55    | 25            | 51                  | 08    | 31             | 3 59 | 65 |
| 17 | 72                                     | 09.5 | -5 43.8 | 265                     | 04.2 <sup>118</sup>                                                                                                       | +16 04.3 <sup>125</sup> |         | 40                                   | 4 47    | 5 20          | 5 47                | 18 18 | 27             | 3 47 | 69 |
| 18 | 87                                     | 09.7 | -5 42.9 | 279                     | 35.0 <sup>118</sup>                                                                                                       | +15 51.6 <sup>127</sup> |         | 45                                   | 4 37    | 5 13          | 5 43                | 18 29 | 23             | 3 33 | 73 |
| 19 | 102                                    | 09.8 |         | 294                     | 05.8 <sup>118</sup>                                                                                                       | 38.9 <sup>127</sup>     |         | 50                                   | 25      | 05            | 38                  | 42    | 18             | 16   | 79 |
| 20 | 117                                    | 10.0 |         | 308                     | 36.7 <sup>119</sup>                                                                                                       | 26.1 <sup>128</sup>     |         | 52                                   | 19      | 5 01          | 35                  | 48    | 16             | 3 08 | 81 |
| 21 | 132                                    | 10.1 |         | 323                     | 07.6 <sup>119</sup>                                                                                                       | 13.2 <sup>129</sup>     |         | 54                                   | 12      | 4 56          | 33                  | 18 55 | 13             | 2 59 | 84 |
| 22 | 147                                    | 10.3 |         | 337                     | 38.5 <sup>119</sup>                                                                                                       | +15 00.2 <sup>130</sup> |         | 56                                   | 4 04    | 52            | 30                  | 19 03 | 9              | 49   | 87 |
| 23 | 162                                    | 10.4 |         | 352                     | 09.5 <sup>120</sup>                                                                                                       | +14 47.2 <sup>130</sup> |         | 58                                   | 3 55    | 46            | 27                  | 11    | 6              | 37   | 92 |
| 24 | 177                                    | 10.5 | -5 37.1 | 6                       | 40.5 <sup>120</sup>                                                                                                       | +14 34.0 <sup>132</sup> |         | 60 S                                 | 3 44    | 4 40          | 5 23                | 19 21 | 2              | 2 24 | 96 |

| UT  | ARIES                                    |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                           |     |      |         |      |      |          |          |
|-----|------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|------|---------|------|------|----------|----------|
|     | PMG<br>13 <sup>h</sup> 05 <sup>m</sup> 5 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.2<br>PMG: 16 <sup>h</sup> 14 <sup>m</sup> |      | Mag: -2.5<br>PMG: 0 <sup>h</sup> 10 <sup>m</sup> |      | Mag: -0.1<br>PMG: 19 <sup>h</sup> 32 <sup>m</sup> |     |      |         |      |      |          |          |
|     | hG ♈                                     |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                              | Dec |      |         |      |      |          |          |
| h   | °                                        | '    | °                                                 | '    | °                                                 | '    | °                                                | '    | °                                                 | '   |      |         |      |      |          |          |
| 0   | 163                                      | 04.6 | 136                                               | 25.6 | +12 20.8                                          |      | 116                                              | 15.9 | +18 33.6                                          | 357 | 23.5 | +7 40.0 | 66   | 15.0 | +22 46.3 |          |
| 1   | 178                                      | 07.1 | 151                                               | 25.5 |                                                   | 22.0 | 131                                              | 16.8 | 34.1                                              | 12  | 26.3 |         | 40.1 | 81   | 17.5     | 46.3     |
| 2   | 193                                      | 09.6 | 166                                               | 25.3 |                                                   | 23.2 | 146                                              | 17.6 | 34.6                                              | 27  | 29.1 |         | 40.3 | 96   | 20.0     | 46.3     |
| 3   | 208                                      | 12.0 | 181                                               | 25.2 |                                                   | 24.4 | 161                                              | 18.5 | 35.0                                              | 42  | 31.8 |         | 40.4 | 111  | 22.5     | 46.3     |
| 4   | 223                                      | 14.5 | 196                                               | 25.1 |                                                   | 25.5 | 176                                              | 19.3 | 35.5                                              | 57  | 34.6 |         | 40.5 | 126  | 24.9     | 46.3     |
| 5   | 238                                      | 17.0 | 211                                               | 25.0 | +12 26.7                                          |      | 191                                              | 20.1 | +18 35.9                                          | 72  | 37.4 | +7 40.6 |      | 141  | 27.4     | +22 46.3 |
| 6   | 253                                      | 19.4 | 226                                               | 24.8 | +12 27.9                                          |      | 206                                              | 21.0 | +18 36.4                                          | 87  | 40.2 | +7 40.8 |      | 156  | 29.9     | +22 46.3 |
| 7   | 268                                      | 21.9 | 241                                               | 24.7 |                                                   | 29.0 | 221                                              | 21.8 | 36.8                                              | 102 | 42.9 |         | 40.9 | 171  | 32.4     | 46.3     |
| 8   | 283                                      | 24.3 | 256                                               | 24.6 |                                                   | 30.2 | 236                                              | 22.7 | 37.3                                              | 117 | 45.7 |         | 41.0 | 186  | 34.8     | 46.3     |
| 9   | 298                                      | 26.8 | 271                                               | 24.4 |                                                   | 31.4 | 251                                              | 23.5 | 37.7                                              | 132 | 48.5 |         | 41.1 | 201  | 37.3     | 46.3     |
| 10  | 313                                      | 29.3 | 286                                               | 24.3 |                                                   | 32.5 | 266                                              | 24.4 | 38.2                                              | 147 | 51.2 |         | 41.3 | 216  | 39.8     | 46.4     |
| 11  | 328                                      | 31.7 | 301                                               | 24.2 | +12 33.7                                          |      | 281                                              | 25.2 | +18 38.6                                          | 162 | 54.0 | +7 41.4 |      | 231  | 42.3     | +22 46.4 |
| 12  | 343                                      | 34.2 | 316                                               | 24.1 | +12 34.9                                          |      | 296                                              | 26.0 | +18 39.1                                          | 177 | 56.8 | +7 41.5 |      | 246  | 44.7     | +22 46.4 |
| 13  | 358                                      | 36.7 | 331                                               | 23.9 |                                                   | 36.1 | 311                                              | 26.9 | 39.5                                              | 192 | 59.5 |         | 41.7 | 261  | 47.2     | 46.4     |
| 14  | 13                                       | 39.1 | 346                                               | 23.8 |                                                   | 37.2 | 326                                              | 27.7 | 40.0                                              | 208 | 02.3 |         | 41.8 | 276  | 49.7     | 46.4     |
| 15  | 28                                       | 41.6 | 1                                                 | 23.7 |                                                   | 38.4 | 341                                              | 28.6 | 40.4                                              | 223 | 05.1 |         | 41.9 | 291  | 52.2     | 46.4     |
| 16  | 43                                       | 44.1 | 16                                                | 23.6 |                                                   | 39.6 | 356                                              | 29.4 | 40.9                                              | 238 | 07.8 |         | 42.0 | 306  | 54.6     | 46.4     |
| 17  | 58                                       | 46.5 | 31                                                | 23.4 | +12 40.7                                          |      | 11                                               | 30.2 | +18 41.3                                          | 253 | 10.6 | +7 42.2 |      | 321  | 57.1     | +22 46.4 |
| 18  | 73                                       | 49.0 | 46                                                | 23.3 | +12 41.9                                          |      | 26                                               | 31.1 | +18 41.8                                          | 268 | 13.4 | +7 42.3 |      | 336  | 59.6     | +22 46.4 |
| 19  | 88                                       | 51.5 | 61                                                | 23.2 |                                                   | 43.0 | 41                                               | 31.9 | 42.2                                              | 283 | 16.1 |         | 42.4 | 352  | 02.1     | 46.4     |
| 20  | 103                                      | 53.9 | 76                                                | 23.0 |                                                   | 44.2 | 56                                               | 32.8 | 42.7                                              | 298 | 18.9 |         | 42.6 | 7    | 04.5     | 46.4     |
| 21  | 118                                      | 56.4 | 91                                                | 22.9 |                                                   | 45.4 | 71                                               | 33.6 | 43.1                                              | 313 | 21.7 |         | 42.7 | 22   | 07.0     | 46.4     |
| 22  | 133                                      | 58.8 | 106                                               | 22.8 |                                                   | 46.5 | 86                                               | 34.5 | 43.6                                              | 328 | 24.4 |         | 42.8 | 37   | 09.5     | 46.4     |
| 23  | 149                                      | 01.3 | 121                                               | 22.7 |                                                   | 47.7 | 101                                              | 35.3 | 44.0                                              | 343 | 27.2 |         | 42.9 | 52   | 11.9     | 46.4     |
| 24  | 164                                      | 03.8 | 136                                               | 22.5 | +12 48.9                                          |      | 116                                              | 36.1 | +18 44.5                                          | 358 | 30.0 | +7 43.1 |      | 67   | 14.4     | +22 46.4 |
| Dif | —                                        |      | -1                                                |      | +12                                               |      | +8                                               |      | +5                                                | +28 |      | +1      |      | +25  |          |          |

| UT  | SOL                                                             |      |                                                   | ☉ LUNA                                                                 |     |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                   | Puesta de Luna |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------------------------------------------------------------------------|-----|---------------------------------------------------|-------------------------|---------------|--------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|------|
|     | SD: 16 <sup>h</sup> 1<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> 2 |      |                                                   | Edad: 14 <sup>d</sup> 6 PHE {<br>SD: 15 <sup>h</sup> 6<br>PMG: *** **m |     |                                                   |                         |               | Civíl                                            |       | Náutico        |                                                   | Hora Rº        |      |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                   | Dif | Dec                                               |                         |               | Dif                                              |       |                |                                                   |                |      |
| h   | °                                                               | '    | °                                                 | '                                                                      | °   | '                                                 | °                       | h m           | h m                                              | h m   | h m            | h m                                               | h m            | h m  |
| 0   | 177                                                             | 10.5 | -5                                                | 37.1                                                                   | 6   | 40.5                                              | +14 34.0                | 60 N          | 17 41                                            | 18 22 | 19 11          | 16 50 96                                          | 7 20 2         |      |
| 1   | 192                                                             | 10.7 |                                                   | 36.1                                                                   | 21  | 11.5 <sup>120</sup>                               | 20.8 <sup>132</sup>     | 58            | 43                                               | 22    | 08             | 16 57 91                                          | 12 6           |      |
| 2   | 207                                                             | 10.8 |                                                   | 35.1                                                                   | 35  | 42.6 <sup>121</sup>                               | +14 07.5 <sup>133</sup> | 56            | 45                                               | 23    | 06             | 17 02 88                                          | 06 9           |      |
| 3   | 222                                                             | 11.0 |                                                   | 34.2                                                                   | 50  | 13.7 <sup>121</sup>                               | +13 54.1 <sup>134</sup> | 54            | 47                                               | 23    | 04             | 07 85                                             | 7 00 11        |      |
| 4   | 237                                                             | 11.1 |                                                   | 33.2                                                                   | 64  | 44.8 <sup>121</sup>                               | 40.6 <sup>135</sup>     | 52            | 49                                               | 23    | 02             | 12 81                                             | 6 55 14        |      |
| 5   | 252                                                             | 11.3 | -5                                                | 32.2                                                                   | 79  | 16.0 <sup>122</sup>                               | +13 27.1 <sup>135</sup> | 50            | 17 51                                            | 18 23 | 19 01          | 17 16 79                                          | 6 50 16        |      |
| 6   | 267                                                             | 11.4 | -5                                                | 31.2                                                                   | 93  | 47.2 <sup>122</sup>                               | +13 13.4 <sup>137</sup> | 45            | 17 54                                            | 18 24 | 18 58          | 17 24 74                                          | 6 39 22        |      |
| 7   | 282                                                             | 11.6 |                                                   | 30.3                                                                   | 108 | 18.4 <sup>122</sup>                               | +12 59.7 <sup>137</sup> | 40            | 17 58                                            | 25    | 56             | 32 69                                             | 30 26          |      |
| 8   | 297                                                             | 11.7 |                                                   | 29.3                                                                   | 122 | 49.6 <sup>122</sup>                               | 45.9 <sup>138</sup>     | 35            | 18 00                                            | 26    | 55             | 38 65                                             | 23 29          |      |
| 9   | 312                                                             | 11.9 |                                                   | 28.3                                                                   | 137 | 20.9 <sup>123</sup>                               | 32.1 <sup>138</sup>     | 30            | 03                                               | 27    | 54             | 43 63                                             | 16 32          |      |
| 10  | 327                                                             | 12.0 |                                                   | 27.4                                                                   | 151 | 52.2 <sup>123</sup>                               | 18.2 <sup>139</sup>     | 20            | 07                                               | 29    | 55             | 17 53 56                                          | 6 04 38        |      |
| 11  | 342                                                             | 12.2 | -5                                                | 26.4                                                                   | 166 | 23.5 <sup>123</sup>                               | +12 04.2 <sup>140</sup> | 10 N          | 18 11                                            | 18 32 | 18 56          | 18 01 51                                          | 5 54 42        |      |
| 12  | 357                                                             | 12.3 | -5                                                | 25.4                                                                   | 180 | 54.9 <sup>124</sup>                               | +11 50.1 <sup>141</sup> | 0             | 18 14                                            | 18 35 | 18 59          | 18 09 46                                          | 5 44 47        |      |
| 13  | 12                                                              | 12.5 |                                                   | 24.5                                                                   | 195 | 26.3 <sup>124</sup>                               | 35.9 <sup>142</sup>     | 10 S          | 18                                               | 39    | 19 04          | 16 42                                             | 34 52          |      |
| 14  | 27                                                              | 12.6 |                                                   | 23.5                                                                   | 209 | 57.7 <sup>124</sup>                               | 21.7 <sup>142</sup>     | 20            | 22                                               | 45    | 10             | 24 38                                             | 23 57          |      |
| 15  | 42                                                              | 12.8 |                                                   | 22.5                                                                   | 224 | 29.1 <sup>124</sup>                               | +11 07.4 <sup>143</sup> | 30            | 27                                               | 51    | 20             | 33 32                                             | 11 62          |      |
| 16  | 57                                                              | 12.9 |                                                   | 21.5                                                                   | 239 | 00.5 <sup>124</sup>                               | +10 53.1 <sup>143</sup> | 35            | 30                                               | 18 56 | 26             | 39 28                                             | 5 04 65        |      |
| 17  | 72                                                              | 13.1 | -5                                                | 20.6                                                                   | 253 | 32.0 <sup>125</sup>                               | +10 38.7 <sup>144</sup> | 40            | 18 33                                            | 19 01 | 19 33          | 18 45 25                                          | 4 56 69        |      |
| 18  | 87                                                              | 13.2 | -5                                                | 19.6                                                                   | 268 | 03.5 <sup>125</sup>                               | +10 24.2 <sup>145</sup> | 45            | 18 37                                            | 19 07 | 19 42          | 18 52 20                                          | 4 46 74        |      |
| 19  | 102                                                             | 13.4 |                                                   | 18.6                                                                   | 282 | 35.0 <sup>125</sup>                               | +10 09.7 <sup>145</sup> | 50            | 42                                               | 15    | 19 54          | 19 00 16                                          | 35 79          |      |
| 20  | 117                                                             | 13.5 |                                                   | 17.7                                                                   | 297 | 06.5 <sup>125</sup>                               | +9 55.1 <sup>146</sup>  | 52            | 44                                               | 18    | 20 00          | 04 13                                             | 29 82          |      |
| 21  | 132                                                             | 13.7 |                                                   | 16.7                                                                   | 311 | 38.1 <sup>126</sup>                               | 40.4 <sup>147</sup>     | 54            | 46                                               | 22    | 07             | 08 11                                             | 23 84          |      |
| 22  | 147                                                             | 13.8 |                                                   | 15.7                                                                   | 326 | 09.6 <sup>125</sup>                               | 25.7 <sup>147</sup>     | 56            | 49                                               | 27    | 14             | 12 8                                              | 16 88          |      |
| 23  | 162                                                             | 14.0 |                                                   | 14.7                                                                   | 340 | 41.2 <sup>126</sup>                               | +9 10.9 <sup>148</sup>  | 58            | 52                                               | 32    | 22             | 17 5                                              | 09 91          |      |
| 24  | 177                                                             | 14.1 | -5                                                | 13.8                                                                   | 355 | 12.8 <sup>126</sup>                               | +8 56.1 <sup>148</sup>  | 60 S          | 18 55                                            | 19 38 | 20 32          | 19 23 2                                           | 4 00 96        |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                        |     | MARTE                                             |                         |               | JÚPITER                                          |       |                | SATURNO                                           |                |      |
|     | PMG: 13 <sup>h</sup> 01 <sup>m</sup> 6                          |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |                                                                        |     | Mag: +1.2<br>PMG: 16 <sup>h</sup> 13 <sup>m</sup> |                         |               | Mag: -2.5<br>PMG: 0 <sup>h</sup> 06 <sup>m</sup> |       |                | Mag: -0.1<br>PMG: 19 <sup>h</sup> 28 <sup>m</sup> |                |      |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                    |     | hG ♂                                              | Dec                     |               | hG ♃                                             | Dec   |                | hG ♄                                              | Dec            |      |
| h   | °                                                               | '    | °                                                 | '                                                                      | °   | '                                                 | °                       | '             | °                                                | '     | °              | '                                                 | °              | '    |
| 0   | 164                                                             | 03.8 | 136                                               | 22.5                                                                   | +12 | 48.9                                              | 116                     | 36.1          | +18                                              | 44.5  | 358            | 30.0                                              | +7             | 43.1 |
| 1   | 179                                                             | 06.2 | 151                                               | 22.4                                                                   |     | 50.0                                              | 131                     | 37.0          |                                                  | 44.9  | 13             | 32.7                                              |                | 43.2 |
| 2   | 194                                                             | 08.7 | 166                                               | 22.3                                                                   |     | 51.2                                              | 146                     | 37.8          |                                                  | 45.4  | 28             | 35.5                                              |                | 43.3 |
| 3   | 209                                                             | 11.2 | 181                                               | 22.2                                                                   |     | 52.3                                              | 161                     | 38.6          |                                                  | 45.8  | 43             | 38.3                                              |                | 43.4 |
| 4   | 224                                                             | 13.6 | 196                                               | 22.0                                                                   |     | 53.5                                              | 176                     | 39.5          |                                                  | 46.3  | 58             | 41.0                                              |                | 43.6 |
| 5   | 239                                                             | 16.1 | 211                                               | 21.9                                                                   | +12 | 54.7                                              | 191                     | 40.3          | +18                                              | 46.7  | 73             | 43.8                                              | +7             | 43.7 |
| 6   | 254                                                             | 18.6 | 226                                               | 21.8                                                                   | +12 | 55.8                                              | 206                     | 41.2          | +18                                              | 47.2  | 88             | 46.6                                              | +7             | 43.8 |
| 7   | 269                                                             | 21.0 | 241                                               | 21.6                                                                   |     | 57.0                                              | 221                     | 42.0          |                                                  | 47.6  | 103            | 49.3                                              |                | 44.0 |
| 8   | 284                                                             | 23.5 | 256                                               | 21.5                                                                   |     | 58.1                                              | 236                     | 42.8          |                                                  | 48.1  | 118            | 52.1                                              |                | 44.1 |
| 9   | 299                                                             | 26.0 | 271                                               | 21.4                                                                   | +12 | 59.3                                              | 251                     | 43.7          |                                                  | 48.5  | 133            | 54.9                                              |                | 44.2 |
| 10  | 314                                                             | 28.4 | 286                                               | 21.3                                                                   | +13 | 00.5                                              | 266                     | 44.5          |                                                  | 49.0  | 148            | 57.6                                              |                | 44.3 |
| 11  | 329                                                             | 30.9 | 301                                               | 21.1                                                                   | +13 | 01.6                                              | 281                     | 45.4          | +18                                              | 49.4  | 164            | 00.4                                              | +7             | 44.5 |
| 12  | 344                                                             | 33.3 | 316                                               | 21.0                                                                   | +13 | 02.8                                              | 296                     | 46.2          | +18                                              | 49.9  | 179            | 03.2                                              | +7             | 44.6 |
| 13  | 359                                                             | 35.8 | 331                                               | 20.9                                                                   |     | 03.9                                              | 311                     | 47.0          |                                                  | 50.3  | 194            | 05.9                                              |                | 44.7 |
| 14  | 14                                                              | 38.3 | 346                                               | 20.8                                                                   |     | 05.1                                              | 326                     | 47.9          |                                                  | 50.8  | 209            | 08.7                                              |                | 44.9 |
| 15  | 29                                                              | 40.7 | 1                                                 | 20.6                                                                   |     | 06.2                                              | 341                     | 48.7          |                                                  | 51.2  | 224            | 11.5                                              |                | 45.0 |
| 16  | 44                                                              | 43.2 | 16                                                | 20.5                                                                   |     | 07.4                                              | 356                     | 49.5          |                                                  | 51.6  | 239            | 14.2                                              |                | 45.1 |
| 17  | 59                                                              | 45.7 | 31                                                | 20.4                                                                   | +13 | 08.5                                              | 11                      | 50.4          | +18                                              | 52.1  | 254            | 17.0                                              | +7             | 45.2 |
| 18  | 74                                                              | 48.1 | 46                                                | 20.3                                                                   | +13 | 09.7                                              | 26                      | 51.2          | +18                                              | 52.5  | 269            | 19.8                                              | +7             | 45.4 |
| 19  | 89                                                              | 50.6 | 61                                                | 20.1                                                                   |     | 10.8                                              | 41                      | 52.1          |                                                  | 53.0  | 284            | 22.5                                              |                | 45.5 |
| 20  | 104                                                             | 53.1 | 76                                                | 20.0                                                                   |     | 12.0                                              | 56                      | 52.9          |                                                  | 53.4  | 299            | 25.3                                              |                | 45.6 |
| 21  | 119                                                             | 55.5 | 91                                                | 19.9                                                                   |     | 13.2                                              | 71                      | 53.7          |                                                  | 53.9  | 314            | 28.1                                              |                | 45.7 |
| 22  | 134                                                             | 58.0 | 106                                               | 19.7                                                                   |     | 14.3                                              | 86                      | 54.6          |                                                  | 54.3  | 329            | 30.8                                              |                | 45.9 |
| 23  | 150                                                             | 00.4 | 121                                               | 19.6                                                                   |     | 15.5                                              | 101                     | 55.4          |                                                  | 54.8  | 344            | 33.6                                              |                | 46.0 |
| 24  | 165                                                             | 02.9 | 136                                               | 19.5                                                                   | +13 | 16.6                                              | 116                     | 56.2          | +18                                              | 55.2  | 359            | 36.4                                              | +7             | 46.1 |
| Dif | —                                                               |      | -1                                                | +12                                                                    |     |                                                   | +8                      | +4            |                                                  |       | +28            | +1                                                |                | +25  |
|     |                                                                 |      |                                                   |                                                                        |     |                                                   |                         |               |                                                  |       |                |                                                   |                | 0    |

| UT  | SOL                                    |      |                                                |      | LUNA                                                                                                                                           |                                                |     |                     | Latitud                                       | Principio del crepúsculo |       | Salida de Sol                                  | Salida de Luna |         |      | Puesta de Luna |     |      |      |    |    |   |      |   |    |   |  |
|-----|----------------------------------------|------|------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----|---------------------|-----------------------------------------------|--------------------------|-------|------------------------------------------------|----------------|---------|------|----------------|-----|------|------|----|----|---|------|---|----|---|--|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                |      | Edad: 15 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 57 <sup>m</sup> 9<br>12 <sup>h</sup> : 58 <sup>m</sup> 1<br>20 <sup>h</sup> : 58 <sup>m</sup> 2 |                                                |     |                     |                                               |                          |       |                                                |                |         |      |                |     |      |      |    |    |   |      |   |    |   |  |
|     | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 9 |      |                                                |      | SD: 15 <sup>m</sup> 7 PMG: 0 <sup>h</sup> 20 <sup>m</sup> R°: 46 <sup>m</sup>                                                                  |                                                |     |                     |                                               |                          |       |                                                |                |         |      |                |     |      |      |    |    |   |      |   |    |   |  |
|     | hG ☉                                   |      | Dec                                            |      | hG ☾                                                                                                                                           |                                                | Dif |                     | Dec                                           |                          | Dif   |                                                |                | Náutico |      | Civil          |     |      | Hora |    | R° |   | Hora |   | R° |   |  |
| h   | °                                      | '    | °                                              | '    | °                                                                                                                                              | '                                              | °   | '                   | °                                             | '                        | °     | '                                              | h              | m       | h    | m              | h   | m    | m    | h  | m  | m | h    | m | m  |   |  |
| 0   | 177                                    | 14.1 | -5                                             | 13.8 | 355                                                                                                                                            | 12.8                                           | +8  | 56.1                | 60 N                                          | 5                        | 10    | 5                                              | 59             | 6       | 40   | 18             | 26  | 95   | 7    | 22 | 1  |   |      |   |    |   |  |
| 1   | 192                                    | 14.3 |                                                | 12.8 | 9                                                                                                                                              | 44.4 <sup>126</sup>                            |     | 41.2 <sup>149</sup> | 58                                            | 13                       |       | 59                                             | 38             |         |      | 28             | 92  |      | 18   | 4  |    |   |      |   |    |   |  |
| 2   | 207                                    | 14.4 |                                                | 11.8 | 24                                                                                                                                             | 16.1 <sup>127</sup>                            |     | 26.2 <sup>150</sup> | 56                                            | 15                       |       | 58                                             | 36             |         |      | 30             | 88  |      | 15   | 7  |    |   |      |   |    |   |  |
| 3   | 222                                    | 14.6 |                                                | 10.8 | 38                                                                                                                                             | 47.7 <sup>126</sup>                            | +8  | 11.3 <sup>149</sup> | 54                                            | 18                       |       | 58                                             | 34             |         |      | 32             | 85  |      | 11   | 1  |    |   |      |   |    |   |  |
| 4   | 237                                    | 14.7 |                                                | 09.9 | 53                                                                                                                                             | 19.4 <sup>127</sup>                            | +7  | 56.2 <sup>151</sup> | 52                                            | 19                       |       | 58                                             | 32             |         |      | 33             | 83  |      | 09   | 13 |    |   |      |   |    |   |  |
| 5   | 252                                    | 14.9 | -5                                             | 08.9 | 67                                                                                                                                             | 51.0 <sup>126</sup>                            | +7  | 41.1 <sup>151</sup> | 50                                            | 5                        | 21    | 5                                              | 58             | 6       | 30   | 18             | 35  | 80   | 7    | 06 | 15 |   |      |   |    |   |  |
| 6   | 267                                    | 15.0 | -5                                             | 07.9 | 82                                                                                                                                             | 22.7 <sup>127</sup>                            | +7  | 26.0 <sup>151</sup> | 45                                            | 5                        | 24    | 5                                              | 58             | 6       | 27   | 18             | 38  | 75   | 7    | 01 | 20 |   |      |   |    |   |  |
| 7   | 282                                    | 15.2 |                                                | 07.0 | 96                                                                                                                                             | 54.4 <sup>127</sup>                            | +7  | 10.8 <sup>152</sup> | 40                                            | 26                       |       | 57                                             | 24             |         |      | 41             | 70  |      | 6    | 56 | 24 |   |      |   |    |   |  |
| 8   | 297                                    | 15.3 |                                                | 06.0 | 111                                                                                                                                            | 26.1 <sup>127</sup>                            | +6  | 55.5 <sup>153</sup> | 35                                            | 27                       |       | 56                                             | 21             |         |      | 43             | 67  |      | 52   | 28 |    |   |      |   |    |   |  |
| 9   | 312                                    | 15.5 |                                                | 05.0 | 125                                                                                                                                            | 57.8 <sup>127</sup>                            |     | 40.2 <sup>153</sup> | 30                                            | 27                       |       | 55                                             | 19             |         |      | 46             | 62  |      | 48   | 31 |    |   |      |   |    |   |  |
| 10  | 327                                    | 15.6 |                                                | 04.0 | 140                                                                                                                                            | 29.5 <sup>127</sup>                            |     | 24.9 <sup>153</sup> | 20                                            | 27                       |       | 53                                             | 15             |         |      | 49             | 57  |      | 42   | 37 |    |   |      |   |    |   |  |
| 11  | 342                                    | 15.8 | -5                                             | 03.1 | 155                                                                                                                                            | 01.3 <sup>128</sup>                            | +6  | 09.5 <sup>154</sup> | 10 N                                          | 5                        | 26    | 5                                              | 50             | 6       | 11   | 18             | 52  | 52   | 6    | 36 | 42 |   |      |   |    |   |  |
| 12  | 357                                    | 15.9 | -5                                             | 02.1 | 169                                                                                                                                            | 33.0 <sup>127</sup>                            | +5  | 54.1 <sup>154</sup> | 0                                             | 5                        | 23    | 5                                              | 47             | 6       | 08   | 18             | 55  | 47   | 6    | 31 | 47 |   |      |   |    |   |  |
| 13  | 12                                     | 16.1 |                                                | 01.1 | 184                                                                                                                                            | 04.7 <sup>127</sup>                            |     | 38.6 <sup>155</sup> | 10 S                                          | 18                       |       | 43                                             | 04             |         |      | 18             | 58  | 43   | 26   | 51 |    |   |      |   |    |   |  |
| 14  | 27                                     | 16.2 | -5                                             | 00.1 | 198                                                                                                                                            | 36.5 <sup>128</sup>                            |     | 23.1 <sup>155</sup> | 20                                            | 12                       |       | 38                                             | 6              | 00      |      | 19             | 02  | 37   | 20   | 56 |    |   |      |   |    |   |  |
| 15  | 42                                     | 16.4 | -4                                             | 59.2 | 213                                                                                                                                            | 08.2 <sup>127</sup>                            | +5  | 07.6 <sup>155</sup> | 30                                            | 5                        | 03    | 31                                             | 5              | 55      |      | 05             | 32  |      | 13   | 62 |    |   |      |   |    |   |  |
| 16  | 57                                     | 16.5 |                                                | 58.2 | 227                                                                                                                                            | 40.0 <sup>128</sup>                            | +4  | 52.0 <sup>156</sup> | 35                                            | 4                        | 57    | 27                                             | 52             |         |      | 07             | 28  |      | 09   | 66 |    |   |      |   |    |   |  |
| 17  | 72                                     | 16.7 | -4                                             | 57.2 | 242                                                                                                                                            | 11.7 <sup>127</sup>                            | +4  | 36.4 <sup>156</sup> | 40                                            | 4                        | 50    | 5                                              | 22             | 5       | 49   | 19             | 10  | 24   | 6    | 05 | 69 |   |      |   |    |   |  |
| 18  | 87                                     | 16.8 | -4                                             | 56.2 | 256                                                                                                                                            | 43.5 <sup>128</sup>                            | +4  | 20.8 <sup>156</sup> | 45                                            | 4                        | 40    | 5                                              | 16             | 5       | 46   | 19             | 12  | 21   | 6    | 00 | 74 |   |      |   |    |   |  |
| 19  | 102                                    | 17.0 |                                                | 55.3 | 271                                                                                                                                            | 15.2 <sup>127</sup>                            | +4  | 05.1 <sup>157</sup> | 50                                            | 29                       |       | 08                                             | 41             |         |      | 16             | 15  |      | 5    | 54 | 79 |   |      |   |    |   |  |
| 20  | 117                                    | 17.2 |                                                | 54.3 | 285                                                                                                                                            | 46.9 <sup>127</sup>                            | +3  | 49.4 <sup>157</sup> | 52                                            | 23                       |       | 05                                             | 39             |         |      | 17             | 13  |      | 51   | 82 |    |   |      |   |    |   |  |
| 21  | 132                                    | 17.3 |                                                | 53.3 | 300                                                                                                                                            | 18.7 <sup>128</sup>                            |     | 33.7 <sup>157</sup> | 54                                            | 16                       |       | 5                                              | 01             | 37      |      | 19             | 10  |      | 47   | 85 |    |   |      |   |    |   |  |
| 22  | 147                                    | 17.5 |                                                | 52.3 | 314                                                                                                                                            | 50.4 <sup>127</sup>                            |     | 17.9 <sup>158</sup> | 56                                            | 09                       |       | 4                                              | 56             | 34      |      | 20             | 8   |      | 44   | 88 |    |   |      |   |    |   |  |
| 23  | 162                                    | 17.6 |                                                | 51.4 | 329                                                                                                                                            | 22.1 <sup>127</sup>                            | +3  | 02.1 <sup>158</sup> | 58                                            | 4                        | 01    | 51                                             | 32             |         |      | 22             | 5   |      | 40   | 91 |    |   |      |   |    |   |  |
| 24  | 177                                    | 17.8 | -4                                             | 50.4 | 343                                                                                                                                            | 53.9 <sup>128</sup>                            | +2  | 46.3 <sup>158</sup> | 60 S                                          | 3                        | 51    | 4                                              | 45             | 5       | 28   | 19             | 25  | 1    | 5    | 36 | 95 |   |      |   |    |   |  |
| UT  | ARIES                                  |      | VENUS                                          |      |                                                                                                                                                | MARTE                                          |     |                     | JÚPITER                                       |                          |       | SATURNO                                        |                |         |      |                |     |      |      |    |    |   |      |   |    |   |  |
|     | PMG: 12 <sup>h</sup> 57 <sup>m</sup> 7 |      | Mag: -4.3 PMG: 14 <sup>h</sup> 55 <sup>m</sup> |      |                                                                                                                                                | Mag: +1.2 PMG: 16 <sup>h</sup> 11 <sup>m</sup> |     |                     | Mag: -2.5 PMG: 0 <sup>h</sup> 02 <sup>m</sup> |                          |       | Mag: -0.1 PMG: 19 <sup>h</sup> 24 <sup>m</sup> |                |         |      |                |     |      |      |    |    |   |      |   |    |   |  |
|     | hG ♈                                   |      | hG ♀                                           |      |                                                                                                                                                | hG ♂                                           |     |                     | hG ♃                                          |                          |       | hG ♄                                           |                |         | hG ♅ |                |     |      |      |    |    |   |      |   |    |   |  |
| h   | °                                      | '    | °                                              | '    | °                                                                                                                                              | '                                              | °   | '                   | °                                             | '                        | °     | '                                              | °              | '       | °    | '              | °   | '    | °    | '  | °  | ' | °    | ' | °  | ' |  |
| 0   | 165                                    | 02.9 | 136                                            | 19.5 | +13                                                                                                                                            | 16.6                                           | 116 | 56.2                | +18                                           | 55.2                     | 359   | 36.4                                           | +7             | 46.1    | 68   | 13.7           | +22 | 46.6 |      |    |    |   |      |   |    |   |  |
| 1   | 180                                    | 05.4 | 151                                            | 19.4 |                                                                                                                                                | 17.8                                           | 131 | 57.1                |                                               | 55.6                     | 14    | 39.1                                           |                | 46.3    | 83   | 16.2           |     | 46.6 |      |    |    |   |      |   |    |   |  |
| 2   | 195                                    | 07.8 | 166                                            | 19.2 |                                                                                                                                                | 18.9                                           | 146 | 57.9                |                                               | 56.1                     | 29    | 41.9                                           |                | 46.4    | 98   | 18.6           |     | 46.6 |      |    |    |   |      |   |    |   |  |
| 3   | 210                                    | 10.3 | 181                                            | 19.1 |                                                                                                                                                | 20.1                                           | 161 | 58.8                |                                               | 56.5                     | 44    | 44.7                                           |                | 46.5    | 113  | 21.1           |     | 46.6 |      |    |    |   |      |   |    |   |  |
| 4   | 225                                    | 12.8 | 196                                            | 19.0 |                                                                                                                                                | 21.2                                           | 176 | 59.6                |                                               | 57.0                     | 59    | 47.4                                           |                | 46.6    | 128  | 23.6           |     | 46.6 |      |    |    |   |      |   |    |   |  |
| 5   | 240                                    | 15.2 | 211                                            | 18.9 | +13                                                                                                                                            | 22.3                                           | 192 | 00.4                | +18                                           | 57.4                     | 74    | 50.2                                           | +7             | 46.8    | 143  | 26.0           | +22 | 46.6 |      |    |    |   |      |   |    |   |  |
| 6   | 255                                    | 17.7 | 226                                            | 18.7 | +13                                                                                                                                            | 23.5                                           | 207 | 01.3                | +18                                           | 57.9                     | 89    | 53.0                                           | +7             | 46.9    | 158  | 28.5           | +22 | 46.7 |      |    |    |   |      |   |    |   |  |
| 7   | 270                                    | 20.2 | 241                                            | 18.6 |                                                                                                                                                | 24.6                                           | 222 | 02.1                |                                               | 58.3                     | 104   | 55.7                                           |                | 47.0    | 173  | 31.0           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 8   | 285                                    | 22.6 | 256                                            | 18.5 |                                                                                                                                                | 25.8                                           | 237 | 02.9                |                                               | 58.7                     | 119   | 58.5                                           |                | 47.1    | 188  | 33.4           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 9   | 300                                    | 25.1 | 271                                            | 18.4 |                                                                                                                                                | 26.9                                           | 252 | 03.8                |                                               | 59.2                     | 135   | 01.3                                           |                | 47.3    | 203  | 35.9           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 10  | 315                                    | 27.6 | 286                                            | 18.2 |                                                                                                                                                | 28.1                                           | 267 | 04.6                | +18                                           | 59.6                     | 150   | 04.0                                           |                | 47.4    | 218  | 38.4           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 11  | 330                                    | 30.0 | 301                                            | 18.1 | +13                                                                                                                                            | 29.2                                           | 282 | 05.4                | +19                                           | 00.1                     | 165   | 06.8                                           | +7             | 47.5    | 233  | 40.8           | +22 | 46.7 |      |    |    |   |      |   |    |   |  |
| 12  | 345                                    | 32.5 | 316                                            | 18.0 | +13                                                                                                                                            | 30.4                                           | 297 | 06.3                | +19                                           | 00.5                     | 180   | 09.6                                           | +7             | 47.7    | 248  | 43.3           | +22 | 46.7 |      |    |    |   |      |   |    |   |  |
| 13  | 0                                      | 34.9 | 331                                            | 17.9 |                                                                                                                                                | 31.5                                           | 312 | 07.1                |                                               | 00.9                     | 195   | 12.3                                           |                | 47.8    | 263  | 45.7           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 14  | 15                                     | 37.4 | 346                                            | 17.7 |                                                                                                                                                | 32.7                                           | 327 | 07.9                |                                               | 01.4                     | 210   | 15.1                                           |                | 47.9    | 278  | 48.2           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 15  | 30                                     | 39.9 | 1                                              | 17.6 |                                                                                                                                                | 33.8                                           | 342 | 08.8                |                                               | 01.8                     | 225   | 17.9                                           |                | 48.0    | 293  | 50.7           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 16  | 45                                     | 42.3 | 16                                             | 17.5 |                                                                                                                                                | 34.9                                           | 357 | 09.6                |                                               | 02.3                     | 240   | 20.6                                           |                | 48.2    | 308  | 53.1           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 17  | 60                                     | 44.8 | 31                                             | 17.4 | +13                                                                                                                                            | 36.1                                           | 12  | 10.4                | +19                                           | 02.7                     | 255   | 23.4                                           | +7             | 48.3    | 323  | 55.6           | +22 | 46.7 |      |    |    |   |      |   |    |   |  |
| 18  | 75                                     | 47.3 | 46                                             | 17.2 | +13                                                                                                                                            | 37.2                                           | 27  | 11.3                | +19                                           | 03.1                     | 270   | 26.2                                           | +7             | 48.4    | 338  | 58.1           | +22 | 46.7 |      |    |    |   |      |   |    |   |  |
| 19  | 90                                     | 49.7 | 61                                             | 17.1 |                                                                                                                                                | 38.4                                           | 42  | 12.1                |                                               | 03.6                     | 285   | 28.9                                           |                | 48.5    | 354  | 00.5           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 20  | 105                                    | 52.2 | 76                                             | 17.0 |                                                                                                                                                | 39.5                                           | 57  | 12.9                |                                               | 04.0                     | 300   | 31.7                                           |                | 48.7    | 9    | 03.0           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 21  | 120                                    | 54.7 | 91                                             | 16.8 |                                                                                                                                                | 40.6                                           | 72  | 13.8                |                                               | 04.5                     | 315   | 34.5                                           |                | 48.8    | 24   | 05.5           |     | 46.7 |      |    |    |   |      |   |    |   |  |
| 22  | 135                                    | 57.1 | 106                                            | 16.7 |                                                                                                                                                | 41.8                                           | 87  | 14.6                |                                               | 04.9                     | 330   | 37.2                                           |                | 48.9    | 39   | 07.9           |     | 46.8 |      |    |    |   |      |   |    |   |  |
| 23  | 150                                    | 59.6 | 121                                            | 16.6 |                                                                                                                                                | 42.9                                           | 102 | 15.4                |                                               | 05.3                     | 345   | 40.0                                           |                | 49.0    | 54   | 10.4           |     | 46.8 |      |    |    |   |      |   |    |   |  |
| 24  | 166                                    | 02.0 | 136                                            | 16.5 | +13                                                                                                                                            | 44.1                                           | 117 | 16.3                | +19                                           | 05.8                     | 0     | 42.8                                           | +7             | 49.2    | 69   | 12.8           | +22 | 46.8 |      |    |    |   |      |   |    |   |  |
| Dif | —                                      |      | -1                                             |      |                                                                                                                                                | +11                                            | +8  |                     |                                               | +4                       | -8972 |                                                |                | +1      |      | +25            |     |      | 0    |    |    |   |      |   |    |   |  |

| UT  | SOL                                    |      |                                                   | ☉ LUNA                      |                                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |         |         | Salida de Luna                                    |      | Puesta de Luna |  |
|-----|----------------------------------------|------|---------------------------------------------------|-----------------------------|-------------------------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|---------|---------|---------------------------------------------------|------|----------------|--|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                   | Edad: 16 <sup>d</sup> 6 PHE | SD: 15 <sup>h</sup> 9               |                                                   |         |               | Final del crepúsculo                              |         |         | Salida de Luna                                    |      | Puesta de Luna |  |
|     | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 7 |      |                                                   |                             | PMG: 1 <sup>h</sup> 06 <sup>m</sup> |                                                   |         |               |                                                   |         |         |                                                   |      |                |  |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                        | Dif                                 | Dec                                               | Dif     |               | Civil                                             | Náutico | Hora    | R°                                                | Hora | R°             |  |
| h   | °                                      | '    | °                                                 | °                           | '                                   | °                                                 | '       | °             | h m                                               | h m     | h m     | h m                                               | h m  | m              |  |
| 0   | 177                                    | 17.8 | -4 50.4                                           | 343                         | 53.9                                | +2 46.3                                           |         | 60 N          | 17 46                                             | 18 27   | 19 16   | 20 01                                             | 98   | 7 23 1         |  |
| 1   | 192                                    | 17.9 |                                                   | 358                         | 25.6 <sup>127</sup>                 | 30.5 <sup>158</sup>                               |         | 58            | 48                                                | 27      | 13      | 20 00                                             | 94   | 22 5           |  |
| 2   | 207                                    | 18.1 |                                                   | 12                          | 57.3 <sup>127</sup>                 | +2 14.6 <sup>159</sup>                            |         | 56            | 50                                                | 27      | 10      | 19 58                                             | 91   | 22 8           |  |
| 3   | 222                                    | 18.2 |                                                   | 27                          | 29.0 <sup>127</sup>                 | +1 58.7 <sup>159</sup>                            |         | 54            | 51                                                | 26      | 08      | 57 88                                             |      | 22 10          |  |
| 4   | 237                                    | 18.4 |                                                   | 42                          | 00.7 <sup>127</sup>                 | 42.8 <sup>159</sup>                               |         | 52            | 53                                                | 26      | 06      | 56 85                                             |      | 22 13          |  |
| 5   | 252                                    | 18.5 | -4 45.5                                           | 56                          | 32.4 <sup>127</sup>                 | +1 26.9 <sup>159</sup>                            |         | 50            | 17 54                                             | 18 26   | 19 04   | 19 55                                             | 82   | 7 21 16        |  |
| 6   | 267                                    | 18.7 | -4 44.5                                           | 71                          | 04.0 <sup>126</sup>                 | +1 10.9 <sup>160</sup>                            |         | 45            | 17 57                                             | 18 26   | 19 00   | 19 53                                             | 76   | 7 21 20        |  |
| 7   | 282                                    | 18.9 |                                                   | 85                          | 35.7 <sup>127</sup>                 | +0 55.0 <sup>159</sup>                            |         | 40            | 18 00                                             | 27      | 18 58   | 51 72                                             |      | 20 25          |  |
| 8   | 297                                    | 19.0 |                                                   | 100                         | 07.3 <sup>126</sup>                 | 39.0 <sup>160</sup>                               |         | 35            | 02                                                | 27      | 57      | 50 67                                             |      | 20 32          |  |
| 9   | 312                                    | 19.2 |                                                   | 114                         | 39.0 <sup>127</sup>                 | 23.0 <sup>160</sup>                               |         | 30            | 04                                                | 28      | 56      | 48 65                                             |      | 19 38          |  |
| 10  | 327                                    | 19.3 |                                                   | 129                         | 10.6 <sup>126</sup>                 | +0 07.0 <sup>160</sup>                            |         | 20            | 08                                                | 30      | 55      | 46 58                                             |      | 19 37          |  |
| 11  | 342                                    | 19.5 | -4 39.7                                           | 143                         | 42.2 <sup>126</sup>                 | -0 09.0 <sup>160</sup>                            |         | 10 N          | 18 11                                             | 18 32   | 18 56   | 19 44                                             | 53   | 7 18 43        |  |
| 12  | 357                                    | 19.6 | -4 38.7                                           | 158                         | 13.7 <sup>125</sup>                 | -0 25.0 <sup>160</sup>                            |         | 0             | 18 14                                             | 18 35   | 18 59   | 19 42                                             | 48   | 7 18 47        |  |
| 13  | 12                                     | 19.8 |                                                   | 172                         | 45.3 <sup>126</sup>                 | 41.0 <sup>160</sup>                               |         | 10 S          | 17                                                | 38      | 19 03   | 41 43                                             |      | 17 52          |  |
| 14  | 27                                     | 19.9 |                                                   | 187                         | 16.8 <sup>125</sup>                 | -0 57.1 <sup>161</sup>                            |         | 20            | 21                                                | 43      | 09      | 39 38                                             |      | 16 58          |  |
| 15  | 42                                     | 20.1 |                                                   | 201                         | 48.3 <sup>125</sup>                 | -1 13.1 <sup>160</sup>                            |         | 30            | 25                                                | 49      | 17      | 37 32                                             |      | 15 64          |  |
| 16  | 57                                     | 20.3 |                                                   | 216                         | 19.8 <sup>125</sup>                 | 29.1 <sup>160</sup>                               |         | 35            | 27                                                | 53      | 23      | 35 30                                             |      | 15 67          |  |
| 17  | 72                                     | 20.4 | -4 33.8                                           | 230                         | 51.3 <sup>125</sup>                 | -1 45.2 <sup>161</sup>                            |         | 40            | 18 30                                             | 18 58   | 19 30   | 19 34                                             | 25   | 7 14 71        |  |
| 18  | 87                                     | 20.6 | -4 32.8                                           | 245                         | 22.7 <sup>124</sup>                 | -2 01.2 <sup>160</sup>                            |         | 45            | 18 34                                             | 19 03   | 19 38   | 19 33                                             | 21   | 7 14 75        |  |
| 19  | 102                                    | 20.7 |                                                   | 259                         | 54.1 <sup>124</sup>                 | 17.3 <sup>161</sup>                               |         | 50            | 38                                                | 10      | 50      | 31 16                                             |      | 13 81          |  |
| 20  | 117                                    | 20.9 |                                                   | 274                         | 25.5 <sup>124</sup>                 | 33.3 <sup>160</sup>                               |         | 52            | 39                                                | 14      | 19 55   | 30 13                                             |      | 13 83          |  |
| 21  | 132                                    | 21.0 |                                                   | 288                         | 56.8 <sup>123</sup>                 | -2 49.3 <sup>160</sup>                            |         | 54            | 41                                                | 17      | 20 01   | 29 11                                             |      | 12 86          |  |
| 22  | 147                                    | 21.2 |                                                   | 303                         | 28.2 <sup>124</sup>                 | -3 05.4 <sup>161</sup>                            |         | 56            | 44                                                | 22      | 08      | 28 8                                              |      | 12 89          |  |
| 23  | 162                                    | 21.4 |                                                   | 317                         | 59.5 <sup>123</sup>                 | 21.4 <sup>160</sup>                               |         | 58            | 46                                                | 26      | 16      | 27 5                                              |      | 11 93          |  |
| 24  | 177                                    | 21.5 | -4 27.0                                           | 332                         | 30.7 <sup>122</sup>                 | -3 37.4 <sup>160</sup>                            |         | 60 S          | 18 49                                             | 19 32   | 20 25   | 19 26                                             | 1    | 7 11 96        |  |
| UT  | ARIES                                  |      | VENUS                                             |                             |                                     | MARTE                                             |         |               | JÚPITER                                           |         |         | SATURNO                                           |      |                |  |
|     | PMG: 12 <sup>h</sup> 53 <sup>m</sup> 7 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |                             |                                     | Mag: +1.2<br>PMG: 16 <sup>h</sup> 10 <sup>m</sup> |         |               | Mag: -2.5<br>PMG: 23 <sup>h</sup> 53 <sup>m</sup> |         |         | Mag: -0.1<br>PMG: 19 <sup>h</sup> 20 <sup>m</sup> |      |                |  |
|     | hG ♈                                   |      | hG ♀                                              | Dec                         |                                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec     |         | hG ♄                                              | Dec  |                |  |
| h   | °                                      | '    | °                                                 | '                           | °                                   | '                                                 | °       | '             | °                                                 | '       | °       | '                                                 | °    | '              |  |
| 0   | 166                                    | 02.0 | 136                                               | 16.5                        | +13 44.1                            | 117                                               | 16.3    | +19 05.8      | 0                                                 | 42.8    | +7 49.2 | 69                                                | 12.8 | +22 46.8       |  |
| 1   | 181                                    | 04.5 | 151                                               | 16.3                        | 45.2                                | 132                                               | 17.1    | 06.2          | 15                                                | 45.5    | 49.3    | 84                                                | 15.3 | 46.8           |  |
| 2   | 196                                    | 07.0 | 166                                               | 16.2                        | 46.3                                | 147                                               | 17.9    | 06.7          | 30                                                | 48.3    | 49.4    | 99                                                | 17.8 | 46.8           |  |
| 3   | 211                                    | 09.4 | 181                                               | 16.1                        | 47.5                                | 162                                               | 18.8    | 07.1          | 45                                                | 51.1    | 49.6    | 114                                               | 20.2 | 46.8           |  |
| 4   | 226                                    | 11.9 | 196                                               | 16.0                        | 48.6                                | 177                                               | 19.6    | 07.5          | 60                                                | 53.8    | 49.7    | 129                                               | 22.7 | 46.8           |  |
| 5   | 241                                    | 14.4 | 211                                               | 15.8                        | +13 49.7                            | 192                                               | 20.4    | +19 08.0      | 75                                                | 56.6    | +7 49.8 | 144                                               | 25.2 | +22 46.8       |  |
| 6   | 256                                    | 16.8 | 226                                               | 15.7                        | +13 50.9                            | 207                                               | 21.3    | +19 08.4      | 90                                                | 59.4    | +7 49.9 | 159                                               | 27.6 | +22 46.8       |  |
| 7   | 271                                    | 19.3 | 241                                               | 15.6                        | 52.0                                | 222                                               | 22.1    | 08.8          | 106                                               | 02.1    | 50.1    | 174                                               | 30.1 | 46.8           |  |
| 8   | 286                                    | 21.8 | 256                                               | 15.5                        | 53.1                                | 237                                               | 22.9    | 09.3          | 121                                               | 04.9    | 50.2    | 189                                               | 32.5 | 46.8           |  |
| 9   | 301                                    | 24.2 | 271                                               | 15.3                        | 54.3                                | 252                                               | 23.8    | 09.7          | 136                                               | 07.7    | 50.3    | 204                                               | 35.0 | 46.8           |  |
| 10  | 316                                    | 26.7 | 286                                               | 15.2                        | 55.4                                | 267                                               | 24.6    | 10.1          | 151                                               | 10.4    | 50.4    | 219                                               | 37.5 | 46.8           |  |
| 11  | 331                                    | 29.2 | 301                                               | 15.1                        | +13 56.5                            | 282                                               | 25.4    | +19 10.6      | 166                                               | 13.2    | +7 50.6 | 234                                               | 39.9 | +22 46.8       |  |
| 12  | 346                                    | 31.6 | 316                                               | 15.0                        | +13 57.7                            | 297                                               | 26.3    | +19 11.0      | 181                                               | 16.0    | +7 50.7 | 249                                               | 42.4 | +22 46.8       |  |
| 13  | 1                                      | 34.1 | 331                                               | 14.8                        | 58.8                                | 312                                               | 27.1    | 11.4          | 196                                               | 18.7    | 50.8    | 264                                               | 44.8 | 46.9           |  |
| 14  | 16                                     | 36.5 | 346                                               | 14.7                        | +13 59.9                            | 327                                               | 27.9    | 11.9          | 211                                               | 21.5    | 50.9    | 279                                               | 47.3 | 46.9           |  |
| 15  | 31                                     | 39.0 | 1                                                 | 14.6                        | +14 01.1                            | 342                                               | 28.8    | 12.3          | 226                                               | 24.3    | 51.1    | 294                                               | 49.8 | 46.9           |  |
| 16  | 46                                     | 41.5 | 16                                                | 14.5                        | 02.2                                | 357                                               | 29.6    | 12.7          | 241                                               | 27.0    | 51.2    | 309                                               | 52.2 | 46.9           |  |
| 17  | 61                                     | 43.9 | 31                                                | 14.3                        | +14 03.3                            | 12                                                | 30.4    | +19 13.2      | 256                                               | 29.8    | +7 51.3 | 324                                               | 54.7 | +22 46.9       |  |
| 18  | 76                                     | 46.4 | 46                                                | 14.2                        | +14 04.4                            | 27                                                | 31.2    | +19 13.6      | 271                                               | 32.6    | +7 51.4 | 339                                               | 57.1 | +22 46.9       |  |
| 19  | 91                                     | 48.9 | 61                                                | 14.1                        | 05.6                                | 42                                                | 32.1    | 14.0          | 286                                               | 35.3    | 51.6    | 354                                               | 59.6 | 46.9           |  |
| 20  | 106                                    | 51.3 | 76                                                | 14.0                        | 06.7                                | 57                                                | 32.9    | 14.5          | 301                                               | 38.1    | 51.7    | 10                                                | 02.0 | 46.9           |  |
| 21  | 121                                    | 53.8 | 91                                                | 13.8                        | 07.8                                | 72                                                | 33.7    | 14.9          | 316                                               | 40.9    | 51.8    | 25                                                | 04.5 | 46.9           |  |
| 22  | 136                                    | 56.3 | 106                                               | 13.7                        | 08.9                                | 87                                                | 34.6    | 15.3          | 331                                               | 43.6    | 52.0    | 40                                                | 07.0 | 46.9           |  |
| 23  | 151                                    | 58.7 | 121                                               | 13.6                        | 10.1                                | 102                                               | 35.4    | 15.8          | 346                                               | 46.4    | 52.1    | 55                                                | 09.4 | 46.9           |  |
| 24  | 167                                    | 01.2 | 136                                               | 13.5                        | +14 11.2                            | 117                                               | 36.2    | +19 16.2      | 1                                                 | 49.2    | +7 52.2 | 70                                                | 11.9 | +22 46.9       |  |
| Dif | —                                      |      | -1                                                |                             | +11                                 | +8                                                |         | +4            | +28                                               |         | +1      | +25                                               |      | 0              |  |

| UT | SOL                                    |      |    | LUNA                    |       |                                                                                                                  | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna                      |       | Puesta de Luna      |      |     |
|----|----------------------------------------|------|----|-------------------------|-------|------------------------------------------------------------------------------------------------------------------|---------|--------------------------|---------|---------------|-------------------------------------|-------|---------------------|------|-----|
|    | SD: 16 <sup>h</sup> 1                  |      |    | Edad: 17 <sup>d</sup> 6 | PHE { | 4 <sup>h</sup> : 58 <sup>m</sup> 8<br>12 <sup>h</sup> : 58 <sup>m</sup> 9<br>20 <sup>h</sup> : 59 <sup>m</sup> 0 |         |                          |         |               |                                     |       |                     |      |     |
|    | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 4 |      |    |                         |       |                                                                                                                  |         | SD: 16 <sup>h</sup> 0    |         |               | PMG: 1 <sup>h</sup> 54 <sup>m</sup> |       | R°: 48 <sup>m</sup> |      |     |
|    | hG ☉                                   | Dec  |    | hG ☾                    | Dif   | Dec                                                                                                              | Dif     |                          | Náutico | Civil         |                                     | Hora  | R°                  | Hora | R°  |
| h  | °                                      | '    | °  | °                       | '     | °                                                                                                                | '       | °                        | h       | m             | h                                   | m     |                     | h    | m   |
| 0  | 177                                    | 21.5 | -4 | 27.0                    | 332   | 30.7                                                                                                             | -3      | 37.4                     | 5 04    | 5 53          | 6 34                                | 21 39 | 103                 | 7 24 | 2   |
| 1  | 192                                    | 21.7 |    | 26.0                    | 347   | 01.9                                                                                                             | -3      | 53.4                     | 08      | 53            | 32                                  | 34    | 97                  | 27   | 5   |
| 2  | 207                                    | 21.8 |    | 25.0                    | 1     | 33.1                                                                                                             | -4      | 09.4                     | 10      | 53            | 30                                  | 29    | 93                  | 30   | 8   |
| 3  | 222                                    | 22.0 |    | 24.0                    | 16    | 04.3                                                                                                             |         | 25.4                     | 13      | 54            | 29                                  | 25    | 90                  | 32   | 12  |
| 4  | 237                                    | 22.2 |    | 23.1                    | 30    | 35.4                                                                                                             |         | 41.3                     | 15      | 54            | 27                                  | 21    | 86                  | 35   | 14  |
| 5  | 252                                    | 22.3 | -4 | 22.1                    | 45    | 06.5                                                                                                             | -4      | 57.3                     | 5 17    | 5 54          | 6 26                                | 21 17 | 84                  | 7 37 | 16  |
| 6  | 267                                    | 22.5 | -4 | 21.1                    | 59    | 37.5                                                                                                             | -5      | 13.2                     | 5 20    | 5 54          | 6 23                                | 21 09 | 79                  | 7 41 | 22  |
| 7  | 282                                    | 22.6 |    | 20.1                    | 74    | 08.5                                                                                                             |         | 29.1                     | 22      | 54            | 21                                  | 21 03 | 73                  | 45   | 26  |
| 8  | 297                                    | 22.8 |    | 19.1                    | 88    | 39.5                                                                                                             | -5      | 45.0                     | 24      | 53            | 19                                  | 20 57 | 70                  | 48   | 30  |
| 9  | 312                                    | 22.9 |    | 18.2                    | 103   | 10.4                                                                                                             | -6      | 00.9                     | 25      | 53            | 17                                  | 53    | 66                  | 51   | 34  |
| 10 | 327                                    | 23.1 |    | 17.2                    | 117   | 41.3                                                                                                             |         | 16.7                     | 26      | 51            | 13                                  | 44    | 61                  | 7 56 | 39  |
| 11 | 342                                    | 23.3 | -4 | 16.2                    | 132   | 12.1                                                                                                             | -6      | 32.5                     | 5 25    | 5 49          | 6 10                                | 20 37 | 55                  | 8 01 | 44  |
| 12 | 357                                    | 23.4 | -4 | 15.2                    | 146   | 42.9                                                                                                             | -6      | 48.3                     | 5 22    | 5 46          | 6 07                                | 20 30 | 51                  | 8 05 | 49  |
| 13 | 12                                     | 23.6 |    | 14.2                    | 161   | 13.7                                                                                                             | -7      | 04.1                     | 18      | 43            | 04                                  | 24    | 46                  | 09   | 54  |
| 14 | 27                                     | 23.7 |    | 13.3                    | 175   | 44.4                                                                                                             |         | 19.8                     | 13      | 38            | 6 01                                | 17    | 41                  | 14   | 59  |
| 15 | 42                                     | 23.9 |    | 12.3                    | 190   | 15.0                                                                                                             |         | 35.5                     | 5 04    | 33            | 5 57                                | 09    | 35                  | 19   | 65  |
| 16 | 57                                     | 24.1 |    | 11.3                    | 204   | 45.6                                                                                                             | -7      | 51.2                     | 4 59    | 29            | 54                                  | 20 05 | 31                  | 22   | 68  |
| 17 | 72                                     | 24.2 | -4 | 10.3                    | 219   | 16.1                                                                                                             | -8      | 06.9                     | 4 52    | 5 24          | 5 51                                | 19 59 | 28                  | 8 25 | 73  |
| 18 | 87                                     | 24.4 | -4 | 09.4                    | 233   | 46.6                                                                                                             | -8      | 22.5                     | 4 43    | 5 19          | 5 48                                | 19 54 | 23                  | 8 29 | 77  |
| 19 | 102                                    | 24.5 |    | 08.4                    | 248   | 17.1                                                                                                             |         | 38.0                     | 32      | 12            | 44                                  | 47    | 18                  | 34   | 83  |
| 20 | 117                                    | 24.7 |    | 07.4                    | 262   | 47.5                                                                                                             | -8      | 53.6                     | 27      | 08            | 43                                  | 43    | 16                  | 36   | 85  |
| 21 | 132                                    | 24.9 |    | 06.4                    | 277   | 17.8                                                                                                             | -9      | 09.0                     | 21      | 05            | 41                                  | 40    | 13                  | 38   | 89  |
| 22 | 147                                    | 25.0 |    | 05.4                    | 291   | 48.1                                                                                                             |         | 24.5                     | 14      | 5 01          | 39                                  | 36    | 10                  | 41   | 92  |
| 23 | 162                                    | 25.2 |    | 04.5                    | 306   | 18.3                                                                                                             |         | 39.9                     | 4 06    | 4 56          | 36                                  | 32    | 6                   | 44   | 96  |
| 24 | 177                                    | 25.4 | -4 | 03.5                    | 320   | 48.4                                                                                                             | -9      | 55.2                     | 3 57    | 4 51          | 5 33                                | 19 27 | 3                   | 8 47 | 100 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 12 <sup>h</sup> 49 <sup>m</sup> 8 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |      | Mag: +1.2<br>PMG: 16 <sup>h</sup> 09 <sup>m</sup> |      | Mag: -2.5<br>PMG: 23 <sup>h</sup> 48 <sup>m</sup> |      | Mag: 0.0<br>PMG: 19 <sup>h</sup> 16 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 167                                    | 01.2 | 136                                               | 13.5 | +14                                               | 11.2 | 117                                               | 36.2 | +19                                              | 16.2 | 1   | 49.2 | +7 | 52.2 | 70  | 11.9 | +22 | 46.9 |
| 1   | 182                                    | 03.6 | 151                                               | 13.3 |                                                   | 12.3 | 132                                               | 37.1 |                                                  | 16.6 | 16  | 51.9 |    | 52.3 | 85  | 14.3 |     | 46.9 |
| 2   | 197                                    | 06.1 | 166                                               | 13.2 |                                                   | 13.4 | 147                                               | 37.9 |                                                  | 17.1 | 31  | 54.7 |    | 52.5 | 100 | 16.8 |     | 46.9 |
| 3   | 212                                    | 08.6 | 181                                               | 13.1 |                                                   | 14.6 | 162                                               | 38.7 |                                                  | 17.5 | 46  | 57.5 |    | 52.6 | 115 | 19.2 |     | 46.9 |
| 4   | 227                                    | 11.0 | 196                                               | 13.0 |                                                   | 15.7 | 177                                               | 39.5 |                                                  | 17.9 | 62  | 00.2 |    | 52.7 | 130 | 21.7 |     | 46.9 |
| 5   | 242                                    | 13.5 | 211                                               | 12.8 | +14                                               | 16.8 | 192                                               | 40.4 | +19                                              | 18.4 | 77  | 03.0 | +7 | 52.8 | 145 | 24.2 | +22 | 46.9 |
| 6   | 257                                    | 16.0 | 226                                               | 12.7 | +14                                               | 17.9 | 207                                               | 41.2 | +19                                              | 18.8 | 92  | 05.8 | +7 | 53.0 | 160 | 26.6 | +22 | 47.0 |
| 7   | 272                                    | 18.4 | 241                                               | 12.6 |                                                   | 19.1 | 222                                               | 42.0 |                                                  | 19.2 | 107 | 08.5 |    | 53.1 | 175 | 29.1 |     | 47.0 |
| 8   | 287                                    | 20.9 | 256                                               | 12.4 |                                                   | 20.2 | 237                                               | 42.9 |                                                  | 19.7 | 122 | 11.3 |    | 53.2 | 190 | 31.5 |     | 47.0 |
| 9   | 302                                    | 23.4 | 271                                               | 12.3 |                                                   | 21.3 | 252                                               | 43.7 |                                                  | 20.1 | 137 | 14.1 |    | 53.3 | 205 | 34.0 |     | 47.0 |
| 10  | 317                                    | 25.8 | 286                                               | 12.2 |                                                   | 22.4 | 267                                               | 44.5 |                                                  | 20.5 | 152 | 16.8 |    | 53.5 | 220 | 36.4 |     | 47.0 |
| 11  | 332                                    | 28.3 | 301                                               | 12.1 | +14                                               | 23.5 | 282                                               | 45.3 | +19                                              | 20.9 | 167 | 19.6 | +7 | 53.6 | 235 | 38.9 | +22 | 47.0 |
| 12  | 347                                    | 30.8 | 316                                               | 11.9 | +14                                               | 24.7 | 297                                               | 46.2 | +19                                              | 21.4 | 182 | 22.3 | +7 | 53.7 | 250 | 41.3 | +22 | 47.0 |
| 13  | 2                                      | 33.2 | 331                                               | 11.8 |                                                   | 25.8 | 312                                               | 47.0 |                                                  | 21.8 | 197 | 25.1 |    | 53.8 | 265 | 43.8 |     | 47.0 |
| 14  | 17                                     | 35.7 | 346                                               | 11.7 |                                                   | 26.9 | 327                                               | 47.8 |                                                  | 22.2 | 212 | 27.9 |    | 54.0 | 280 | 46.3 |     | 47.0 |
| 15  | 32                                     | 38.1 | 1                                                 | 11.6 |                                                   | 28.0 | 342                                               | 48.7 |                                                  | 22.7 | 227 | 30.6 |    | 54.1 | 295 | 48.7 |     | 47.0 |
| 16  | 47                                     | 40.6 | 16                                                | 11.4 |                                                   | 29.1 | 357                                               | 49.5 |                                                  | 23.1 | 242 | 33.4 |    | 54.2 | 310 | 51.2 |     | 47.0 |
| 17  | 62                                     | 43.1 | 31                                                | 11.3 | +14                                               | 30.2 | 12                                                | 50.3 | +19                                              | 23.5 | 257 | 36.2 | +7 | 54.3 | 325 | 53.6 | +22 | 47.0 |
| 18  | 77                                     | 45.5 | 46                                                | 11.2 | +14                                               | 31.3 | 27                                                | 51.1 | +19                                              | 23.9 | 272 | 38.9 | +7 | 54.5 | 340 | 56.1 | +22 | 47.0 |
| 19  | 92                                     | 48.0 | 61                                                | 11.1 |                                                   | 32.5 | 42                                                | 52.0 |                                                  | 24.4 | 287 | 41.7 |    | 54.6 | 355 | 58.5 |     | 47.0 |
| 20  | 107                                    | 50.5 | 76                                                | 10.9 |                                                   | 33.6 | 57                                                | 52.8 |                                                  | 24.8 | 302 | 44.5 |    | 54.7 | 11  | 01.0 |     | 47.0 |
| 21  | 122                                    | 52.9 | 91                                                | 10.8 |                                                   | 34.7 | 72                                                | 53.6 |                                                  | 25.2 | 317 | 47.2 |    | 54.8 | 26  | 03.4 |     | 47.0 |
| 22  | 137                                    | 55.4 | 106                                               | 10.7 |                                                   | 35.8 | 87                                                | 54.4 |                                                  | 25.7 | 332 | 50.0 |    | 55.0 | 41  | 05.9 |     | 47.1 |
| 23  | 152                                    | 57.9 | 121                                               | 10.6 |                                                   | 36.9 | 102                                               | 55.3 |                                                  | 26.1 | 347 | 52.8 |    | 55.1 | 56  | 08.3 |     | 47.1 |
| 24  | 168                                    | 00.3 | 136                                               | 10.4 | +14                                               | 38.0 | 117                                               | 56.1 | +19                                              | 26.5 | 2   | 55.5 | +7 | 55.2 | 71  | 10.8 | +22 | 47.1 |
| Dif | —                                      |      | -1                                                |      | +11                                               |      | +8                                                |      | +4                                               |      | +28 |      | +1 |      | +25 |      | 0   |      |



| UT | SOL                                    |      |         | LUNA                                                                                                    |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |         |           | Salida de Luna |           |    | Puesta de Luna |  |  |
|----|----------------------------------------|------|---------|---------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|---------|-----------|----------------|-----------|----|----------------|--|--|
|    | SD: 16'1                               |      |         | Edad: 18 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 59'1<br>12 <sup>h</sup> : 59'2<br>20 <sup>h</sup> : 59'2 |                     |                         |         |               |                      |         |           |                |           |    |                |  |  |
|    | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 2 |      |         | SD: 16'1<br>PMG: 2 <sup>h</sup> 42 <sup>m</sup> R°: 51 <sup>m</sup>                                     |                     |                         |         |               |                      |         |           |                |           |    |                |  |  |
|    | hG ☉                                   |      | Dec     | hG ☾ Dif                                                                                                |                     | Dec Dif                 |         |               | Civil                | Náutico | Hora      | R°             | Hora      | R° |                |  |  |
| h  | °                                      | '    | °       | °                                                                                                       | '                   | °                       | °       | h m           | h m                  | h m     | h m m     |                | h m m     |    |                |  |  |
| 0  | 177                                    | 25.4 | -4 03.5 | 320                                                                                                     | 48.4                | -9 55.2                 | 60 N    | 17 51         | 18 32                | 19 21   | 23 22 107 |                | 7 26 2    |    |                |  |  |
| 1  | 192                                    | 25.5 | 02.5    | 335                                                                                                     | 18.5 <sup>111</sup> | -10 10.5 <sup>153</sup> | 58      | 52            | 31                   | 17      | 11 102    |                | 32 8      |    |                |  |  |
| 2  | 207                                    | 25.7 | 01.5    | 349                                                                                                     | 48.6 <sup>111</sup> | 25.8 <sup>153</sup>     | 56      | 54            | 31                   | 14      | 23 02 97  |                | 38 12     |    |                |  |  |
| 3  | 222                                    | 25.8 | -4 00.5 | 4                                                                                                       | 18.5 <sup>109</sup> | 41.0 <sup>152</sup>     | 54      | 55            | 30                   | 11      | 22 55 92  |                | 44 14     |    |                |  |  |
| 4  | 237                                    | 26.0 | -3 59.6 | 18                                                                                                      | 48.5 <sup>110</sup> | -10 56.2 <sup>152</sup> | 52      | 56            | 30                   | 09      | 47 89     |                | 49 17     |    |                |  |  |
| 5  | 252                                    | 26.2 | -3 58.6 | 33                                                                                                      | 18.3 <sup>108</sup> | -11 11.3 <sup>151</sup> | 50      | 17 57         | 18 30                | 19 07   | 22 41 86  |                | 7 53 20   |    |                |  |  |
| 6  | 267                                    | 26.3 | -3 57.6 | 47                                                                                                      | 48.1 <sup>108</sup> | -11 26.3 <sup>150</sup> | 45      | 18 00         | 18 29                | 19 03   | 22 28 79  |                | 8 03 26   |    |                |  |  |
| 7  | 282                                    | 26.5 | 56.6    | 62                                                                                                      | 17.8 <sup>107</sup> | 41.3 <sup>150</sup>     | 40      | 02            | 29                   | 19 00   | 16 76     |                | 11 30     |    |                |  |  |
| 8  | 297                                    | 26.7 | 55.6    | 76                                                                                                      | 47.5 <sup>107</sup> | -11 56.2 <sup>149</sup> | 35      | 04            | 29                   | 18 58   | 22 07 71  |                | 18 34     |    |                |  |  |
| 9  | 312                                    | 26.8 | 54.7    | 91                                                                                                      | 17.1 <sup>106</sup> | -12 11.1 <sup>149</sup> | 30      | 05            | 29                   | 57      | 21 59 68  |                | 25 37     |    |                |  |  |
| 10 | 327                                    | 27.0 | 53.7    | 105                                                                                                     | 46.6 <sup>105</sup> | 25.9 <sup>148</sup>     | 20      | 08            | 30                   | 56      | 45 62     |                | 35 43     |    |                |  |  |
| 11 | 342                                    | 27.1 | -3 52.7 | 120                                                                                                     | 16.0 <sup>104</sup> | -12 40.6 <sup>147</sup> | 10 N    | 18 11         | 18 32                | 18 56   | 21 32 58  |                | 8 45 47   |    |                |  |  |
| 12 | 357                                    | 27.3 | -3 51.7 | 134                                                                                                     | 45.4 <sup>104</sup> | -12 55.3 <sup>147</sup> | 0       | 18 13         | 18 34                | 18 58   | 21 21 54  |                | 8 54 52   |    |                |  |  |
| 13 | 12                                     | 27.5 | 50.7    | 149                                                                                                     | 14.7 <sup>103</sup> | -13 09.9 <sup>146</sup> | 10 S    | 16            | 37                   | 19 02   | 21 10 49  |                | 9 03 57   |    |                |  |  |
| 14 | 27                                     | 27.6 | 49.7    | 163                                                                                                     | 44.0 <sup>103</sup> | 24.5 <sup>146</sup>     | 20      | 19            | 41                   | 07      | 20 58 45  |                | 13 61     |    |                |  |  |
| 15 | 42                                     | 27.8 | 48.8    | 178                                                                                                     | 13.1 <sup>101</sup> | 39.0 <sup>145</sup>     | 30      | 23            | 47                   | 15      | 44 40     |                | 24 67     |    |                |  |  |
| 16 | 57                                     | 28.0 | 47.8    | 192                                                                                                     | 42.2 <sup>101</sup> | -13 53.4 <sup>144</sup> | 35      | 25            | 50                   | 20      | 36 37     |                | 30 71     |    |                |  |  |
| 17 | 72                                     | 28.1 | -3 46.8 | 207                                                                                                     | 11.2 <sup>100</sup> | -14 07.7 <sup>143</sup> | 40      | 18 27         | 18 54                | 19 26   | 20 27 33  |                | 9 38 74   |    |                |  |  |
| 18 | 87                                     | 28.3 | -3 45.8 | 221                                                                                                     | 40.2 <sup>100</sup> | -14 22.0 <sup>143</sup> | 45      | 18 30         | 18 59                | 19 34   | 20 17 29  |                | 9 46 79   |    |                |  |  |
| 19 | 102                                    | 28.4 | 44.8    | 236                                                                                                     | 09.1 <sup>99</sup>  | 36.1 <sup>141</sup>     | 50      | 33            | 19 06                | 45      | 20 05 23  |                | 9 57 85   |    |                |  |  |
| 20 | 117                                    | 28.6 | 43.9    | 250                                                                                                     | 37.8 <sup>97</sup>  | -14 50.2 <sup>141</sup> | 52      | 35            | 09                   | 50      | 19 59 20  |                | 10 01 88  |    |                |  |  |
| 21 | 132                                    | 28.8 | 42.9    | 265                                                                                                     | 06.6 <sup>98</sup>  | -15 04.3 <sup>141</sup> | 54      | 37            | 12                   | 19 56   | 53 17     |                | 07 91     |    |                |  |  |
| 22 | 147                                    | 28.9 | 41.9    | 279                                                                                                     | 35.2 <sup>96</sup>  | 18.2 <sup>139</sup>     | 56      | 38            | 16                   | 20 02   | 46 14     |                | 13 95     |    |                |  |  |
| 23 | 162                                    | 29.1 | 40.9    | 294                                                                                                     | 03.7 <sup>95</sup>  | 32.1 <sup>139</sup>     | 58      | 41            | 20                   | 09      | 38 10     |                | 20 99     |    |                |  |  |
| 24 | 177                                    | 29.3 | -3 39.9 | 308                                                                                                     | 32.2 <sup>95</sup>  | -15 45.8 <sup>137</sup> | 60 S    | 18 43         | 19 25                | 20 18   | 19 30 4   |                | 10 27 104 |    |                |  |  |

| UT  | ARIES                                  |      | VENUS                                             |      |          | MARTE                                             |      |          | JÚPITER                                           |      |         | SATURNO                                          |      |          |
|-----|----------------------------------------|------|---------------------------------------------------|------|----------|---------------------------------------------------|------|----------|---------------------------------------------------|------|---------|--------------------------------------------------|------|----------|
|     | PMG: 12 <sup>h</sup> 45 <sup>m</sup> 9 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |      |          | Mag: +1.2<br>PMG: 16 <sup>h</sup> 07 <sup>m</sup> |      |          | Mag: -2.5<br>PMG: 23 <sup>h</sup> 44 <sup>m</sup> |      |         | Mag: 0.0<br>PMG: 19 <sup>h</sup> 12 <sup>m</sup> |      |          |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂     | Dec                                               | hG ♃ | Dec      | hG ♄                                              | Dec  |         |                                                  |      |          |
| h   | °                                      | '    | °                                                 | °    | '        | °                                                 | °    | '        | °                                                 | °    | '       | °                                                | °    | '        |
| 0   | 168                                    | 00.3 | 136                                               | 10.4 | +14 38.0 | 117                                               | 56.1 | +19 26.5 | 2                                                 | 55.5 | +7 55.2 | 71                                               | 10.8 | +22 47.1 |
| 1   | 183                                    | 02.8 | 151                                               | 10.3 | 39.1     | 132                                               | 56.9 | 26.9     | 17                                                | 58.3 | 55.3    | 86                                               | 13.2 | 47.1     |
| 2   | 198                                    | 05.2 | 166                                               | 10.2 | 40.2     | 147                                               | 57.7 | 27.4     | 33                                                | 01.1 | 55.5    | 101                                              | 15.7 | 47.1     |
| 3   | 213                                    | 07.7 | 181                                               | 10.1 | 41.4     | 162                                               | 58.6 | 27.8     | 48                                                | 03.8 | 55.6    | 116                                              | 18.1 | 47.1     |
| 4   | 228                                    | 10.2 | 196                                               | 09.9 | 42.5     | 177                                               | 59.4 | 28.2     | 63                                                | 06.6 | 55.7    | 131                                              | 20.6 | 47.1     |
| 5   | 243                                    | 12.6 | 211                                               | 09.8 | +14 43.6 | 193                                               | 00.2 | +19 28.6 | 78                                                | 09.4 | +7 55.8 | 146                                              | 23.0 | +22 47.1 |
| 6   | 258                                    | 15.1 | 226                                               | 09.7 | +14 44.7 | 208                                               | 01.1 | +19 29.1 | 93                                                | 12.1 | +7 56.0 | 161                                              | 25.5 | +22 47.1 |
| 7   | 273                                    | 17.6 | 241                                               | 09.6 | 45.8     | 223                                               | 01.9 | 29.5     | 108                                               | 14.9 | 56.1    | 176                                              | 27.9 | 47.1     |
| 8   | 288                                    | 20.0 | 256                                               | 09.4 | 46.9     | 238                                               | 02.7 | 29.9     | 123                                               | 17.6 | 56.2    | 191                                              | 30.4 | 47.1     |
| 9   | 303                                    | 22.5 | 271                                               | 09.3 | 48.0     | 253                                               | 03.5 | 30.3     | 138                                               | 20.4 | 56.3    | 206                                              | 32.8 | 47.1     |
| 10  | 318                                    | 25.0 | 286                                               | 09.2 | 49.1     | 268                                               | 04.4 | 30.8     | 153                                               | 23.2 | 56.5    | 221                                              | 35.3 | 47.1     |
| 11  | 333                                    | 27.4 | 301                                               | 09.1 | +14 50.2 | 283                                               | 05.2 | +19 31.2 | 168                                               | 25.9 | +7 56.6 | 236                                              | 37.7 | +22 47.1 |
| 12  | 348                                    | 29.9 | 316                                               | 08.9 | +14 51.3 | 298                                               | 06.0 | +19 31.6 | 183                                               | 28.7 | +7 56.7 | 251                                              | 40.2 | +22 47.1 |
| 13  | 3                                      | 32.4 | 331                                               | 08.8 | 52.4     | 313                                               | 06.8 | 32.0     | 198                                               | 31.5 | 56.8    | 266                                              | 42.6 | 47.1     |
| 14  | 18                                     | 34.8 | 346                                               | 08.7 | 53.5     | 328                                               | 07.6 | 32.4     | 213                                               | 34.2 | 57.0    | 281                                              | 45.1 | 47.1     |
| 15  | 33                                     | 37.3 | 1                                                 | 08.6 | 54.6     | 343                                               | 08.5 | 32.9     | 228                                               | 37.0 | 57.1    | 296                                              | 47.5 | 47.2     |
| 16  | 48                                     | 39.7 | 16                                                | 08.5 | 55.7     | 358                                               | 09.3 | 33.3     | 243                                               | 39.8 | 57.2    | 311                                              | 50.0 | 47.2     |
| 17  | 63                                     | 42.2 | 31                                                | 08.3 | +14 56.8 | 13                                                | 10.1 | +19 33.7 | 258                                               | 42.5 | +7 57.3 | 326                                              | 52.4 | +22 47.2 |
| 18  | 78                                     | 44.7 | 46                                                | 08.2 | +14 57.9 | 28                                                | 10.9 | +19 34.1 | 273                                               | 45.3 | +7 57.5 | 341                                              | 54.9 | +22 47.2 |
| 19  | 93                                     | 47.1 | 61                                                | 08.1 | +14 59.0 | 43                                                | 11.8 | 34.6     | 288                                               | 48.0 | 57.6    | 356                                              | 57.3 | 47.2     |
| 20  | 108                                    | 49.6 | 76                                                | 08.0 | +15 00.1 | 58                                                | 12.6 | 35.0     | 303                                               | 50.8 | 57.7    | 11                                               | 59.8 | 47.2     |
| 21  | 123                                    | 52.1 | 91                                                | 07.8 | 01.2     | 73                                                | 13.4 | 35.4     | 318                                               | 53.6 | 57.8    | 27                                               | 02.2 | 47.2     |
| 22  | 138                                    | 54.5 | 106                                               | 07.7 | 02.3     | 88                                                | 14.2 | 35.8     | 333                                               | 56.3 | 58.0    | 42                                               | 04.7 | 47.2     |
| 23  | 153                                    | 57.0 | 121                                               | 07.6 | 03.4     | 103                                               | 15.1 | 36.2     | 348                                               | 59.1 | 58.1    | 57                                               | 07.1 | 47.2     |
| 24  | 168                                    | 59.5 | 136                                               | 07.5 | +15 04.5 | 118                                               | 15.9 | +19 36.7 | 4                                                 | 01.9 | +7 58.2 | 72                                               | 09.6 | +22 47.2 |
| Dif | —                                      |      | -1                                                | +11  | +8       | +4                                                |      |          | +28                                               | +1   |         | +24                                              | 0    |          |

| UT | SOL                                                             |      |    | LUNA                                                                                                                                                                                                      |     |      |     |      | Latitud             | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    |          | Puesta de Luna |          |           |    |     |
|----|-----------------------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------------------|--------------------------|-------|---------------|----------------|----|----------|----------------|----------|-----------|----|-----|
|    | SD: 16 <sup>h</sup> 1<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> 9 |      |    | Edad: 19 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> 3<br>12 <sup>h</sup> : 59 <sup>m</sup> 3<br>20 <sup>h</sup> : 59 <sup>m</sup> 3<br>PMG: 3 <sup>h</sup> 33 <sup>m</sup> R°: 55 <sup>m</sup> |     |      |     |      |                     |                          |       |               |                |    |          |                |          |           |    |     |
|    | hG ☉                                                            | Dec  |    | hG ☾                                                                                                                                                                                                      | Dif | Dec  | Dif |      |                     | Náutico                  | Civil |               | Hora           | R° | Hora     | R°             |          |           |    |     |
| h  | °                                                               | '    | °  | '                                                                                                                                                                                                         | °   | '    | °   | '    | °                   | h                        | m     | h             | m              | h  | m        | m              |          |           |    |     |
| 0  | 177                                                             | 29.3 | -3 | 39.9                                                                                                                                                                                                      | 308 | 32.2 | -15 | 45.8 | 60 N                | 4                        | 58    | 5             | 47             | 6  | 28       | *** ** *       | 7 28 6   |           |    |     |
| 1  | 192                                                             | 29.4 |    | 39.0                                                                                                                                                                                                      | 323 | 00.6 | 94  | -15  | 59.5 <sup>137</sup> | 58                       | 5     | 02            | 48             | 27 | *** ** * | 40 11          |          |           |    |     |
| 2  | 207                                                             | 29.6 |    | 38.0                                                                                                                                                                                                      | 337 | 28.9 | 93  | -16  | 13.1 <sup>136</sup> | 56                       |       | 05            | 48             | 25 | *** ** * | 50 16          |          |           |    |     |
| 3  | 222                                                             | 29.8 |    | 37.0                                                                                                                                                                                                      | 351 | 57.2 | 93  |      | 26.6 <sup>135</sup> | 54                       |       | 08            | 49             | 24 | *** ** * | 7 58 20        |          |           |    |     |
| 4  | 237                                                             | 29.9 |    | 36.0                                                                                                                                                                                                      | 6   | 25.3 | 91  |      | 40.1 <sup>135</sup> | 52                       |       | 10            | 49             | 23 | *** ** * | 8 06 23        |          |           |    |     |
| 5  | 252                                                             | 30.1 | -3 | 35.0                                                                                                                                                                                                      | 20  | 53.4 | 91  | -16  | 53.4 <sup>133</sup> | 50                       | 5     | 12            | 5              | 50 | 6        | 22             | *** ** * | 8 13 26   |    |     |
| 6  | 267                                                             | 30.3 | -3 | 34.0                                                                                                                                                                                                      | 35  | 21.4 | 90  | -17  | 06.6 <sup>132</sup> | 45                       | 5     | 16            | 5              | 50 | 6        | 20             | 23 47 80 | 8 29 31   |    |     |
| 7  | 282                                                             | 30.4 |    | 33.1                                                                                                                                                                                                      | 49  | 49.3 | 89  |      | 19.7 <sup>131</sup> | 40                       |       | 19            | 51             | 18 | 32       | 75             | 41 36    |           |    |     |
| 8  | 297                                                             | 30.6 |    | 32.1                                                                                                                                                                                                      | 64  | 17.1 | 88  |      | 32.8 <sup>131</sup> | 35                       |       | 21            | 51             | 16 | 18       | 72             | 8 52 39  |           |    |     |
| 9  | 312                                                             | 30.8 |    | 31.1                                                                                                                                                                                                      | 78  | 44.8 | 87  |      | 45.7 <sup>129</sup> | 30                       |       | 23            | 50             | 14 | 23       | 07             | 9 02 42  |           |    |     |
| 10 | 327                                                             | 30.9 |    | 30.1                                                                                                                                                                                                      | 93  | 12.5 | 87  | -17  | 58.6 <sup>129</sup> | 20                       |       | 24            | 50             | 12 | 22       | 47             | 18 47    |           |    |     |
| 11 | 342                                                             | 31.1 | -3 | 29.1                                                                                                                                                                                                      | 107 | 40.0 | 85  | -18  | 11.3 <sup>127</sup> | 10 N                     | 5     | 24            | 5              | 48 | 6        | 09             | 22 30 61 | 9 32 52   |    |     |
| 12 | 357                                                             | 31.3 | -3 | 28.1                                                                                                                                                                                                      | 122 | 07.5 | 85  | -18  | 23.9 <sup>126</sup> | 0                        | 5     | 22            | 5              | 46 | 6        | 07             | 22 15 57 | 9 46 56   |    |     |
| 13 | 12                                                              | 31.4 |    | 27.2                                                                                                                                                                                                      | 136 | 34.9 | 84  |      | 36.4 <sup>125</sup> | 10 S                     |       | 19            | 43             | 04 | 21       | 59             | 54       | 10 00 59  |    |     |
| 14 | 27                                                              | 31.6 |    | 26.2                                                                                                                                                                                                      | 151 | 02.2 | 83  | -18  | 48.8 <sup>124</sup> | 20                       |       | 13            | 39             | 6  | 01       | 43             | 50       | 14 64     |    |     |
| 15 | 42                                                              | 31.8 |    | 25.2                                                                                                                                                                                                      | 165 | 29.4 | 82  | -19  | 01.2 <sup>124</sup> | 30                       |       | 06            | 34             | 5  | 58       | 24             | 45       | 31 69     |    |     |
| 16 | 57                                                              | 31.9 |    | 24.2                                                                                                                                                                                                      | 179 | 56.6 | 82  |      | 13.3 <sup>121</sup> | 35                       | 5     | 01            | 30             | 56 | 13       | 43             | 41       | 72        |    |     |
| 17 | 72                                                              | 32.1 | -3 | 23.2                                                                                                                                                                                                      | 194 | 23.6 | 80  | -19  | 25.4 <sup>121</sup> | 40                       | 4     | 54            | 5              | 26 | 5        | 54             | 21 00 40 | 10 52 76  |    |     |
| 18 | 87                                                              | 32.3 | -3 | 22.2                                                                                                                                                                                                      | 208 | 50.6 | 80  | -19  | 37.4 <sup>120</sup> | 45                       | 4     | 46            | 5              | 21 | 5        | 51             | 20 46 35 | 11 05 80  |    |     |
| 19 | 102                                                             | 32.4 |    | 21.3                                                                                                                                                                                                      | 223 | 17.4 | 78  | -19  | 49.2 <sup>118</sup> | 50                       |       | 36            | 15             | 48 | 28       | 30             | 22       | 85        |    |     |
| 20 | 117                                                             | 32.6 |    | 20.3                                                                                                                                                                                                      | 237 | 44.2 | 78  | -20  | 01.0 <sup>118</sup> | 52                       |       | 31            | 12             | 46 | 19       | 28             | 29       | 89        |    |     |
| 21 | 132                                                             | 32.8 |    | 19.3                                                                                                                                                                                                      | 252 | 10.9 | 77  |      | 12.6 <sup>116</sup> | 54                       |       | 25            | 09             | 45 | 10       | 24             | 38       | 92        |    |     |
| 22 | 147                                                             | 32.9 |    | 18.3                                                                                                                                                                                                      | 266 | 37.5 | 76  |      | 24.1 <sup>115</sup> | 56                       |       | 19            | 05             | 43 | 20       | 00             | 20       | 48        | 96 |     |
| 23 | 162                                                             | 33.1 |    | 17.3                                                                                                                                                                                                      | 281 | 04.0 | 75  |      | 35.4 <sup>113</sup> | 58                       |       | 12            | 5              | 01 | 19       | 48             | 15       | 11        | 59 | 101 |
| 24 | 177                                                             | 33.3 | -3 | 16.3                                                                                                                                                                                                      | 295 | 30.5 | 75  | -20  | 46.7 <sup>113</sup> | 60 S                     | 4     | 03            | 4              | 56 | 5        | 38             | 19 34 9  | 12 11 108 |    |     |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 12 <sup>h</sup> 41 <sup>m</sup> 9 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.2<br>PMG: 16 <sup>h</sup> 06 <sup>m</sup> |      | Mag: -2.5<br>PMG: 23 <sup>h</sup> 40 <sup>m</sup> |      | Mag: 0.0<br>PMG: 19 <sup>h</sup> 08 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 168                                    | 59.5 | 136                                               | 07.5 | +15                                               | 04.5 | 118                                               | 15.9 | +19                                              | 36.7 | 4   | 01.9 | +7 | 58.2 | 72  | 09.6 | +22 | 47.2 |
| 1   | 184                                    | 01.9 | 151                                               | 07.3 |                                                   | 05.6 | 133                                               | 16.7 |                                                  | 37.1 | 19  | 04.6 |    | 58.3 | 87  | 12.0 |     | 47.2 |
| 2   | 199                                    | 04.4 | 166                                               | 07.2 |                                                   | 06.7 | 148                                               | 17.5 |                                                  | 37.5 | 34  | 07.4 |    | 58.5 | 102 | 14.5 |     | 47.2 |
| 3   | 214                                    | 06.9 | 181                                               | 07.1 |                                                   | 07.8 | 163                                               | 18.4 |                                                  | 37.9 | 49  | 10.2 |    | 58.6 | 117 | 16.9 |     | 47.2 |
| 4   | 229                                    | 09.3 | 196                                               | 07.0 |                                                   | 08.9 | 178                                               | 19.2 |                                                  | 38.3 | 64  | 12.9 |    | 58.7 | 132 | 19.4 |     | 47.2 |
| 5   | 244                                    | 11.8 | 211                                               | 06.8 | +15                                               | 10.0 | 193                                               | 20.0 | +19                                              | 38.8 | 79  | 15.7 | +7 | 58.8 | 147 | 21.8 | +22 | 47.2 |
| 6   | 259                                    | 14.2 | 226                                               | 06.7 | +15                                               | 11.1 | 208                                               | 20.8 | +19                                              | 39.2 | 94  | 18.4 | +7 | 59.0 | 162 | 24.3 | +22 | 47.2 |
| 7   | 274                                    | 16.7 | 241                                               | 06.6 |                                                   | 12.2 | 223                                               | 21.6 |                                                  | 39.6 | 109 | 21.2 |    | 59.1 | 177 | 26.7 |     | 47.2 |
| 8   | 289                                    | 19.2 | 256                                               | 06.5 |                                                   | 13.3 | 238                                               | 22.5 |                                                  | 40.0 | 124 | 24.0 |    | 59.2 | 192 | 29.1 |     | 47.2 |
| 9   | 304                                    | 21.6 | 271                                               | 06.3 |                                                   | 14.4 | 253                                               | 23.3 |                                                  | 40.4 | 139 | 26.7 |    | 59.3 | 207 | 31.6 |     | 47.3 |
| 10  | 319                                    | 24.1 | 286                                               | 06.2 |                                                   | 15.5 | 268                                               | 24.1 |                                                  | 40.8 | 154 | 29.5 |    | 59.5 | 222 | 34.0 |     | 47.3 |
| 11  | 334                                    | 26.6 | 301                                               | 06.1 | +15                                               | 16.6 | 283                                               | 24.9 | +19                                              | 41.3 | 169 | 32.3 | +7 | 59.6 | 237 | 36.5 | +22 | 47.3 |
| 12  | 349                                    | 29.0 | 316                                               | 06.0 | +15                                               | 17.7 | 298                                               | 25.7 | +19                                              | 41.7 | 184 | 35.0 | +7 | 59.7 | 252 | 38.9 | +22 | 47.3 |
| 13  | 4                                      | 31.5 | 331                                               | 05.8 |                                                   | 18.8 | 313                                               | 26.6 |                                                  | 42.1 | 199 | 37.8 |    | 59.8 | 267 | 41.4 |     | 47.3 |
| 14  | 19                                     | 34.0 | 346                                               | 05.7 |                                                   | 19.9 | 328                                               | 27.4 |                                                  | 42.5 | 214 | 40.6 | +7 | 59.9 | 282 | 43.8 |     | 47.3 |
| 15  | 34                                     | 36.4 | 1                                                 | 05.6 |                                                   | 20.9 | 343                                               | 28.2 |                                                  | 42.9 | 229 | 43.3 | +8 | 00.1 | 297 | 46.3 |     | 47.3 |
| 16  | 49                                     | 38.9 | 16                                                | 05.5 |                                                   | 22.0 | 358                                               | 29.0 |                                                  | 43.3 | 244 | 46.1 |    | 00.2 | 312 | 48.7 |     | 47.3 |
| 17  | 64                                     | 41.3 | 31                                                | 05.3 | +15                                               | 23.1 | 13                                                | 29.9 | +19                                              | 43.8 | 259 | 48.8 | +8 | 00.3 | 327 | 51.1 | +22 | 47.3 |
| 18  | 79                                     | 43.8 | 46                                                | 05.2 | +15                                               | 24.2 | 28                                                | 30.7 | +19                                              | 44.2 | 274 | 51.6 | +8 | 00.4 | 342 | 53.6 | +22 | 47.3 |
| 19  | 94                                     | 46.3 | 61                                                | 05.1 |                                                   | 25.3 | 43                                                | 31.5 |                                                  | 44.6 | 289 | 54.4 |    | 00.6 | 357 | 56.0 |     | 47.3 |
| 20  | 109                                    | 48.7 | 76                                                | 05.0 |                                                   | 26.4 | 58                                                | 32.3 |                                                  | 45.0 | 304 | 57.1 |    | 00.7 | 12  | 58.5 |     | 47.3 |
| 21  | 124                                    | 51.2 | 91                                                | 04.8 |                                                   | 27.5 | 73                                                | 33.1 |                                                  | 45.4 | 319 | 59.9 |    | 00.8 | 28  | 00.9 |     | 47.3 |
| 22  | 139                                    | 53.7 | 106                                               | 04.7 |                                                   | 28.6 | 88                                                | 34.0 |                                                  | 45.8 | 335 | 02.7 |    | 00.9 | 43  | 03.4 |     | 47.3 |
| 23  | 154                                    | 56.1 | 121                                               | 04.6 |                                                   | 29.6 | 103                                               | 34.8 |                                                  | 46.2 | 350 | 05.4 |    | 01.1 | 58  | 05.8 |     | 47.3 |
| 24  | 169                                    | 58.6 | 136                                               | 04.5 | +15                                               | 30.7 | 118                                               | 35.6 | +19                                              | 46.7 | 5   | 08.2 | +8 | 01.2 | 73  | 08.2 | +22 | 47.3 |
| Dif | —                                      |      | -1                                                |      | +11                                               |      | +8                                                |      | +4                                               |      | +28 |      | +1 |      | +24 |      | 0   |      |

| UT  | SOL                                                |      |                                                   | LUNA                                                                                                                                                                           |          |                                                   |     | Latitud | Puesta de Sol                                     | Final del crepúsculo |          | Salida de Luna                                   |           | Puesta de Luna |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|-----|---------|---------------------------------------------------|----------------------|----------|--------------------------------------------------|-----------|----------------|----|
|     | SD: 16'1<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> 6 |      |                                                   | Edad: 20 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 59'3<br>12 <sup>h</sup> : 59'3<br>20 <sup>h</sup> : 59'3<br>SD: 16'2<br>PMG: 4 <sup>h</sup> 28 <sup>m</sup> R°: 58 <sup>m</sup> |          |                                                   |     |         |                                                   |                      |          |                                                  |           |                |    |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                           | Dif      | Dec                                               | Dif |         |                                                   | Civil                | Náutico  | Hora                                             | R°        | Hora           | R° |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                              | '        | °                                                 | '   | °       | h                                                 | m                    | h        | m                                                | h         | m              | m  |
| 0   | 177                                                | 33.3 | -3 16.3                                           | 295                                                                                                                                                                            | 30.5     | -20 46.7                                          | 73  | 60 N    | 17 56                                             | 18 37                | 19 26    | 1 09 109                                         | 7 34 13   |                |    |
| 1   | 192                                                | 33.4 |                                                   | 309                                                                                                                                                                            | 56.8     | -20 57.8                                          | 111 | 58      | 57                                                | 36                   | 22       | 0 53 100                                         | 7 51 20   |                |    |
| 2   | 207                                                | 33.6 |                                                   | 324                                                                                                                                                                            | 23.1     | -21 08.8                                          | 110 | 56      | 58                                                | 35                   | 18       | 39 95                                            | 8 06 25   |                |    |
| 3   | 222                                                | 33.8 |                                                   | 338                                                                                                                                                                            | 49.2     | -21 19.6                                          | 108 | 54      | 17 59                                             | 34                   | 15       | 27 91                                            | 18 30     |                |    |
| 4   | 237                                                | 33.9 |                                                   | 353                                                                                                                                                                            | 15.3     | -21 30.4                                          | 108 | 52      | 18 00                                             | 33                   | 13       | 16 88                                            | 29 33     |                |    |
| 5   | 252                                                | 34.1 | -3 11.4                                           | 7                                                                                                                                                                              | 41.3     | -21 41.0                                          | 106 | 50      | 18 01                                             | 18 33                | 19 10    | 0 07 85                                          | 8 39 36   |                |    |
| 6   | 267                                                | 34.3 | -3 10.4                                           | 22                                                                                                                                                                             | 07.2     | -21 51.4                                          | 104 | 45      | 18 02                                             | 18 32                | 19 06    | ** ** *                                          | 9 00 40   |                |    |
| 7   | 282                                                | 34.4 | 09.5                                              | 36                                                                                                                                                                             | 33.0     | -22 01.8                                          | 104 | 40      | 04                                                | 31                   | 02       | ** ** *                                          | 17 44     |                |    |
| 8   | 297                                                | 34.6 | 08.5                                              | 50                                                                                                                                                                             | 58.8     | -22 12.0                                          | 102 | 35      | 05                                                | 31                   | 19 00    | ** ** *                                          | 31 47     |                |    |
| 9   | 312                                                | 34.8 | 07.5                                              | 65                                                                                                                                                                             | 24.4     | -22 22.0                                          | 100 | 30      | 07                                                | 30                   | 18 58    | ** ** *                                          | 9 44 49   |                |    |
| 10  | 327                                                | 34.9 | 06.5                                              | 79                                                                                                                                                                             | 50.0     | -22 31.9                                          | 99  | 20      | 09                                                | 31                   | 56       | 23 52 65                                         | 10 05 53  |                |    |
| 11  | 342                                                | 35.1 | -3 05.5                                           | 94                                                                                                                                                                             | 15.4     | -22 41.7                                          | 98  | 10 N    | 18 11                                             | 18 32                | 18 56    | 23 31 63                                         | 10 24 56  |                |    |
| 12  | 357                                                | 35.3 | -3 04.5                                           | 108                                                                                                                                                                            | 40.8     | -22 51.3                                          | 96  | 0       | 18 13                                             | 18 34                | 18 58    | 23 12 61                                         | 10 42 59  |                |    |
| 13  | 12                                                 | 35.5 | 03.6                                              | 123                                                                                                                                                                            | 06.1     | -23 00.8                                          | 95  | 10 S    | 15                                                | 36                   | 19 01    | 22 53 58                                         | 10 59 62  |                |    |
| 14  | 27                                                 | 35.6 | 02.6                                              | 137                                                                                                                                                                            | 31.4     | -23 10.2                                          | 94  | 20      | 17                                                | 40                   | 05       | 33 56                                            | 11 18 65  |                |    |
| 15  | 42                                                 | 35.8 | 01.6                                              | 151                                                                                                                                                                            | 56.5     | -23 19.4                                          | 92  | 30      | 20                                                | 44                   | 12       | 22 09 53                                         | 40 69     |                |    |
| 16  | 57                                                 | 36.0 | -3 00.6                                           | 166                                                                                                                                                                            | 21.6     | -23 28.4                                          | 90  | 35      | 22                                                | 47                   | 17       | 21 56 51                                         | 11 53 71  |                |    |
| 17  | 72                                                 | 36.1 | -2 59.6                                           | 180                                                                                                                                                                            | 46.6     | -23 37.3                                          | 89  | 40      | 18 24                                             | 18 51                | 19 23    | 21 40 49                                         | 12 08 73  |                |    |
| 18  | 87                                                 | 36.3 | -2 58.6                                           | 195                                                                                                                                                                            | 11.5     | -23 46.0                                          | 87  | 45      | 18 26                                             | 18 56                | 19 31    | 21 21 46                                         | 12 25 78  |                |    |
| 19  | 102                                                | 36.5 | 57.6                                              | 209                                                                                                                                                                            | 36.3     | -23 54.6                                          | 86  | 50      | 29                                                | 19 01                | 40       | 20 58 42                                         | 47 82     |                |    |
| 20  | 117                                                | 36.6 | 56.7                                              | 224                                                                                                                                                                            | 01.0     | -24 03.1                                          | 85  | 52      | 30                                                | 04                   | 45       | 47 39                                            | 12 58 84  |                |    |
| 21  | 132                                                | 36.8 | 55.7                                              | 238                                                                                                                                                                            | 25.7     | -24 11.4                                          | 83  | 54      | 32                                                | 07                   | 50       | 34 37                                            | 13 10 87  |                |    |
| 22  | 147                                                | 37.0 | 54.7                                              | 252                                                                                                                                                                            | 50.3     | -24 19.5                                          | 81  | 56      | 33                                                | 11                   | 19 56    | 20 33                                            | 24 91     |                |    |
| 23  | 162                                                | 37.1 | 53.7                                              | 267                                                                                                                                                                            | 14.8     | -24 27.4                                          | 79  | 58      | 35                                                | 15                   | 20 03    | 20 03 28                                         | 40 96     |                |    |
| 24  | 177                                                | 37.3 | -2 52.7                                           | 281                                                                                                                                                                            | 39.3     | -24 35.3                                          | 79  | 60 S    | 18 37                                             | 19 19                | 20 11    | 19 43 21                                         | 13 59 105 |                |    |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                |          | MARTE                                             |     |         | JÚPITER                                           |                      |          | SATURNO                                          |           |                |    |
|     | PMG: 12 <sup>h</sup> 38 <sup>m</sup> 0             |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |                                                                                                                                                                                |          | Mag: +1.2<br>PMG: 16 <sup>h</sup> 05 <sup>m</sup> |     |         | Mag: -2.5<br>PMG: 23 <sup>h</sup> 35 <sup>m</sup> |                      |          | Mag: 0.0<br>PMG: 19 <sup>h</sup> 04 <sup>m</sup> |           |                |    |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                            |          | hG ♂                                              | Dec |         | hG ♃                                              | Dec                  |          | hG ♄                                             | Dec       |                |    |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                              | '        | °                                                 | '   | °       | °                                                 | '                    | °        | '                                                | °         | '              |    |
| 0   | 169                                                | 58.6 | 136 04.5                                          | +15 30.7                                                                                                                                                                       | 118 35.6 | +19 46.7                                          | 5   | 08.2    | +8 01.2                                           | 73 08.2              | +22 47.3 |                                                  |           |                |    |
| 1   | 185                                                | 01.1 | 151 04.4                                          | 31.8                                                                                                                                                                           | 133 36.4 | 47.1                                              | 20  | 10.9    | 01.3                                              | 88 10.7              | 47.3     |                                                  |           |                |    |
| 2   | 200                                                | 03.5 | 166 04.2                                          | 32.9                                                                                                                                                                           | 148 37.2 | 47.5                                              | 35  | 13.7    | 01.4                                              | 103 13.1             | 47.3     |                                                  |           |                |    |
| 3   | 215                                                | 06.0 | 181 04.1                                          | 34.0                                                                                                                                                                           | 163 38.1 | 47.9                                              | 50  | 16.5    | 01.6                                              | 118 15.6             | 47.3     |                                                  |           |                |    |
| 4   | 230                                                | 08.5 | 196 04.0                                          | 35.0                                                                                                                                                                           | 178 38.9 | 48.3                                              | 65  | 19.2    | 01.7                                              | 133 18.0             | 47.4     |                                                  |           |                |    |
| 5   | 245                                                | 10.9 | 211 03.9                                          | +15 36.1                                                                                                                                                                       | 193 39.7 | +19 48.7                                          | 80  | 22.0    | +8 01.8                                           | 148 20.5             | +22 47.4 |                                                  |           |                |    |
| 6   | 260                                                | 13.4 | 226 03.7                                          | +15 37.2                                                                                                                                                                       | 208 40.5 | +19 49.1                                          | 95  | 24.7    | +8 01.9                                           | 163 22.9             | +22 47.4 |                                                  |           |                |    |
| 7   | 275                                                | 15.8 | 241 03.6                                          | 38.3                                                                                                                                                                           | 223 41.3 | 49.6                                              | 110 | 27.5    | 02.0                                              | 178 25.3             | 47.4     |                                                  |           |                |    |
| 8   | 290                                                | 18.3 | 256 03.5                                          | 39.4                                                                                                                                                                           | 238 42.1 | 50.0                                              | 125 | 30.3    | 02.2                                              | 193 27.8             | 47.4     |                                                  |           |                |    |
| 9   | 305                                                | 20.8 | 271 03.4                                          | 40.4                                                                                                                                                                           | 253 43.0 | 50.4                                              | 140 | 33.0    | 02.3                                              | 208 30.2             | 47.4     |                                                  |           |                |    |
| 10  | 320                                                | 23.2 | 286 03.2                                          | 41.5                                                                                                                                                                           | 268 43.8 | 50.8                                              | 155 | 35.8    | 02.4                                              | 223 32.7             | 47.4     |                                                  |           |                |    |
| 11  | 335                                                | 25.7 | 301 03.1                                          | +15 42.6                                                                                                                                                                       | 283 44.6 | +19 51.2                                          | 170 | 38.6    | +8 02.5                                           | 238 35.1             | +22 47.4 |                                                  |           |                |    |
| 12  | 350                                                | 28.2 | 316 03.0                                          | +15 43.7                                                                                                                                                                       | 298 45.4 | +19 51.6                                          | 185 | 41.3    | +8 02.7                                           | 253 37.5             | +22 47.4 |                                                  |           |                |    |
| 13  | 5                                                  | 30.6 | 331 02.9                                          | 44.8                                                                                                                                                                           | 313 46.2 | 52.0                                              | 200 | 44.1    | 02.8                                              | 268 40.0             | 47.4     |                                                  |           |                |    |
| 14  | 20                                                 | 33.1 | 346 02.7                                          | 45.8                                                                                                                                                                           | 328 47.1 | 52.4                                              | 215 | 46.8    | 02.9                                              | 283 42.4             | 47.4     |                                                  |           |                |    |
| 15  | 35                                                 | 35.6 | 1 02.6                                            | 46.9                                                                                                                                                                           | 343 47.9 | 52.8                                              | 230 | 49.6    | 03.0                                              | 298 44.8             | 47.4     |                                                  |           |                |    |
| 16  | 50                                                 | 38.0 | 16 02.5                                           | 48.0                                                                                                                                                                           | 358 48.7 | 53.3                                              | 245 | 52.4    | 03.2                                              | 313 47.3             | 47.4     |                                                  |           |                |    |
| 17  | 65                                                 | 40.5 | 31 02.4                                           | +15 49.1                                                                                                                                                                       | 13 49.5  | +19 53.7                                          | 260 | 55.1    | +8 03.3                                           | 328 49.7             | +22 47.4 |                                                  |           |                |    |
| 18  | 80                                                 | 43.0 | 46 02.3                                           | +15 50.1                                                                                                                                                                       | 28 50.3  | +19 54.1                                          | 275 | 57.9    | +8 03.4                                           | 343 52.2             | +22 47.4 |                                                  |           |                |    |
| 19  | 95                                                 | 45.4 | 61 02.1                                           | 51.2                                                                                                                                                                           | 43 51.1  | 54.5                                              | 291 | 00.6    | 03.5                                              | 358 54.6             | 47.4     |                                                  |           |                |    |
| 20  | 110                                                | 47.9 | 76 02.0                                           | 52.3                                                                                                                                                                           | 58 52.0  | 54.9                                              | 306 | 03.4    | 03.6                                              | 13 57.0              | 47.4     |                                                  |           |                |    |
| 21  | 125                                                | 50.3 | 91 01.9                                           | 53.3                                                                                                                                                                           | 73 52.8  | 55.3                                              | 321 | 06.2    | 03.8                                              | 28 59.5              | 47.4     |                                                  |           |                |    |
| 22  | 140                                                | 52.8 | 106 01.8                                          | 54.4                                                                                                                                                                           | 88 53.6  | 55.7                                              | 336 | 08.9    | 03.9                                              | 44 01.9              | 47.5     |                                                  |           |                |    |
| 23  | 155                                                | 55.3 | 121 01.6                                          | 55.5                                                                                                                                                                           | 103 54.4 | 56.1                                              | 351 | 11.7    | 04.0                                              | 59 04.4              | 47.5     |                                                  |           |                |    |
| 24  | 170                                                | 57.7 | 136 01.5                                          | +15 56.6                                                                                                                                                                       | 118 55.2 | +19 56.5                                          | 6   | 14.5    | +8 04.1                                           | 74 06.8              | +22 47.5 |                                                  |           |                |    |
| Dif | —                                                  |      | -1                                                | +11                                                                                                                                                                            | +8       | +4                                                | +28 |         | +1                                                |                      | +24      |                                                  | 0         |                |    |

| UT | SOL                                                |      |    | ☾ LUNA                                                                                                                                                                |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |    |    |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----|----|----|
|    | SD: 16'1<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> 4 |      |    | Edad: 21 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 59/3<br>12 <sup>h</sup> : 59/3<br>20 <sup>h</sup> : 59/2<br>PMG: 5 <sup>h</sup> 26 <sup>m</sup> R°: 61 <sup>m</sup> |     |      |         |                          |         |               |                |      |                |      |    |    |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                  | Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R° |    |    |
| h  | °                                                  | '    | °  | '                                                                                                                                                                     | °   | '    | °       | '                        | h       | m             | h              | m    | h              | m    | h  | m  |    |
| 0  | 177                                                | 37.3 | -2 | 52.7                                                                                                                                                                  | 281 | 39.3 | -24     | 35.3                     | 76      | 60 N          | 4              | 52   | 5              | 41   | 6  | 22 |    |
| 1  | 192                                                | 37.5 |    | 51.7                                                                                                                                                                  | 296 | 03.6 | 53      | 42.9                     | 76      | 58            | 4              | 56   |                | 42   | 21 |    |    |
| 2  | 207                                                | 37.7 |    | 50.7                                                                                                                                                                  | 310 | 27.9 | 53      | 50.4                     | 75      | 56            | 5              | 00   |                | 43   | 20 |    |    |
| 3  | 222                                                | 37.8 |    | 49.8                                                                                                                                                                  | 324 | 52.1 | 52      | -24                      | 57.7    | 73            | 54             | 03   |                | 44   | 19 |    |    |
| 4  | 237                                                | 38.0 |    | 48.8                                                                                                                                                                  | 339 | 16.3 | 52      | -25                      | 04.9    | 72            | 52             | 05   |                | 45   | 18 |    |    |
| 5  | 252                                                | 38.2 | -2 | 47.8                                                                                                                                                                  | 353 | 40.4 | 51      | -25                      | 11.9    | 70            | 50             | 5    | 08             | 5    | 45 | 6  | 17 |
| 6  | 267                                                | 38.3 | -2 | 46.8                                                                                                                                                                  | 8   | 04.4 | 50      | -25                      | 18.7    | 68            | 45             | 5    | 13             | 5    | 47 | 6  | 16 |
| 7  | 282                                                | 38.5 |    | 45.8                                                                                                                                                                  | 22  | 28.4 | 50      | 25.4                     | 67      | 40            | 16             |      | 47             | 14   |    |    |    |
| 8  | 297                                                | 38.7 |    | 44.8                                                                                                                                                                  | 36  | 52.3 | 49      | 31.9                     | 65      | 35            | 19             |      | 48             | 13   |    |    |    |
| 9  | 312                                                | 38.9 |    | 43.9                                                                                                                                                                  | 51  | 16.1 | 48      | 38.2                     | 63      | 30            | 20             |      | 48             | 12   |    |    |    |
| 10 | 327                                                | 39.0 |    | 42.9                                                                                                                                                                  | 65  | 39.9 | 48      | 44.3                     | 61      | 20            | 22             |      | 48             | 10   |    |    |    |
| 11 | 342                                                | 39.2 | -2 | 41.9                                                                                                                                                                  | 80  | 03.6 | 47      | -25                      | 50.3    | 60            | 10 N           | 5    | 23             | 5    | 47 | 6  | 08 |
| 12 | 357                                                | 39.4 | -2 | 40.9                                                                                                                                                                  | 94  | 27.2 | 46      | -25                      | 56.1    | 58            | 0              | 5    | 21             | 5    | 45 | 6  | 06 |
| 13 | 12                                                 | 39.5 |    | 39.9                                                                                                                                                                  | 108 | 50.8 | 46      | -26                      | 01.7    | 56            | 10 S           | 19   |                | 43   | 04 |    |    |
| 14 | 27                                                 | 39.7 |    | 38.9                                                                                                                                                                  | 123 | 14.4 | 46      | 07.2                     | 55      | 20            | 20             | 14   |                | 40   | 6  | 02 |    |
| 15 | 42                                                 | 39.9 |    | 37.9                                                                                                                                                                  | 137 | 37.8 | 44      | 12.5                     | 53      | 30            | 20             | 07   |                | 35   | 5  | 59 |    |
| 16 | 57                                                 | 40.1 |    | 36.9                                                                                                                                                                  | 152 | 01.3 | 45      | 17.6                     | 51      | 35            | 5              | 02   |                | 32   | 58 |    |    |
| 17 | 72                                                 | 40.2 | -2 | 36.0                                                                                                                                                                  | 166 | 24.7 | 44      | -26                      | 22.5    | 49            | 40             | 4    | 57             | 5    | 29 | 5  | 56 |
| 18 | 87                                                 | 40.4 | -2 | 35.0                                                                                                                                                                  | 180 | 48.0 | 43      | -26                      | 27.3    | 48            | 45             | 4    | 49             | 5    | 24 | 5  | 54 |
| 19 | 102                                                | 40.6 |    | 34.0                                                                                                                                                                  | 195 | 11.3 | 43      | 31.9                     | 46      | 50            | 40             |      | 18             | 51   |    |    |    |
| 20 | 117                                                | 40.8 |    | 33.0                                                                                                                                                                  | 209 | 34.6 | 43      | 36.3                     | 44      | 52            | 35             |      | 16             | 50   |    |    |    |
| 21 | 132                                                | 40.9 |    | 32.0                                                                                                                                                                  | 223 | 57.8 | 42      | 40.5                     | 42      | 54            | 30             |      | 13             | 48   |    |    |    |
| 22 | 147                                                | 41.1 |    | 31.0                                                                                                                                                                  | 238 | 21.0 | 42      | 44.5                     | 40      | 56            | 24             |      | 09             | 47   |    |    |    |
| 23 | 162                                                | 41.3 |    | 30.0                                                                                                                                                                  | 252 | 44.1 | 41      | 48.4                     | 39      | 58            | 17             |      | 05             | 45   |    |    |    |
| 24 | 177                                                | 41.4 | -2 | 29.1                                                                                                                                                                  | 267 | 07.2 | 41      | -26                      | 52.0    | 36            | 60 S           | 4    | 09             | 5    | 01 | 5  | 43 |

| UT  | ARIES                                  |      | VENUS                                             |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                          |     |      |     |  |
|-----|----------------------------------------|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|--------------------------------------------------|-----|------|-----|--|
|     | PMG: 12 <sup>h</sup> 34 <sup>m</sup> 1 |      | Mag: -4.3<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      |     | Mag: +1.2<br>PMG: 16 <sup>h</sup> 03 <sup>m</sup> |     |      | Mag: -2.5<br>PMG: 23 <sup>h</sup> 31 <sup>m</sup> |      |     | Mag: 0.0<br>PMG: 19 <sup>h</sup> 00 <sup>m</sup> |     |      |     |  |
|     | hG ♈                                   |      | hG ♀                                              | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                              | Dec  |     | hG ♄                                             | Dec |      |     |  |
| h   | °                                      | '    | °                                                 | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                | °   | '    |     |  |
| 0   | 170                                    | 57.7 | 136                                               | 01.5 | +15 | 56.6                                              | 118 | 55.2 | +19                                               | 56.5 | 6   | 14.5                                             | +8  | 04.1 |     |  |
| 1   | 186                                    | 00.2 | 151                                               | 01.4 |     | 57.6                                              | 133 | 56.0 |                                                   | 56.9 | 21  | 17.2                                             |     | 04.3 |     |  |
| 2   | 201                                    | 02.7 | 166                                               | 01.3 |     | 58.7                                              | 148 | 56.9 |                                                   | 57.3 | 36  | 20.0                                             |     | 04.4 |     |  |
| 3   | 216                                    | 05.1 | 181                                               | 01.1 | +15 | 59.8                                              | 163 | 57.7 |                                                   | 57.7 | 51  | 22.7                                             |     | 04.5 |     |  |
| 4   | 231                                    | 07.6 | 196                                               | 01.0 | +16 | 00.8                                              | 178 | 58.5 |                                                   | 58.2 | 66  | 25.5                                             |     | 04.6 |     |  |
| 5   | 246                                    | 10.1 | 211                                               | 00.9 | +16 | 01.9                                              | 193 | 59.3 | +19                                               | 58.6 | 81  | 28.3                                             | +8  | 04.7 |     |  |
| 6   | 261                                    | 12.5 | 226                                               | 00.8 | +16 | 03.0                                              | 209 | 00.1 | +19                                               | 59.0 | 96  | 31.0                                             | +8  | 04.9 |     |  |
| 7   | 276                                    | 15.0 | 241                                               | 00.7 |     | 04.0                                              | 224 | 00.9 |                                                   | 59.4 | 111 | 33.8                                             |     | 05.0 |     |  |
| 8   | 291                                    | 17.5 | 256                                               | 00.5 |     | 05.1                                              | 239 | 01.7 | +19                                               | 59.8 | 126 | 36.5                                             |     | 05.1 |     |  |
| 9   | 306                                    | 19.9 | 271                                               | 00.4 |     | 06.2                                              | 254 | 02.6 | +20                                               | 00.2 | 141 | 39.3                                             |     | 05.2 |     |  |
| 10  | 321                                    | 22.4 | 286                                               | 00.3 |     | 07.2                                              | 269 | 03.4 |                                                   | 00.6 | 156 | 42.1                                             |     | 05.4 |     |  |
| 11  | 336                                    | 24.8 | 301                                               | 00.2 | +16 | 08.3                                              | 284 | 04.2 | +20                                               | 01.0 | 171 | 44.8                                             | +8  | 05.5 |     |  |
| 12  | 351                                    | 27.3 | 316                                               | 00.0 | +16 | 09.3                                              | 299 | 05.0 | +20                                               | 01.4 | 186 | 47.6                                             | +8  | 05.6 |     |  |
| 13  | 6                                      | 29.8 | 330                                               | 59.9 |     | 10.4                                              | 314 | 05.8 |                                                   | 01.8 | 201 | 50.3                                             |     | 05.7 |     |  |
| 14  | 21                                     | 32.2 | 345                                               | 59.8 |     | 11.5                                              | 329 | 06.6 |                                                   | 02.2 | 216 | 53.1                                             |     | 05.8 |     |  |
| 15  | 36                                     | 34.7 | 0                                                 | 59.7 |     | 12.5                                              | 344 | 07.4 |                                                   | 02.6 | 231 | 55.9                                             |     | 06.0 |     |  |
| 16  | 51                                     | 37.2 | 15                                                | 59.5 |     | 13.6                                              | 359 | 08.3 |                                                   | 03.0 | 246 | 58.6                                             |     | 06.1 |     |  |
| 17  | 66                                     | 39.6 | 30                                                | 59.4 | +16 | 14.7                                              | 14  | 09.1 | +20                                               | 03.4 | 262 | 01.4                                             | +8  | 06.2 |     |  |
| 18  | 81                                     | 42.1 | 45                                                | 59.3 | +16 | 15.7                                              | 29  | 09.9 | +20                                               | 03.8 | 277 | 04.1                                             | +8  | 06.3 |     |  |
| 19  | 96                                     | 44.6 | 60                                                | 59.2 |     | 16.8                                              | 44  | 10.7 |                                                   | 04.2 | 292 | 06.9                                             |     | 06.4 |     |  |
| 20  | 111                                    | 47.0 | 75                                                | 59.1 |     | 17.8                                              | 59  | 11.5 |                                                   | 04.6 | 307 | 09.7                                             |     | 06.6 |     |  |
| 21  | 126                                    | 49.5 | 90                                                | 58.9 |     | 18.9                                              | 74  | 12.3 |                                                   | 05.0 | 322 | 12.4                                             |     | 06.7 |     |  |
| 22  | 141                                    | 51.9 | 105                                               | 58.8 |     | 19.9                                              | 89  | 13.1 |                                                   | 05.4 | 337 | 15.2                                             |     | 06.8 |     |  |
| 23  | 156                                    | 54.4 | 120                                               | 58.7 |     | 21.0                                              | 104 | 14.0 |                                                   | 05.8 | 352 | 17.9                                             |     | 06.9 |     |  |
| 24  | 171                                    | 56.9 | 135                                               | 58.6 | +16 | 22.1                                              | 119 | 14.8 | +20                                               | 06.2 | 7   | 20.7                                             | +8  | 07.1 |     |  |
| Dif | —                                      |      | -1                                                | +11  |     |                                                   | +8  | +4   |                                                   |      | +28 | +1                                               |     |      | +24 |  |

| UT | SOL                                    |      |         | ☾ LUNA                                                                                                     |                                                         |             | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |    | Puesta de Luna |    |  |
|----|----------------------------------------|------|---------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------|---------|---------------|----------------------|-------|---------|----------------|----|----------------|----|--|
|    | SD: 16'1                               |      |         | Edad: 22 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 59'2<br>12 <sup>h</sup> : 59'1<br>20 <sup>h</sup> : 59'0 | SD: 16'1                                                |             |         |               | Final del crepúsculo |       |         | Salida de Luna |    | Puesta de Luna |    |  |
|    | PMG: 12 <sup>h</sup> 09 <sup>m</sup> 1 |      |         |                                                                                                            | PMG: 6 <sup>h</sup> 27 <sup>m</sup> R°: 62 <sup>m</sup> |             |         |               |                      |       |         |                |    |                |    |  |
|    | hG ☉                                   | Dec  |         | hG ☾                                                                                                       | Dif                                                     | Dec         | Dif     |               |                      | Civil | Náutico | Hora           | R° | Hora           | R° |  |
| h  | °                                      | '    | °       | °                                                                                                          | '                                                       | °           | '       | °             | h m                  | h m   | h m     | h m m          | m  | h m m          | m  |  |
| 0  | 177                                    | 41.4 | -2 29.1 | 267                                                                                                        | 07.2                                                    | -26 52.0    | 35      | 60 N          | 18 01                | 18 42 | 19 31   | 4 36 65        |    | 8 16 65        |    |  |
| 1  | 192                                    | 41.6 |         | 281                                                                                                        | 30.3                                                    | 41 55.5     | 33      | 58            | 01                   | 40    | 27      | 4 03 65        |    | 8 49 64        |    |  |
| 2  | 207                                    | 41.8 |         | 295                                                                                                        | 53.3                                                    | 40 -26 58.8 | 31      | 56            | 02                   | 39    | 23      | 3 39 65        |    | 9 13 64        |    |  |
| 3  | 222                                    | 42.0 |         | 310                                                                                                        | 16.3                                                    | 40 -27 01.9 | 30      | 54            | 03                   | 38    | 19      | 20 65          |    | 32 65          |    |  |
| 4  | 237                                    | 42.1 |         | 324                                                                                                        | 39.3                                                    | 40 04.9     | 30      | 52            | 03                   | 37    | 16      | 3 04 64        |    | 9 49 64        |    |  |
| 5  | 252                                    | 42.3 | -2 24.1 | 339                                                                                                        | 02.2                                                    | 39 -27 07.6 | 27      | 50            | 18 04                | 18 36 | 19 14   | 2 50 64        |    | 10 03 64       |    |  |
| 6  | 267                                    | 42.5 | -2 23.1 | 353                                                                                                        | 25.2                                                    | 40 -27 10.2 | 26      | 45            | 18 05                | 18 34 | 19 08   | 2 21 64        |    | 10 32 64       |    |  |
| 7  | 282                                    | 42.7 | 22.2    | 7                                                                                                          | 48.1                                                    | 39 12.6     | 24      | 40            | 06                   | 33    | 05      | 1 59 63        |    | 10 55 63       |    |  |
| 8  | 297                                    | 42.8 | 21.2    | 22                                                                                                         | 11.0                                                    | 39 14.8     | 22      | 35            | 07                   | 32    | 19 02   | 40 63          |    | 11 13 64       |    |  |
| 9  | 312                                    | 43.0 | 20.2    | 36                                                                                                         | 33.9                                                    | 39 16.8     | 20      | 30            | 08                   | 32    | 18 59   | 1 24 63        |    | 30 63          |    |  |
| 10 | 327                                    | 43.2 | 19.2    | 50                                                                                                         | 56.7                                                    | 38 18.6     | 18      | 20            | 09                   | 31    | 57      | 0 57 63        |    | 11 57 62       |    |  |
| 11 | 342                                    | 43.4 | -2 18.2 | 65                                                                                                         | 19.6                                                    | 39 -27 20.3 | 17      | 10 N          | 18 11                | 18 32 | 18 56   | 0 34 63        |    | 12 20 63       |    |  |
| 12 | 357                                    | 43.5 | -2 17.2 | 79                                                                                                         | 42.4                                                    | 38 -27 21.7 | 14      | 0             | 18 12                | 18 33 | 18 57   | 0 13 62        |    | 12 42 62       |    |  |
| 13 | 12                                     | 43.7 | 16.2    | 94                                                                                                         | 05.3                                                    | 39 23.0     | 13      | 10 S          | 14                   | 35    | 18 59   | ** ** *        |    | 13 04 61       |    |  |
| 14 | 27                                     | 43.9 | 15.2    | 108                                                                                                        | 28.1                                                    | 38 24.0     | 10      | 20            | 16                   | 38    | 19 03   | ** ** *        |    | 28 60          |    |  |
| 15 | 42                                     | 44.0 | 14.3    | 122                                                                                                        | 50.9                                                    | 38 24.9     | 9       | 30            | 18                   | 42    | 10      | ** ** *        |    | 13 55 60       |    |  |
| 16 | 57                                     | 44.2 | 13.3    | 137                                                                                                        | 13.8                                                    | 39 25.6     | 7       | 35            | 19                   | 45    | 14      | 23 46 66       |    | 14 11 59       |    |  |
| 17 | 72                                     | 44.4 | -2 12.3 | 151                                                                                                        | 36.6                                                    | 38 -27 26.2 | 6       | 40            | 18 21                | 18 48 | 19 20   | 23 27 68       |    | 14 30 58       |    |  |
| 18 | 87                                     | 44.6 | -2 11.3 | 165                                                                                                        | 59.4                                                    | 38 -27 26.5 | 3       | 45            | 18 22                | 18 52 | 19 27   | 23 05 68       |    | 14 52 58       |    |  |
| 19 | 102                                    | 44.7 | 10.3    | 180                                                                                                        | 22.3                                                    | 39 26.6     | 1       | 50            | 25                   | 57    | 36      | 22 36 71       |    | 15 21 56       |    |  |
| 20 | 117                                    | 44.9 | 09.3    | 194                                                                                                        | 45.1                                                    | 38 26.6     | 0       | 52            | 26                   | 18 59 | 40      | 22 71          |    | 35 56          |    |  |
| 21 | 132                                    | 45.1 | 08.3    | 209                                                                                                        | 08.0                                                    | 39 26.4     | 5       | 54            | 27                   | 19 02 | 45      | 22 05 73       |    | 15 51 55       |    |  |
| 22 | 147                                    | 45.3 | 07.3    | 223                                                                                                        | 30.9                                                    | 39 25.9     | 2       | 56            | 28                   | 05    | 50      | 21 46 75       |    | 16 11 53       |    |  |
| 23 | 162                                    | 45.4 | 06.4    | 237                                                                                                        | 53.8                                                    | 39 25.3     | 6       | 58            | 29                   | 09    | 19 57   | 21 22 77       |    | 16 35 51       |    |  |
| 24 | 177                                    | 45.6 | -2 05.4 | 252                                                                                                        | 16.7                                                    | 39 -27 24.6 | 7       | 60 S          | 18 31                | 19 13 | 20 04   | 20 50 82       |    | 17 07 47       |    |  |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                          |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------------------------------|----------|
|     | PMG 12 <sup>h</sup> 30 <sup>m</sup> 2 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |          | Mag: +1.2<br>PMG: 16 <sup>h</sup> 02 <sup>m</sup> |          | Mag: -2.5<br>PMG: 23 <sup>h</sup> 26 <sup>m</sup> |         | Mag: 0.0<br>PMG: 18 <sup>h</sup> 57 <sup>m</sup> |          |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                             | Dec      |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                | '        |
| 0   | 171                                   | 56.9 | 135 58.6                                          | +16 22.1 | 119 14.8                                          | +20 06.2 | 7 20.7                                            | +8 07.1 | 75 05.2                                          | +22 47.6 |
| 1   | 186                                   | 59.3 | 150 58.4                                          | 23.1     | 134 15.6                                          | 06.6     | 22 23.4                                           | 07.2    | 90 07.6                                          | 47.6     |
| 2   | 202                                   | 01.8 | 165 58.3                                          | 24.2     | 149 16.4                                          | 07.0     | 37 26.2                                           | 07.3    | 105 10.1                                         | 47.6     |
| 3   | 217                                   | 04.3 | 180 58.2                                          | 25.2     | 164 17.2                                          | 07.4     | 52 29.0                                           | 07.4    | 120 12.5                                         | 47.6     |
| 4   | 232                                   | 06.7 | 195 58.1                                          | 26.3     | 179 18.0                                          | 07.8     | 67 31.7                                           | 07.5    | 135 14.9                                         | 47.6     |
| 5   | 247                                   | 09.2 | 210 58.0                                          | +16 27.3 | 194 18.8                                          | +20 08.2 | 82 34.5                                           | +8 07.7 | 150 17.4                                         | +22 47.6 |
| 6   | 262                                   | 11.7 | 225 57.8                                          | +16 28.4 | 209 19.6                                          | +20 08.6 | 97 37.2                                           | +8 07.8 | 165 19.8                                         | +22 47.6 |
| 7   | 277                                   | 14.1 | 240 57.7                                          | 29.4     | 224 20.5                                          | 09.0     | 112 40.0                                          | 07.9    | 180 22.2                                         | 47.6     |
| 8   | 292                                   | 16.6 | 255 57.6                                          | 30.5     | 239 21.3                                          | 09.4     | 127 42.8                                          | 08.0    | 195 24.7                                         | 47.6     |
| 9   | 307                                   | 19.1 | 270 57.5                                          | 31.5     | 254 22.1                                          | 09.8     | 142 45.5                                          | 08.1    | 210 27.1                                         | 47.6     |
| 10  | 322                                   | 21.5 | 285 57.3                                          | 32.6     | 269 22.9                                          | 10.2     | 157 48.3                                          | 08.3    | 225 29.5                                         | 47.6     |
| 11  | 337                                   | 24.0 | 300 57.2                                          | +16 33.6 | 284 23.7                                          | +20 10.6 | 172 51.0                                          | +8 08.4 | 240 32.0                                         | +22 47.6 |
| 12  | 352                                   | 26.4 | 315 57.1                                          | +16 34.7 | 299 24.5                                          | +20 11.0 | 187 53.8                                          | +8 08.5 | 255 34.4                                         | +22 47.6 |
| 13  | 7                                     | 28.9 | 330 57.0                                          | 35.7     | 314 25.3                                          | 11.4     | 202 56.5                                          | 08.6    | 270 36.8                                         | 47.6     |
| 14  | 22                                    | 31.4 | 345 56.9                                          | 36.8     | 329 26.1                                          | 11.8     | 217 59.3                                          | 08.7    | 285 39.2                                         | 47.7     |
| 15  | 37                                    | 33.8 | 0 56.7                                            | 37.8     | 344 26.9                                          | 12.2     | 233 02.1                                          | 08.9    | 300 41.7                                         | 47.7     |
| 16  | 52                                    | 36.3 | 15 56.6                                           | 38.8     | 359 27.8                                          | 12.6     | 248 04.8                                          | 09.0    | 315 44.1                                         | 47.7     |
| 17  | 67                                    | 38.8 | 30 56.5                                           | +16 39.9 | 14 28.6                                           | +20 13.0 | 263 07.6                                          | +8 09.1 | 330 46.5                                         | +22 47.7 |
| 18  | 82                                    | 41.2 | 45 56.4                                           | +16 40.9 | 29 29.4                                           | +20 13.4 | 278 10.3                                          | +8 09.2 | 345 49.0                                         | +22 47.7 |
| 19  | 97                                    | 43.7 | 60 56.3                                           | 42.0     | 44 30.2                                           | 13.8     | 293 13.1                                          | 09.3    | 0 51.4                                           | 47.7     |
| 20  | 112                                   | 46.2 | 75 56.1                                           | 43.0     | 59 31.0                                           | 14.2     | 308 15.8                                          | 09.5    | 15 53.8                                          | 47.7     |
| 21  | 127                                   | 48.6 | 90 56.0                                           | 44.1     | 74 31.8                                           | 14.6     | 323 18.6                                          | 09.6    | 30 56.2                                          | 47.7     |
| 22  | 142                                   | 51.1 | 105 55.9                                          | 45.1     | 89 32.6                                           | 15.0     | 338 21.4                                          | 09.7    | 45 58.7                                          | 47.7     |
| 23  | 157                                   | 53.6 | 120 55.8                                          | 46.1     | 104 33.4                                          | 15.4     | 353 24.1                                          | 09.8    | 61 01.1                                          | 47.7     |
| 24  | 172                                   | 56.0 | 135 55.6                                          | +16 47.2 | 119 34.2                                          | +20 15.8 | 8 26.9                                            | +8 09.9 | 76 03.5                                          | +22 47.7 |
| Dif | —                                     |      | -1                                                | +10      | +8                                                | +4       | +28                                               | +1      | +24                                              | 0        |

| UT | SOL                                    |      |         |  LUNA                                                         |         |             | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |     | Puesta de Luna |    |
|----|----------------------------------------|------|---------|------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------|---------|--------------------------|-------|---------------|----------------|-----|----------------|----|
|    | SD: 16 <sup>h</sup> 1                  |      |         | Edad: 23 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 59 <sup>h</sup> 0<br>12 <sup>h</sup> : 58 <sup>h</sup> 9<br>20 <sup>h</sup> : 58 <sup>h</sup> 8 |         |             |         |                          |       |               |                |     |                |    |
|    | PMG: 12 <sup>h</sup> 08 <sup>m</sup> 8 |      |         | SD: 16 <sup>h</sup> 1<br>PMG: 7 <sup>h</sup> 29 <sup>m</sup> R°: 61 <sup>m</sup>                                                               |         |             |         |                          |       |               |                |     |                |    |
|    | hG ☉                                   |      | Dec     | hG ☾ Dif                                                                                                                                       |         | Dec Dif     |         | Náutico                  | Civil |               | Hora           | R°  | Hora           | R° |
| h  | °                                      | '    | °       | °                                                                                                                                              | '       | °           | °       | h m                      | h m   | h m           | h m            | m   | h m            | m  |
| 0  | 177                                    | 45.6 | -2 05.4 | 252                                                                                                                                            | 16.7    | -27 24.6    | 60 N    | 4 46                     | 5 35  | 6 16          | 5 41           | 30  | 9 21           | 96 |
| 1  | 192                                    | 45.8 | 04.4    | 266                                                                                                                                            | 39.7 40 | 23.6 10     | 58      | 50                       | 36    | 15            | 5 08           | 38  | 9 53           | 88 |
| 2  | 207                                    | 46.0 | 03.4    | 281                                                                                                                                            | 02.6 39 | 22.4 12     | 56      | 54                       | 38    | 15            | 4 44           | 42  | 10 17          | 84 |
| 3  | 222                                    | 46.1 | 02.4    | 295                                                                                                                                            | 25.6 40 | 21.1 13     | 54      | 4 58                     | 39    | 14            | 25             | 44  | 37             | 80 |
| 4  | 237                                    | 46.3 | 01.4    | 309                                                                                                                                            | 48.6 40 | 19.5 16     | 52      | 5 01                     | 40    | 14            | 4 08           | 47  | 10 53          | 78 |
| 5  | 252                                    | 46.5 | -2 00.4 | 324                                                                                                                                            | 11.7 41 | -27 17.8 17 | 50      | 5 03                     | 5 41  | 6 13          | 3 54           | 48  | 11 07          | 76 |
| 6  | 267                                    | 46.7 | -1 59.4 | 338                                                                                                                                            | 34.8 41 | -27 15.9 19 | 45      | 5 09                     | 5 43  | 6 12          | 3 25           | 51  | 11 36          | 72 |
| 7  | 282                                    | 46.9 | 58.5    | 352                                                                                                                                            | 57.9 41 | 13.9 20     | 40      | 13                       | 44    | 11            | 3 02           | 54  | 11 58          | 70 |
| 8  | 297                                    | 47.0 | 57.5    | 7                                                                                                                                              | 21.1 42 | 11.6 23     | 35      | 16                       | 45    | 10            | 2 43           | 55  | 12 17          | 68 |
| 9  | 312                                    | 47.2 | 56.5    | 21                                                                                                                                             | 44.2 41 | 09.1 25     | 30      | 18                       | 46    | 10            | 27             | 56  | 33             | 66 |
| 10 | 327                                    | 47.4 | 55.5    | 36                                                                                                                                             | 07.5 43 | 06.5 26     | 20      | 21                       | 46    | 08            | 2 00           | 58  | 12 59          | 64 |
| 11 | 342                                    | 47.6 | -1 54.5 | 50                                                                                                                                             | 30.8 43 | -27 03.7 28 | 10 N    | 5 22                     | 5 46  | 6 07          | 1 37           | 59  | 13 23          | 61 |
| 12 | 357                                    | 47.7 | -1 53.5 | 64                                                                                                                                             | 54.1 43 | -27 00.7 30 | 0       | 5 21                     | 5 45  | 6 06          | 1 15           | 60  | 13 44          | 60 |
| 13 | 12                                     | 47.9 | 52.5    | 79                                                                                                                                             | 17.5 44 | -26 57.6 31 | 10 S    | 19                       | 43    | 04            | 0 53           | 62  | 14 05          | 58 |
| 14 | 27                                     | 48.1 | 51.5    | 93                                                                                                                                             | 40.9 44 | 54.2 34     | 20      | 15                       | 40    | 02            | 29             | 64  | 28             | 55 |
| 15 | 42                                     | 48.3 | 50.6    | 108                                                                                                                                            | 04.4 45 | 50.7 35     | 30      | 09                       | 36    | 6 00          | 0 02           | 65  | 14 55          | 52 |
| 16 | 57                                     | 48.4 | 49.6    | 122                                                                                                                                            | 27.9 45 | 47.0 37     | 35      | 5 04                     | 34    | 5 59          | ** ** *        | **  | 15 10          | 51 |
| 17 | 72                                     | 48.6 | -1 48.6 | 136                                                                                                                                            | 51.5 46 | -26 43.1 39 | 40      | 4 59                     | 5 31  | 5 58          | ** ** *        | **  | 15 28          | 48 |
| 18 | 87                                     | 48.8 | -1 47.6 | 151                                                                                                                                            | 15.1 46 | -26 39.1 40 | 45      | 4 52                     | 5 27  | 5 56          | ** ** *        | **  | 15 50          | 45 |
| 19 | 102                                    | 49.0 | 46.6    | 165                                                                                                                                            | 38.8 47 | 34.8 43     | 50      | 43                       | 22    | 54            | 23 47          | 79  | 16 17          | 42 |
| 20 | 117                                    | 49.1 | 45.6    | 180                                                                                                                                            | 02.6 48 | 30.4 44     | 52      | 39                       | 19    | 53            | 33             | 82  | 31             | 39 |
| 21 | 132                                    | 49.3 | 44.6    | 194                                                                                                                                            | 26.4 48 | 25.9 45     | 54      | 34                       | 17    | 52            | 18             | 85  | 16 46          | 36 |
| 22 | 147                                    | 49.5 | 43.6    | 208                                                                                                                                            | 50.3 49 | 21.1 48     | 56      | 29                       | 14    | 51            | 23 01          | 88  | 17 04          | 33 |
| 23 | 162                                    | 49.7 | 42.6    | 223                                                                                                                                            | 14.2 49 | 16.2 49     | 58      | 22                       | 10    | 50            | 22 39          | 94  | 26             | 28 |
| 24 | 177                                    | 49.9 | -1 41.7 | 237                                                                                                                                            | 38.3 51 | -26 11.1 51 | 60 S    | 4 15                     | 5 06  | 5 48          | 22 12          | 101 | 17 54          | 20 |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                          |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------------------------------|----------|
|     | PMG 12 <sup>h</sup> 26 <sup>m</sup> 2 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |          | Mag: +1.3<br>PMG: 16 <sup>h</sup> 01 <sup>m</sup> |          | Mag: -2.5<br>PMG: 23 <sup>h</sup> 22 <sup>m</sup> |         | Mag: 0.0<br>PMG: 18 <sup>h</sup> 53 <sup>m</sup> |          |
|     | hG ♈                                  |      | hG ♀ Dec                                          |          | hG ♂ Dec                                          |          | hG ♃ Dec                                          |         | hG ♄ Dec                                         |          |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                | '        |
| 0   | 172                                   | 56.0 | 135 55.6                                          | +16 47.2 | 119 34.2                                          | +20 15.8 | 8 26.9                                            | +8 09.9 | 76 03.5                                          | +22 47.7 |
| 1   | 187                                   | 58.5 | 150 55.5                                          | 48.2     | 134 35.0                                          | 16.2     | 23 29.6                                           | 10.1    | 91 05.9                                          | 47.7     |
| 2   | 203                                   | 00.9 | 165 55.4                                          | 49.3     | 149 35.9                                          | 16.6     | 38 32.4                                           | 10.2    | 106 08.4                                         | 47.7     |
| 3   | 218                                   | 03.4 | 180 55.3                                          | 50.3     | 164 36.7                                          | 17.0     | 53 35.1                                           | 10.3    | 121 10.8                                         | 47.7     |
| 4   | 233                                   | 05.9 | 195 55.2                                          | 51.3     | 179 37.5                                          | 17.4     | 68 37.9                                           | 10.4    | 136 13.2                                         | 47.7     |
| 5   | 248                                   | 08.3 | 210 55.0                                          | +16 52.4 | 194 38.3                                          | +20 17.8 | 83 40.7                                           | +8 10.5 | 151 15.7                                         | +22 47.7 |
| 6   | 263                                   | 10.8 | 225 54.9                                          | +16 53.4 | 209 39.1                                          | +20 18.2 | 98 43.4                                           | +8 10.7 | 166 18.1                                         | +22 47.7 |
| 7   | 278                                   | 13.3 | 240 54.8                                          | 54.4     | 224 39.9                                          | 18.6     | 113 46.2                                          | 10.8    | 181 20.5                                         | 47.7     |
| 8   | 293                                   | 15.7 | 255 54.7                                          | 55.5     | 239 40.7                                          | 19.0     | 128 48.9                                          | 10.9    | 196 22.9                                         | 47.7     |
| 9   | 308                                   | 18.2 | 270 54.6                                          | 56.5     | 254 41.5                                          | 19.4     | 143 51.7                                          | 11.0    | 211 25.4                                         | 47.7     |
| 10  | 323                                   | 20.7 | 285 54.4                                          | 57.5     | 269 42.3                                          | 19.8     | 158 54.4                                          | 11.1    | 226 27.8                                         | 47.7     |
| 11  | 338                                   | 23.1 | 300 54.3                                          | +16 58.6 | 284 43.1                                          | +20 20.1 | 173 57.2                                          | +8 11.3 | 241 30.2                                         | +22 47.8 |
| 12  | 353                                   | 25.6 | 315 54.2                                          | +16 59.6 | 299 43.9                                          | +20 20.5 | 189 00.0                                          | +8 11.4 | 256 32.6                                         | +22 47.8 |
| 13  | 8                                     | 28.1 | 330 54.1                                          | +17 00.6 | 314 44.7                                          | 20.9     | 204 02.7                                          | 11.5    | 271 35.1                                         | 47.8     |
| 14  | 23                                    | 30.5 | 345 54.0                                          | 01.7     | 329 45.6                                          | 21.3     | 219 05.5                                          | 11.6    | 286 37.5                                         | 47.8     |
| 15  | 38                                    | 33.0 | 0 53.8                                            | 02.7     | 344 46.4                                          | 21.7     | 234 08.2                                          | 11.7    | 301 39.9                                         | 47.8     |
| 16  | 53                                    | 35.4 | 15 53.7                                           | 03.7     | 359 47.2                                          | 22.1     | 249 11.0                                          | 11.9    | 316 42.3                                         | 47.8     |
| 17  | 68                                    | 37.9 | 30 53.6                                           | +17 04.8 | 14 48.0                                           | +20 22.5 | 264 13.7                                          | +8 12.0 | 331 44.7                                         | +22 47.8 |
| 18  | 83                                    | 40.4 | 45 53.5                                           | +17 05.8 | 29 48.8                                           | +20 22.9 | 279 16.5                                          | +8 12.1 | 346 47.2                                         | +22 47.8 |
| 19  | 98                                    | 42.8 | 60 53.3                                           | 06.8     | 44 49.6                                           | 23.3     | 294 19.2                                          | 12.2    | 1 49.6                                           | 47.8     |
| 20  | 113                                   | 45.3 | 75 53.2                                           | 07.8     | 59 50.4                                           | 23.7     | 309 22.0                                          | 12.3    | 16 52.0                                          | 47.8     |
| 21  | 128                                   | 47.8 | 90 53.1                                           | 08.9     | 74 51.2                                           | 24.1     | 324 24.7                                          | 12.5    | 31 54.4                                          | 47.8     |
| 22  | 143                                   | 50.2 | 105 53.0                                          | 09.9     | 89 52.0                                           | 24.4     | 339 27.5                                          | 12.6    | 46 56.9                                          | 47.8     |
| 23  | 158                                   | 52.7 | 120 52.9                                          | 10.9     | 104 52.8                                          | 24.8     | 354 30.3                                          | 12.7    | 61 59.3                                          | 47.8     |
| 24  | 173                                   | 55.2 | 135 52.7                                          | +17 11.9 | 119 53.6                                          | +20 25.2 | 9 33.0                                            | +8 12.8 | 77 01.7                                          | +22 47.8 |
| Dif | —                                     |      | -1                                                | +10      | +8 +4                                             |          | +28 +1                                            |         | +24                                              |          |

| UT  | SOL                                    |      |          | ☾ LUNA                                                                                        |          |          | Latitud                                           | Puesta de Sol | Final del crepúsculo |                                                   |         | Salida de Luna |                                                  |           | Puesta de Luna |  |  |
|-----|----------------------------------------|------|----------|-----------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------|---------------|----------------------|---------------------------------------------------|---------|----------------|--------------------------------------------------|-----------|----------------|--|--|
|     | SD: 16 <sup>h</sup> 1                  |      |          | Edad: 24 <sup>d</sup> 6 PHE {<br>SD: 16 <sup>h</sup> 0<br>PMG: 8 <sup>h</sup> 30 <sup>m</sup> |          |          |                                                   |               |                      |                                                   |         |                |                                                  |           |                |  |  |
|     | PMG: 12 <sup>h</sup> 08 <sup>m</sup> 5 |      |          | R <sup>o</sup> : 56 <sup>m</sup>                                                              |          |          |                                                   |               |                      |                                                   |         |                |                                                  |           |                |  |  |
|     | hG ☉                                   | Dec  |          | hG ☾                                                                                          | Dif      | Dec      | Dif                                               |               |                      | Civil                                             | Náutico | Hora           | R <sup>o</sup>                                   | Hora      | R <sup>o</sup> |  |  |
| h   | °                                      | '    | °        | °                                                                                             | '        | °        | '                                                 | °             | h m                  | h m                                               | h m     | h m m          | m                                                | h m m     | m              |  |  |
| 0   | 177                                    | 49.9 | -1 41.7  | 237                                                                                           | 38.3     | -26 11.1 | 51                                                | 60 N          | 18 05                | 18 47                                             | 19 36   | 6 11 12        |                                                  | 10 57 105 |                |  |  |
| 1   | 192                                    | 50.0 | 40.7     | 252                                                                                           | 02.4     | 05.9     | 52                                                | 58            | 06                   | 45                                                | 31      | 5 46 20        |                                                  | 11 21 98  |                |  |  |
| 2   | 207                                    | 50.2 | 39.7     | 266                                                                                           | 26.5     | 00.5     | 54                                                | 56            | 06                   | 43                                                | 27      | 26 25          |                                                  | 41 92     |                |  |  |
| 3   | 222                                    | 50.4 | 38.7     | 280                                                                                           | 50.8     | 53       | 56                                                | 54            | 06                   | 42                                                | 23      | 5 09 29        |                                                  | 11 57 88  |                |  |  |
| 4   | 237                                    | 50.6 | 37.7     | 295                                                                                           | 15.1     | 49.1     | 58                                                | 52            | 07                   | 40                                                | 20      | 4 55 32        |                                                  | 12 11 85  |                |  |  |
| 5   | 252                                    | 50.7 | -1 36.7  | 309                                                                                           | 39.5     | 43.2     | 59                                                | 50            | 18 07                | 18 39                                             | 19 17   | 4 42 35        |                                                  | 12 23 82  |                |  |  |
| 6   | 267                                    | 50.9 | -1 35.7  | 324                                                                                           | 03.9     | 37.2     | 60                                                | 45            | 18 08                | 18 37                                             | 19 11   | 4 16 40        |                                                  | 12 48 77  |                |  |  |
| 7   | 282                                    | 51.1 | 34.7     | 338                                                                                           | 28.5     | 30.9     | 63                                                | 40            | 08                   | 35                                                | 07      | 3 56 43        |                                                  | 13 08 73  |                |  |  |
| 8   | 297                                    | 51.3 | 33.8     | 352                                                                                           | 53.1     | 24.5     | 64                                                | 35            | 09                   | 34                                                | 03      | 38 46          |                                                  | 25 70     |                |  |  |
| 9   | 312                                    | 51.5 | 32.8     | 7                                                                                             | 17.8     | 18.0     | 65                                                | 30            | 09                   | 33                                                | 19 01   | 3 23 49        |                                                  | 13 39 67  |                |  |  |
| 10  | 327                                    | 51.6 | 31.8     | 21                                                                                            | 42.6     | 11.3     | 67                                                | 20            | 10                   | 32                                                | 18 58   | 2 58 52        |                                                  | 14 03 63  |                |  |  |
| 11  | 342                                    | 51.8 | -1 30.8  | 36                                                                                            | 07.5     | 04.4     | 69                                                | 10 N          | 18 11                | 18 32                                             | 18 56   | 2 36 55        |                                                  | 14 24 59  |                |  |  |
| 12  | 357                                    | 52.0 | -1 29.8  | 50                                                                                            | 32.4     | 57.4     | 70                                                | 0             | 18 12                | 18 32                                             | 18 56   | 2 15 58        |                                                  | 14 44 55  |                |  |  |
| 13  | 12                                     | 52.2 | 28.8     | 64                                                                                            | 57.5     | 50.2     | 72                                                | 10 S          | 13                   | 34                                                | 18 58   | 1 55 61        |                                                  | 15 03 52  |                |  |  |
| 14  | 27                                     | 52.3 | 27.8     | 79                                                                                            | 22.6     | 42.9     | 73                                                | 20            | 14                   | 36                                                | 19 02   | 33 63          |                                                  | 23 49     |                |  |  |
| 15  | 42                                     | 52.5 | 26.8     | 93                                                                                            | 47.8     | 35.4     | 75                                                | 30            | 16                   | 39                                                | 07      | 1 07 67        |                                                  | 15 47 44  |                |  |  |
| 16  | 57                                     | 52.7 | 25.8     | 108                                                                                           | 13.1     | 27.7     | 77                                                | 35            | 16                   | 42                                                | 11      | 0 52 69        |                                                  | 16 01 42  |                |  |  |
| 17  | 72                                     | 52.9 | -1 24.9  | 122                                                                                           | 38.5     | 20.0     | 77                                                | 40            | 18 17                | 18 45                                             | 19 16   | 0 35 71        |                                                  | 16 16 39  |                |  |  |
| 18  | 87                                     | 53.1 | -1 23.9  | 137                                                                                           | 04.0     | 12.0     | 80                                                | 45            | 18 19                | 18 48                                             | 19 23   | 0 13 76        |                                                  | 16 35 35  |                |  |  |
| 19  | 102                                    | 53.2 | 22.9     | 151                                                                                           | 29.6     | 04.0     | 80                                                | 50            | 20                   | 53                                                | 31      | ** ** *        |                                                  | 16 59 29  |                |  |  |
| 20  | 117                                    | 53.4 | 21.9     | 165                                                                                           | 55.3     | 55.8     | 82                                                | 52            | 21                   | 55                                                | 35      | ** ** *        |                                                  | 17 10 27  |                |  |  |
| 21  | 132                                    | 53.6 | 20.9     | 180                                                                                           | 21.1     | 47.4     | 84                                                | 54            | 22                   | 18 57                                             | 39      | ** ** *        |                                                  | 22 25     |                |  |  |
| 22  | 147                                    | 53.8 | 19.9     | 194                                                                                           | 46.9     | 38.9     | 85                                                | 56            | 23                   | 19 00                                             | 45      | ** ** *        |                                                  | 37 20     |                |  |  |
| 23  | 162                                    | 54.0 | 18.9     | 209                                                                                           | 12.9     | 30.3     | 86                                                | 58            | 24                   | 03                                                | 50      | ** ** *        |                                                  | 17 54 15  |                |  |  |
| 24  | 177                                    | 54.1 | -1 17.9  | 223                                                                                           | 38.9     | 21.5     | 88                                                | 60 S          | 18 25                | 19 07                                             | 19 57   | 23 53 104      |                                                  | 18 14 10  |                |  |  |
| UT  | ARIES                                  |      |          | VENUS                                                                                         |          |          | MARTE                                             |               |                      | JÚPITER                                           |         |                | SATURNO                                          |           |                |  |  |
|     | PMG: 12 <sup>h</sup> 22 <sup>m</sup> 3 |      |          | Mag: -4.4<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup>                                             |          |          | Mag: +1.3<br>PMG: 16 <sup>h</sup> 00 <sup>m</sup> |               |                      | Mag: -2.5<br>PMG: 23 <sup>h</sup> 18 <sup>m</sup> |         |                | Mag: 0.0<br>PMG: 18 <sup>h</sup> 49 <sup>m</sup> |           |                |  |  |
|     | hG ♈                                   | hG ♀ | Dec      | hG ♂                                                                                          | Dec      | hG ♎     | Dec                                               | hG ♊          | Dec                  | hG ♏                                              | Dec     |                |                                                  |           |                |  |  |
| h   | °                                      | '    | °        | °                                                                                             | '        | °        | '                                                 | °             | '                    | °                                                 | '       | °              | '                                                | °         | '              |  |  |
| 0   | 173                                    | 55.2 | 135 52.7 | 119 53.6                                                                                      | +20 25.2 | 9 33.0   | +8 12.8                                           | 77 01.7       | +22 47.8             |                                                   |         |                |                                                  |           |                |  |  |
| 1   | 188                                    | 57.6 | 150 52.6 | 134 54.4                                                                                      | 25.6     | 24 35.8  | 12.9                                              | 92 04.1       | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 2   | 204                                    | 00.1 | 165 52.5 | 149 55.2                                                                                      | 26.0     | 39 38.5  | 13.1                                              | 107 06.5      | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 3   | 219                                    | 02.6 | 180 52.4 | 164 56.0                                                                                      | 26.4     | 54 41.3  | 13.2                                              | 122 09.0      | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 4   | 234                                    | 05.0 | 195 52.3 | 179 56.8                                                                                      | 26.8     | 69 44.0  | 13.3                                              | 137 11.4      | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 5   | 249                                    | 07.5 | 210 52.1 | 194 57.6                                                                                      | +20 27.2 | 84 46.8  | +8 13.4                                           | 152 13.8      | +22 47.8             |                                                   |         |                |                                                  |           |                |  |  |
| 6   | 264                                    | 09.9 | 225 52.0 | 209 58.5                                                                                      | +20 27.6 | 99 49.5  | +8 13.5                                           | 167 16.2      | +22 47.8             |                                                   |         |                |                                                  |           |                |  |  |
| 7   | 279                                    | 12.4 | 240 51.9 | 224 59.3                                                                                      | 27.9     | 114 52.3 | 13.6                                              | 182 18.7      | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 8   | 294                                    | 14.9 | 255 51.8 | 240 00.1                                                                                      | 28.3     | 129 55.0 | 13.8                                              | 197 21.1      | 47.8                 |                                                   |         |                |                                                  |           |                |  |  |
| 9   | 309                                    | 17.3 | 270 51.7 | 255 00.9                                                                                      | 28.7     | 144 57.8 | 13.9                                              | 212 23.5      | 47.9                 |                                                   |         |                |                                                  |           |                |  |  |
| 10  | 324                                    | 19.8 | 285 51.5 | 270 01.7                                                                                      | 29.1     | 160 00.6 | 14.0                                              | 227 25.9      | 47.9                 |                                                   |         |                |                                                  |           |                |  |  |
| 11  | 339                                    | 22.3 | 300 51.4 | 285 02.5                                                                                      | +20 29.5 | 175 03.3 | +8 14.1                                           | 242 28.3      | +22 47.9             |                                                   |         |                |                                                  |           |                |  |  |
| 12  | 354                                    | 24.7 | 315 51.3 | +17 24.2                                                                                      | 300 03.3 | +20 29.9 | 190 06.1                                          | +8 14.2       | 257 30.8             | +22 47.9                                          |         |                |                                                  |           |                |  |  |
| 13  | 9                                      | 27.2 | 330 51.2 | 25.2                                                                                          | 315 04.1 | 30.3     | 205 08.8                                          | 14.4          | 272 33.2             | 47.9                                              |         |                |                                                  |           |                |  |  |
| 14  | 24                                     | 29.7 | 345 51.1 | 26.2                                                                                          | 330 04.9 | 30.7     | 220 11.6                                          | 14.5          | 287 35.6             | 47.9                                              |         |                |                                                  |           |                |  |  |
| 15  | 39                                     | 32.1 | 0 51.0   | 27.2                                                                                          | 345 05.7 | 31.0     | 235 14.3                                          | 14.6          | 302 38.0             | 47.9                                              |         |                |                                                  |           |                |  |  |
| 16  | 54                                     | 34.6 | 15 50.8  | 28.3                                                                                          | 0 06.5   | 31.4     | 250 17.1                                          | 14.7          | 317 40.4             | 47.9                                              |         |                |                                                  |           |                |  |  |
| 17  | 69                                     | 37.0 | 30 50.7  | +17 29.3                                                                                      | 15 07.3  | +20 31.8 | 265 19.8                                          | +8 14.8       | 332 42.8             | +22 47.9                                          |         |                |                                                  |           |                |  |  |
| 18  | 84                                     | 39.5 | 45 50.6  | +17 30.3                                                                                      | 30 08.1  | +20 32.2 | 280 22.6                                          | +8 14.9       | 347 45.3             | +22 47.9                                          |         |                |                                                  |           |                |  |  |
| 19  | 99                                     | 42.0 | 60 50.5  | 31.3                                                                                          | 45 08.9  | 32.6     | 295 25.3                                          | 15.1          | 2 47.7               | 47.9                                              |         |                |                                                  |           |                |  |  |
| 20  | 114                                    | 44.4 | 75 50.4  | 32.3                                                                                          | 60 09.7  | 33.0     | 310 28.1                                          | 15.2          | 17 50.1              | 47.9                                              |         |                |                                                  |           |                |  |  |
| 21  | 129                                    | 46.9 | 90 50.2  | 33.3                                                                                          | 75 10.5  | 33.3     | 325 30.8                                          | 15.3          | 32 52.5              | 47.9                                              |         |                |                                                  |           |                |  |  |
| 22  | 144                                    | 49.4 | 105 50.1 | 34.3                                                                                          | 90 11.3  | 33.7     | 340 33.6                                          | 15.4          | 47 54.9              | 47.9                                              |         |                |                                                  |           |                |  |  |
| 23  | 159                                    | 51.8 | 120 50.0 | 35.3                                                                                          | 105 12.1 | 34.1     | 355 36.3                                          | 15.5          | 62 57.4              | 47.9                                              |         |                |                                                  |           |                |  |  |
| 24  | 174                                    | 54.3 | 135 49.9 | +17 36.3                                                                                      | 120 12.9 | +20 34.5 | 10 39.1                                           | +8 15.7       | 77 59.8              | +22 47.9                                          |         |                |                                                  |           |                |  |  |
| Dif | —                                      | -1   | +10      | +8                                                                                            | +4       | +28      | +1                                                | +24           | 0                    |                                                   |         |                |                                                  |           |                |  |  |

| UT | SOL                                                |      |    | ● LUNA                                                                                                                                                             |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |             |
|----|----------------------------------------------------|------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|-------|----------------|-------|-------------|
|    | SD: 16'1<br>PMG: 12 <sup>h</sup> 08 <sup>m</sup> 2 |      |    | Edad: 25 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 58'4<br>12 <sup>h</sup> : 58'3<br>20 <sup>h</sup> : 58'1<br>PMG: 9 <sup>h</sup> 26 <sup>m</sup> R°: 53 <sup>m</sup> |     |      |         |                          |         |               |                |       |                |       |             |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                               | Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora  | R°             | Hora  | R°          |
| h  | °                                                  | '    | °  | °                                                                                                                                                                  | '   | °    | '       | °                        | h m     | h m           | h m            | h m m | h m m          | h m m |             |
| 0  | 177                                                | 54.1 | -1 | 17.9                                                                                                                                                               | 223 | 38.9 | -23     | 21.5                     | 60 N    | 4 39          | 5 29           | 6 10  | 6 23           | 6 12  | 42 103      |
| 1  | 192                                                | 54.3 |    | 16.9                                                                                                                                                               | 238 | 05.1 | 72      | 12.6                     | 58      | 44            | 31             | 10    | 6 06           | 11    | 12 59 97    |
| 2  | 207                                                | 54.5 |    | 16.0                                                                                                                                                               | 252 | 31.3 | 72      | -23                      | 03.5    | 56            | 49             | 32    | 09             | 5 51  | 16 13 13 92 |
| 3  | 222                                                | 54.7 |    | 15.0                                                                                                                                                               | 266 | 57.7 | 74      | -22                      | 54.3    | 54            | 53             | 34    | 09             | 38    | 20 25 88    |
| 4  | 237                                                | 54.9 |    | 14.0                                                                                                                                                               | 281 | 24.1 | 74      | 45.0                     | 52      | 56            | 35             | 09    | 27             | 23    | 36 85       |
| 5  | 252                                                | 55.0 | -1 | 13.0                                                                                                                                                               | 295 | 50.7 | 76      | -22                      | 35.6    | 50            | 4 59           | 5 37  | 6 09           | 5 17  | 25 13 45 82 |
| 6  | 267                                                | 55.2 | -1 | 12.0                                                                                                                                                               | 310 | 17.3 | 76      | -22                      | 26.0    | 45            | 5 05           | 5 39  | 6 08           | 4 56  | 30 14 05 77 |
| 7  | 282                                                | 55.4 |    | 11.0                                                                                                                                                               | 324 | 44.0 | 77      | 16.3                     | 40      | 10            | 41             | 08    | 39             | 34    | 21 72       |
| 8  | 297                                                | 55.6 |    | 10.0                                                                                                                                                               | 339 | 10.9 | 79      | -22                      | 06.5    | 35            | 13             | 42    | 08             | 24    | 38 35 68    |
| 9  | 312                                                | 55.8 |    | 09.0                                                                                                                                                               | 353 | 37.8 | 79      | -21                      | 56.6    | 30            | 16             | 43    | 07             | 4 12  | 41 14 46 66 |
| 10 | 327                                                | 55.9 |    | 08.0                                                                                                                                                               | 8   | 04.8 | 80      | 46.5                     | 20      | 19            | 45             | 07    | 3 50           | 46    | 15 06 60    |
| 11 | 342                                                | 56.1 | -1 | 07.1                                                                                                                                                               | 22  | 32.0 | 82      | -21                      | 36.3    | 10 N          | 5 20           | 5 45  | 6 06           | 3 31  | 50 15 23 56 |
| 12 | 357                                                | 56.3 | -1 | 06.1                                                                                                                                                               | 36  | 59.2 | 82      | -21                      | 26.0    | 0             | 5 20           | 5 44  | 6 05           | 3 13  | 54 15 39 52 |
| 13 | 12                                                 | 56.5 |    | 05.1                                                                                                                                                               | 51  | 26.5 | 83      | 15.5                     | 10 S    | 19            | 43             | 04    | 2 56           | 57    | 15 55 48    |
| 14 | 27                                                 | 56.7 |    | 04.1                                                                                                                                                               | 65  | 54.0 | 85      | -21                      | 05.0    | 20            | 15             | 41    | 03             | 36    | 62 16 12 43 |
| 15 | 42                                                 | 56.8 |    | 03.1                                                                                                                                                               | 80  | 21.5 | 85      | -20                      | 54.3    | 30            | 10             | 38    | 02             | 14    | 67 31 38    |
| 16 | 57                                                 | 57.0 |    | 02.1                                                                                                                                                               | 94  | 49.2 | 87      | 43.6                     | 35      | 06            | 36             | 01    | 2 01           | 70    | 43 35       |
| 17 | 72                                                 | 57.2 | -1 | 01.1                                                                                                                                                               | 109 | 16.9 | 87      | -20                      | 32.7    | 40            | 5 01           | 5 33  | 6 00           | 1 46  | 73 16 55 32 |
| 18 | 87                                                 | 57.4 | -1 | 00.1                                                                                                                                                               | 123 | 44.7 | 88      | -20                      | 21.7    | 45            | 4 55           | 5 29  | 5 59           | 1 29  | 76 17 10 28 |
| 19 | 102                                                | 57.6 | -0 | 59.1                                                                                                                                                               | 138 | 12.7 | 90      | -20                      | 10.6    | 50            | 47             | 25    | 57             | 1 06  | 83 28 23    |
| 20 | 117                                                | 57.7 |    | 58.2                                                                                                                                                               | 152 | 40.7 | 90      | -19                      | 59.4    | 52            | 43             | 23    | 57             | 0 55  | 86 37 20    |
| 21 | 132                                                | 57.9 |    | 57.2                                                                                                                                                               | 167 | 08.8 | 91      | 48.1                     | 54      | 38            | 21             | 56    | 43             | 89    | 47 16       |
| 22 | 147                                                | 58.1 |    | 56.2                                                                                                                                                               | 181 | 37.1 | 93      | 36.6                     | 56      | 33            | 18             | 55    | 29             | 93    | 17 57 14    |
| 23 | 162                                                | 58.3 |    | 55.2                                                                                                                                                               | 196 | 05.4 | 93      | 25.1                     | 58      | 27            | 15             | 54    | 0 13           | 97    | 18 09 10    |
| 24 | 177                                                | 58.5 | -0 | 54.2                                                                                                                                                               | 210 | 33.8 | 94      | -19                      | 13.5    | 60 S          | 4 21           | 5 11  | 5 53           | ** ** | ** 18 24 4  |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |  |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|--|
|     | PMG: 12 <sup>h</sup> 18 <sup>m</sup> 4 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |      | Mag: +1.3<br>PMG: 15 <sup>h</sup> 58 <sup>m</sup> |      | Mag: -2.5<br>PMG: 23 <sup>h</sup> 13 <sup>m</sup> |      | Mag: 0.0<br>PMG: 18 <sup>h</sup> 45 <sup>m</sup> |      |     |      |    |      |     |      |     |      |  |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |  |
| 0   | 174                                    | 54.3 | 135                                               | 49.9 | +17                                               | 36.3 | 120                                               | 12.9 | +20                                              | 34.5 | 10  | 39.1 | +8 | 15.7 | 77  | 59.8 | +22 | 47.9 |  |
| 1   | 189                                    | 56.8 | 150                                               | 49.8 |                                                   | 37.3 | 135                                               | 13.7 |                                                  | 34.9 | 25  | 41.8 |    | 15.8 | 93  | 02.2 |     | 47.9 |  |
| 2   | 204                                    | 59.2 | 165                                               | 49.6 |                                                   | 38.4 | 150                                               | 14.5 |                                                  | 35.3 | 40  | 44.6 |    | 15.9 | 108 | 04.6 |     | 47.9 |  |
| 3   | 220                                    | 01.7 | 180                                               | 49.5 |                                                   | 39.4 | 165                                               | 15.3 |                                                  | 35.6 | 55  | 47.4 |    | 16.0 | 123 | 07.0 |     | 47.9 |  |
| 4   | 235                                    | 04.2 | 195                                               | 49.4 |                                                   | 40.4 | 180                                               | 16.1 |                                                  | 36.0 | 70  | 50.1 |    | 16.1 | 138 | 09.4 |     | 47.9 |  |
| 5   | 250                                    | 06.6 | 210                                               | 49.3 | +17                                               | 41.4 | 195                                               | 16.9 | +20                                              | 36.4 | 85  | 52.9 | +8 | 16.2 | 153 | 11.8 | +22 | 47.9 |  |
| 6   | 265                                    | 09.1 | 225                                               | 49.2 | +17                                               | 42.4 | 210                                               | 17.7 | +20                                              | 36.8 | 100 | 55.6 | +8 | 16.4 | 168 | 14.3 | +22 | 47.9 |  |
| 7   | 280                                    | 11.5 | 240                                               | 49.1 |                                                   | 43.4 | 225                                               | 18.5 |                                                  | 37.2 | 115 | 58.4 |    | 16.5 | 183 | 16.7 |     | 47.9 |  |
| 8   | 295                                    | 14.0 | 255                                               | 48.9 |                                                   | 44.4 | 240                                               | 19.3 |                                                  | 37.6 | 131 | 01.1 |    | 16.6 | 198 | 19.1 |     | 48.0 |  |
| 9   | 310                                    | 16.5 | 270                                               | 48.8 |                                                   | 45.4 | 255                                               | 20.1 |                                                  | 37.9 | 146 | 03.9 |    | 16.7 | 213 | 21.5 |     | 48.0 |  |
| 10  | 325                                    | 18.9 | 285                                               | 48.7 |                                                   | 46.4 | 270                                               | 20.9 |                                                  | 38.3 | 161 | 06.6 |    | 16.8 | 228 | 23.9 |     | 48.0 |  |
| 11  | 340                                    | 21.4 | 300                                               | 48.6 | +17                                               | 47.4 | 285                                               | 21.7 | +20                                              | 38.7 | 176 | 09.4 | +8 | 16.9 | 243 | 26.3 | +22 | 48.0 |  |
| 12  | 355                                    | 23.9 | 315                                               | 48.5 | +17                                               | 48.4 | 300                                               | 22.6 | +20                                              | 39.1 | 191 | 12.1 | +8 | 17.1 | 258 | 28.8 | +22 | 48.0 |  |
| 13  | 10                                     | 26.3 | 330                                               | 48.3 |                                                   | 49.4 | 315                                               | 23.4 |                                                  | 39.5 | 206 | 14.9 |    | 17.2 | 273 | 31.2 |     | 48.0 |  |
| 14  | 25                                     | 28.8 | 345                                               | 48.2 |                                                   | 50.4 | 330                                               | 24.2 |                                                  | 39.8 | 221 | 17.6 |    | 17.3 | 288 | 33.6 |     | 48.0 |  |
| 15  | 40                                     | 31.3 | 0                                                 | 48.1 |                                                   | 51.4 | 345                                               | 25.0 |                                                  | 40.2 | 236 | 20.4 |    | 17.4 | 303 | 36.0 |     | 48.0 |  |
| 16  | 55                                     | 33.7 | 15                                                | 48.0 |                                                   | 52.4 | 0                                                 | 25.8 |                                                  | 40.6 | 251 | 23.1 |    | 17.5 | 318 | 38.4 |     | 48.0 |  |
| 17  | 70                                     | 36.2 | 30                                                | 47.9 | +17                                               | 53.4 | 15                                                | 26.6 | +20                                              | 41.0 | 266 | 25.9 | +8 | 17.6 | 333 | 40.8 | +22 | 48.0 |  |
| 18  | 85                                     | 38.7 | 45                                                | 47.8 | +17                                               | 54.4 | 30                                                | 27.4 | +20                                              | 41.4 | 281 | 28.6 | +8 | 17.8 | 348 | 43.2 | +22 | 48.0 |  |
| 19  | 100                                    | 41.1 | 60                                                | 47.6 |                                                   | 55.4 | 45                                                | 28.2 |                                                  | 41.7 | 296 | 31.4 |    | 17.9 | 3   | 45.6 |     | 48.0 |  |
| 20  | 115                                    | 43.6 | 75                                                | 47.5 |                                                   | 56.4 | 60                                                | 29.0 |                                                  | 42.1 | 311 | 34.1 |    | 18.0 | 18  | 48.1 |     | 48.0 |  |
| 21  | 130                                    | 46.0 | 90                                                | 47.4 |                                                   | 57.4 | 75                                                | 29.8 |                                                  | 42.5 | 326 | 36.9 |    | 18.1 | 33  | 50.5 |     | 48.0 |  |
| 22  | 145                                    | 48.5 | 105                                               | 47.3 |                                                   | 58.4 | 90                                                | 30.6 |                                                  | 42.9 | 341 | 39.6 |    | 18.2 | 48  | 52.9 |     | 48.0 |  |
| 23  | 160                                    | 51.0 | 120                                               | 47.2 | +17                                               | 59.4 | 105                                               | 31.4 |                                                  | 43.2 | 356 | 42.4 |    | 18.3 | 63  | 55.3 |     | 48.0 |  |
| 24  | 175                                    | 53.4 | 135                                               | 47.1 | +18                                               | 00.3 | 120                                               | 32.2 | +20                                              | 43.6 | 11  | 45.1 | +8 | 18.5 | 78  | 57.7 | +22 | 48.0 |  |
| Dif | —                                      |      | -1                                                |      | +10                                               |      | +8                                                |      | +4                                               |      | +28 |      | +1 |      | +24 |      |     | 0    |  |



| UT  | SOL                                    |      |                                                   | ● LUNA                                                                                                                         |     |      | Latitud                                           | Puesta de Sol | Final del crepúsculo |       |                                                   | Salida de Luna |       | Puesta de Luna |                                                  |      |     |      |    |    |
|-----|----------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|---------------|----------------------|-------|---------------------------------------------------|----------------|-------|----------------|--------------------------------------------------|------|-----|------|----|----|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                   | Edad: 26 <sup>d</sup> 6 PHE { 4 <sup>h</sup> : 58/0<br>12 <sup>h</sup> : 57/8<br>20 <sup>h</sup> : 57/7<br>R°: 49 <sup>m</sup> |     |      |                                                   |               | Civil                |       |                                                   | R°             |       | R°             |                                                  |      |     |      |    |    |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                                                                                                                           | Dif | Dec  |                                                   |               | Dif                  |       |                                                   |                | Hora  | R°             | Hora                                             | R°   |     |      |    |    |
| h   | °                                      | '    | °                                                 | °                                                                                                                              | '   | °    | '                                                 | °             | h m                  | h m   | h m                                               | h m m          | m     | h m m          | m                                                |      |     |      |    |    |
| 0   | 177                                    | 58.5 | -0                                                | 54.2                                                                                                                           | 210 | 33.8 | -19                                               | 13.5          | 60 N                 | 18 10 | 18 52                                             | 19 42          | 6 29  | 3              | 14 25                                            | 97   |     |      |    |    |
| 1   | 192                                    | 58.6 |                                                   | 53.2                                                                                                                           | 225 | 02.3 | 95                                                | -19           | 01.8                 | 58    | 10                                                | 50             | 36    | 17             | 7                                                | 36   | 92  |      |    |    |
| 2   | 207                                    | 58.8 |                                                   | 52.2                                                                                                                           | 239 | 31.0 | 97                                                | -18           | 50.0                 | 56    | 10                                                | 47             | 31    | 6              | 07                                               | 11   | 45  | 89   |    |    |
| 3   | 222                                    | 59.0 |                                                   | 51.2                                                                                                                           | 253 | 59.7 | 97                                                |               | 38.1                 | 54    | 10                                                | 46             | 27    | 5              | 58                                               | 14   | 14  | 53   | 85 |    |
| 4   | 237                                    | 59.2 |                                                   | 50.2                                                                                                                           | 268 | 28.5 | 98                                                |               | 26.1                 | 52    | 10                                                | 44             | 24    | 50             | 16                                               | 15   | 01  | 81   | 82 |    |
| 5   | 252                                    | 59.4 | -0                                                | 49.3                                                                                                                           | 282 | 57.4 | 99                                                | -18           | 14.0                 | 50    | 18 10                                             | 18 42          | 19 20 | 5              | 42                                               | 20   | 15  | 07   | 80 |    |
| 6   | 267                                    | 59.6 | -0                                                | 48.3                                                                                                                           | 297 | 26.4 | 100                                               | -18           | 01.8                 | 45    | 18 10                                             | 18 39          | 19 14 | 5              | 26                                               | 25   | 15  | 22   | 74 |    |
| 7   | 282                                    | 59.7 |                                                   | 47.3                                                                                                                           | 311 | 55.5 | 101                                               | -17           | 49.5                 | 40    | 10                                                | 37             | 09    | 13             | 29                                               |      | 33  | 70   |    |    |
| 8   | 297                                    | 59.9 |                                                   | 46.3                                                                                                                           | 326 | 24.8 | 103                                               |               | 37.1                 | 35    | 10                                                | 36             | 05    | 5              | 02                                               | 33   | 43  | 66   |    |    |
| 9   | 313                                    | 00.1 |                                                   | 45.3                                                                                                                           | 340 | 54.1 | 103                                               |               | 24.7                 | 30    | 10                                                | 34             | 19    | 02             | 4                                                | 53   | 35  | 15   | 52 | 62 |
| 10  | 328                                    | 00.3 |                                                   | 44.3                                                                                                                           | 355 | 23.4 | 103                                               | -17           | 12.1                 | 20    | 11                                                | 33             | 18    | 58             | 36                                               | 40   | 16  | 06   | 57 |    |
| 11  | 343                                    | 00.5 | -0                                                | 43.3                                                                                                                           | 9   | 52.9 | 105                                               | -16           | 59.5                 | 10 N  | 18 11                                             | 18 32          | 18 56 | 4              | 21                                               | 45   | 16  | 19   | 52 |    |
| 12  | 358                                    | 00.6 | -0                                                | 42.3                                                                                                                           | 24  | 22.5 | 106                                               | -16           | 46.8                 | 0     | 18 11                                             | 18 32          | 18 56 | 4              | 07                                               | 49   | 16  | 31   | 48 |    |
| 13  | 13                                     | 00.8 |                                                   | 41.3                                                                                                                           | 38  | 52.2 | 107                                               |               | 34.0                 | 10 S  | 12                                                | 33             | 18    | 57             | 3                                                | 53   | 54  | 43   | 43 |    |
| 14  | 28                                     | 01.0 |                                                   | 40.4                                                                                                                           | 53  | 21.9 | 107                                               |               | 21.2                 | 20    | 12                                                | 34             | 19    | 00             | 38                                               | 58   | 16  | 55   | 39 |    |
| 15  | 43                                     | 01.2 |                                                   | 39.4                                                                                                                           | 67  | 51.8 | 109                                               | -16           | 08.3                 | 30    | 13                                                | 37             | 05    | 21             | 64                                               |      | 17  | 09   | 34 |    |
| 16  | 58                                     | 01.4 |                                                   | 38.4                                                                                                                           | 82  | 21.7 | 109                                               | -15           | 55.3                 | 35    | 14                                                | 39             | 08    | 3              | 11                                               | 67   |     | 18   | 30 |    |
| 17  | 73                                     | 01.6 | -0                                                | 37.4                                                                                                                           | 96  | 51.8 | 111                                               | -15           | 42.2                 | 40    | 18 14                                             | 18 41          | 19 13 | 2              | 59                                               | 71   |     | 17   | 27 | 27 |
| 18  | 88                                     | 01.7 | -0                                                | 36.4                                                                                                                           | 111 | 21.9 | 111                                               | -15           | 29.0                 | 45    | 18 15                                             | 18 44          | 19 19 | 2              | 45                                               | 76   |     | 17   | 38 | 22 |
| 19  | 103                                    | 01.9 |                                                   | 35.4                                                                                                                           | 125 | 52.1 | 112                                               |               | 15.8                 | 50    | 16                                                | 48             | 26    | 29             | 80                                               |      | 51  | 17   |    |    |
| 20  | 118                                    | 02.1 |                                                   | 34.4                                                                                                                           | 140 | 22.4 | 113                                               | -15           | 02.5                 | 52    | 16                                                | 50             | 30    | 21             | 83                                               |      | 17  | 57   | 15 |    |
| 21  | 133                                    | 02.3 |                                                   | 33.4                                                                                                                           | 154 | 52.8 | 114                                               | -14           | 49.1                 | 54    | 17                                                | 52             | 34    | 12             | 86                                               |      | 18  | 03   | 13 |    |
| 22  | 148                                    | 02.5 |                                                   | 32.4                                                                                                                           | 169 | 23.3 | 115                                               |               | 35.7                 | 56    | 17                                                | 55             | 39    | 2              | 02                                               | 90   |     | 11   | 9  |    |
| 23  | 163                                    | 02.6 |                                                   | 31.5                                                                                                                           | 183 | 53.8 | 115                                               |               | 22.2                 | 58    | 18                                                | 57             | 44    | 1              | 50                                               | 95   |     | 19   | 6  |    |
| 24  | 178                                    | 02.8 | -0                                                | 30.5                                                                                                                           | 198 | 24.5 | 117                                               | -14           | 08.7                 | 60 S  | 18 19                                             | 19 00          | 19 51 | 1              | 37                                               | 99   |     | 18   | 28 | 2  |
| UT  | ARIES                                  |      | VENUS                                             |                                                                                                                                |     |      | MARTE                                             |               |                      |       | JÚPITER                                           |                |       |                | SATURNO                                          |      |     |      |    |    |
|     | PMG: 12 <sup>h</sup> 14 <sup>m</sup> 4 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |                                                                                                                                |     |      | Mag: +1.3<br>PMG: 15 <sup>h</sup> 57 <sup>m</sup> |               |                      |       | Mag: -2.5<br>PMG: 23 <sup>h</sup> 09 <sup>m</sup> |                |       |                | Mag: 0.0<br>PMG: 18 <sup>h</sup> 41 <sup>m</sup> |      |     |      |    |    |
|     | hG ♈                                   |      | hG ♀                                              | Dec                                                                                                                            |     |      | hG ♂                                              | Dec           |                      |       | hG ♃                                              | Dec            |       |                | hG ♄                                             | Dec  |     |      |    |    |
| h   | °                                      | '    | °                                                 | '                                                                                                                              | °   | '    | °                                                 | '             | °                    | '     | °                                                 | '              | °     | '              | °                                                | '    | °   | '    | °  | '  |
| 0   | 175                                    | 53.4 | 135                                               | 47.1                                                                                                                           | +18 | 00.3 | 120                                               | 32.2          | +20                  | 43.6  | 11                                                | 45.1           | +8    | 18.5           | 78                                               | 57.7 | +22 | 48.0 |    |    |
| 1   | 190                                    | 55.9 | 150                                               | 46.9                                                                                                                           |     | 01.3 | 135                                               | 33.0          |                      | 44.0  | 26                                                | 47.9           |       | 18.6           | 94                                               | 00.1 |     | 48.0 |    |    |
| 2   | 205                                    | 58.4 | 165                                               | 46.8                                                                                                                           |     | 02.3 | 150                                               | 33.8          |                      | 44.4  | 41                                                | 50.6           |       | 18.7           | 109                                              | 02.5 |     | 48.0 |    |    |
| 3   | 221                                    | 00.8 | 180                                               | 46.7                                                                                                                           |     | 03.3 | 165                                               | 34.6          |                      | 44.7  | 56                                                | 53.4           |       | 18.8           | 124                                              | 04.9 |     | 48.0 |    |    |
| 4   | 236                                    | 03.3 | 195                                               | 46.6                                                                                                                           |     | 04.3 | 180                                               | 35.4          |                      | 45.1  | 71                                                | 56.1           |       | 18.9           | 139                                              | 07.4 |     | 48.0 |    |    |
| 5   | 251                                    | 05.8 | 210                                               | 46.5                                                                                                                           | +18 | 05.3 | 195                                               | 36.2          | +20                  | 45.5  | 86                                                | 58.9           | +8    | 19.0           | 154                                              | 09.8 | +22 | 48.0 |    |    |
| 6   | 266                                    | 08.2 | 225                                               | 46.4                                                                                                                           | +18 | 06.3 | 210                                               | 36.9          | +20                  | 45.9  | 102                                               | 01.6           | +8    | 19.1           | 169                                              | 12.2 | +22 | 48.0 |    |    |
| 7   | 281                                    | 10.7 | 240                                               | 46.2                                                                                                                           |     | 07.3 | 225                                               | 37.7          |                      | 46.2  | 117                                               | 04.4           |       | 19.3           | 184                                              | 14.6 |     | 48.0 |    |    |
| 8   | 296                                    | 13.1 | 255                                               | 46.1                                                                                                                           |     | 08.3 | 240                                               | 38.5          |                      | 46.6  | 132                                               | 07.1           |       | 19.4           | 199                                              | 17.0 |     | 48.0 |    |    |
| 9   | 311                                    | 15.6 | 270                                               | 46.0                                                                                                                           |     | 09.2 | 255                                               | 39.3          |                      | 47.0  | 147                                               | 09.9           |       | 19.5           | 214                                              | 19.4 |     | 48.1 |    |    |
| 10  | 326                                    | 18.1 | 285                                               | 45.9                                                                                                                           |     | 10.2 | 270                                               | 40.1          |                      | 47.4  | 162                                               | 12.6           |       | 19.6           | 229                                              | 21.8 |     | 48.1 |    |    |
| 11  | 341                                    | 20.5 | 300                                               | 45.8                                                                                                                           | +18 | 11.2 | 285                                               | 40.9          | +20                  | 47.7  | 177                                               | 15.4           | +8    | 19.7           | 244                                              | 24.2 | +22 | 48.1 |    |    |
| 12  | 356                                    | 23.0 | 315                                               | 45.7                                                                                                                           | +18 | 12.2 | 300                                               | 41.7          | +20                  | 48.1  | 192                                               | 18.1           | +8    | 19.8           | 259                                              | 26.6 | +22 | 48.1 |    |    |
| 13  | 11                                     | 25.5 | 330                                               | 45.5                                                                                                                           |     | 13.2 | 315                                               | 42.5          |                      | 48.5  | 207                                               | 20.9           |       | 20.0           | 274                                              | 29.0 |     | 48.1 |    |    |
| 14  | 26                                     | 27.9 | 345                                               | 45.4                                                                                                                           |     | 14.2 | 330                                               | 43.3          |                      | 48.9  | 222                                               | 23.6           |       | 20.1           | 289                                              | 31.5 |     | 48.1 |    |    |
| 15  | 41                                     | 30.4 | 0                                                 | 45.3                                                                                                                           |     | 15.1 | 345                                               | 44.1          |                      | 49.2  | 237                                               | 26.3           |       | 20.2           | 304                                              | 33.9 |     | 48.1 |    |    |
| 16  | 56                                     | 32.9 | 15                                                | 45.2                                                                                                                           |     | 16.1 | 0                                                 | 44.9          |                      | 49.6  | 252                                               | 29.1           |       | 20.3           | 319                                              | 36.3 |     | 48.1 |    |    |
| 17  | 71                                     | 35.3 | 30                                                | 45.1                                                                                                                           | +18 | 17.1 | 15                                                | 45.7          | +20                  | 50.0  | 267                                               | 31.8           | +8    | 20.4           | 334                                              | 38.7 | +22 | 48.1 |    |    |
| 18  | 86                                     | 37.8 | 45                                                | 45.0                                                                                                                           | +18 | 18.1 | 30                                                | 46.5          | +20                  | 50.4  | 282                                               | 34.6           | +8    | 20.5           | 349                                              | 41.1 | +22 | 48.1 |    |    |
| 19  | 101                                    | 40.3 | 60                                                | 44.8                                                                                                                           |     | 19.1 | 45                                                | 47.3          |                      | 50.7  | 297                                               | 37.3           |       | 20.6           | 4                                                | 43.5 |     | 48.1 |    |    |
| 20  | 116                                    | 42.7 | 75                                                | 44.7                                                                                                                           |     | 20.0 | 60                                                | 48.1          |                      | 51.1  | 312                                               | 40.1           |       | 20.8           | 19                                               | 45.9 |     | 48.1 |    |    |
| 21  | 131                                    | 45.2 | 90                                                | 44.6                                                                                                                           |     | 21.0 | 75                                                | 48.9          |                      | 51.5  | 327                                               | 42.8           |       | 20.9           | 34                                               | 48.3 |     | 48.1 |    |    |
| 22  | 146                                    | 47.6 | 105                                               | 44.5                                                                                                                           |     | 22.0 | 90                                                | 49.7          |                      | 51.8  | 342                                               | 45.6           |       | 21.0           | 49                                               | 50.7 |     | 48.1 |    |    |
| 23  | 161                                    | 50.1 | 120                                               | 44.4                                                                                                                           |     | 23.0 | 105                                               | 50.5          |                      | 52.2  | 357                                               | 48.3           |       | 21.1           | 64                                               | 53.1 |     | 48.1 |    |    |
| 24  | 176                                    | 52.6 | 135                                               | 44.3                                                                                                                           | +18 | 24.0 | 120                                               | 51.3          | +20                  | 52.6  | 12                                                | 51.1           | +8    | 21.2           | 79                                               | 55.5 | +22 | 48.1 |    |    |
| Dif | —                                      |      | -1                                                |                                                                                                                                | +10 |      | +8                                                |               | +4                   |       | +27                                               |                | +1    |                | +24                                              |      |     |      |    |    |

| UT | SOL                                                |      |    | ● LUNA                                                                                                                                                                 |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |    |    |    |    |    |    |    |
|----|----------------------------------------------------|------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----|----|----|----|----|----|----|
|    | SD: 16:1<br>PMG: 12 <sup>h</sup> 07 <sup>m</sup> 7 |      |    | Edad: 27 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 57/5<br>12 <sup>h</sup> : 57/4<br>20 <sup>h</sup> : 57/2<br>PMG: 11 <sup>h</sup> 08 <sup>m</sup> R°: 45 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |    |    |    |    |    |    |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                   | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R° |    |    |    |    |    |    |
| h  | °                                                  | '    | °  | °                                                                                                                                                                      | '   | °                   | °       | h                        | m       | h             | m              | h    | m              | m    | h  | m  | m  |    |    |    |    |
| 0  | 178                                                | 02.8 | -0 | 30.5                                                                                                                                                                   | 198 | 24.5                | -14     | 08.7                     | 60 N    | 4             | 33             | 5    | 22             | 6    | 04 | 6  | 32 | 1  |    |    |    |
| 1  | 193                                                | 03.0 |    | 29.5                                                                                                                                                                   | 212 | 55.2 <sup>117</sup> | -13     | 55.1 <sup>136</sup>      | 58      | 38            | 25             |      | 04             |      | 24 | 5  | 08 | 88 |    |    |    |
| 2  | 208                                                | 03.2 |    | 28.5                                                                                                                                                                   | 227 | 26.0 <sup>118</sup> |         | 41.4 <sup>137</sup>      | 56      | 43            | 27             |      | 04             |      | 18 | 8  | 14 | 84 |    |    |    |
| 3  | 223                                                | 03.4 |    | 27.5                                                                                                                                                                   | 241 | 56.9 <sup>119</sup> |         | 27.6 <sup>138</sup>      | 54      | 47            | 29             |      | 04             |      | 12 | 11 | 18 | 82 |    |    |    |
| 4  | 238                                                | 03.6 |    | 26.5                                                                                                                                                                   | 256 | 27.8 <sup>119</sup> | -13     | 13.9 <sup>137</sup>      | 52      | 51            | 31             |      | 04             |      | 06 | 14 | 23 | 79 |    |    |    |
| 5  | 253                                                | 03.7 | -0 | 25.5                                                                                                                                                                   | 270 | 58.9 <sup>121</sup> | -13     | 00.0 <sup>139</sup>      | 50      | 4             | 54             | 5    | 32             | 6    | 04 | 6  | 02 | 15 |    |    |    |
| 6  | 268                                                | 03.9 | -0 | 24.5                                                                                                                                                                   | 285 | 30.0 <sup>121</sup> | -12     | 46.1 <sup>139</sup>      | 45      | 5             | 01             | 5    | 35             | 6    | 05 | 5  | 51 | 21 |    |    |    |
| 7  | 283                                                | 04.1 |    | 23.5                                                                                                                                                                   | 300 | 01.2 <sup>122</sup> |         | 32.2 <sup>139</sup>      | 40      | 06            | 38             |      | 05             |      | 42 | 25 | 43 | 67 |    |    |    |
| 8  | 298                                                | 04.3 |    | 22.6                                                                                                                                                                   | 314 | 32.5 <sup>123</sup> |         | 18.2 <sup>140</sup>      | 35      | 10            | 40             |      | 05             |      | 35 | 28 | 49 | 63 |    |    |    |
| 9  | 313                                                | 04.5 |    | 21.6                                                                                                                                                                   | 329 | 03.9 <sup>124</sup> | -12     | 04.1 <sup>141</sup>      | 30      | 13            | 41             |      | 05             |      | 28 | 32 | 16 | 54 | 60 |    |    |
| 10 | 328                                                | 04.7 |    | 20.6                                                                                                                                                                   | 343 | 35.3 <sup>124</sup> | -11     | 50.0 <sup>141</sup>      | 20      | 17            | 43             |      | 05             |      | 16 | 37 | 17 | 03 | 55 |    |    |
| 11 | 343                                                | 04.8 | -0 | 19.6                                                                                                                                                                   | 358 | 06.8 <sup>125</sup> | -11     | 35.8 <sup>142</sup>      | 10 N    | 5             | 19             | 5    | 44             | 6    | 05 | 5  | 06 | 42 | 17 | 11 | 50 |
| 12 | 358                                                | 05.0 | -0 | 18.6                                                                                                                                                                   | 12  | 38.4 <sup>126</sup> | -11     | 21.7 <sup>141</sup>      | 0       | 5             | 20             | 5    | 44             | 6    | 04 | 4  | 56 | 47 | 17 | 19 | 45 |
| 13 | 13                                                 | 05.2 |    | 17.6                                                                                                                                                                   | 27  | 10.0 <sup>126</sup> | -11     | 07.4 <sup>143</sup>      | 10 S    | 19            |                | 43   |                | 04   |    | 47 | 51 | 26 | 41 |    |    |
| 14 | 28                                                 | 05.4 |    | 16.6                                                                                                                                                                   | 41  | 41.8 <sup>128</sup> | -10     | 53.1 <sup>143</sup>      | 20      | 16            | 42             |      | 04             |      | 36 | 56 | 34 | 36 |    |    |    |
| 15 | 43                                                 | 05.6 |    | 15.6                                                                                                                                                                   | 56  | 13.6 <sup>128</sup> |         | 38.8 <sup>143</sup>      | 30      | 11            | 39             |      | 03             |      | 25 | 61 | 43 | 30 |    |    |    |
| 16 | 58                                                 | 05.8 |    | 14.6                                                                                                                                                                   | 70  | 45.4 <sup>128</sup> |         | 24.5 <sup>143</sup>      | 35      | 08            | 37             |      | 03             |      | 18 | 64 | 48 | 27 |    |    |    |
| 17 | 73                                                 | 05.9 | -0 | 13.7                                                                                                                                                                   | 85  | 17.4 <sup>130</sup> | -10     | 10.1 <sup>144</sup>      | 40      | 5             | 03             | 5    | 35             | 6    | 02 | 4  | 10 | 68 | 17 | 54 | 24 |
| 18 | 88                                                 | 06.1 | -0 | 12.7                                                                                                                                                                   | 99  | 49.4 <sup>130</sup> | -9      | 55.6 <sup>145</sup>      | 45      | 4             | 58             | 5    | 32             | 6    | 01 | 4  | 01 | 72 | 18 | 00 | 20 |
| 19 | 103                                                | 06.3 |    | 11.7                                                                                                                                                                   | 114 | 21.4 <sup>130</sup> |         | 41.1 <sup>145</sup>      | 50      | 50            | 28             |      | 01             |      | 3  | 49 | 78 | 08 | 15 |    |    |
| 20 | 118                                                | 06.5 |    | 10.7                                                                                                                                                                   | 128 | 53.6 <sup>132</sup> |         | 26.6 <sup>145</sup>      | 52      | 46            | 26             |      | 00             |      | 44 | 81 | 12 | 12 |    |    |    |
| 21 | 133                                                | 06.7 |    | 09.7                                                                                                                                                                   | 143 | 25.8 <sup>132</sup> | -9      | 12.1 <sup>145</sup>      | 54      | 42            | 24             |      | 00             |      | 38 | 84 | 16 | 10 |    |    |    |
| 22 | 148                                                | 06.9 |    | 08.7                                                                                                                                                                   | 157 | 58.0 <sup>132</sup> | -8      | 57.5 <sup>146</sup>      | 56      | 38            | 22             |      | 5              | 59   | 32 | 86 | 20 | 8  |    |    |    |
| 23 | 163                                                | 07.1 |    | 07.7                                                                                                                                                                   | 172 | 30.4 <sup>134</sup> |         | 42.9 <sup>146</sup>      | 58      | 32            | 19             |      | 59             |      | 25 | 90 | 25 | 4  |    |    |    |
| 24 | 178                                                | 07.2 | -0 | 06.7                                                                                                                                                                   | 187 | 02.7 <sup>133</sup> | -8      | 28.3 <sup>146</sup>      | 60 S    | 4             | 26             | 5    | 16             | 5    | 58 | 3  | 16 | 95 | 18 | 30 | 1  |

| UT  | ARIES                                  |      | VENUS                                             |      |     | MARTE                                             |      |     | JÚPITER                                           |      |    | SATURNO                                          |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|-----|---------------------------------------------------|------|-----|---------------------------------------------------|------|----|--------------------------------------------------|------|-----|------|
|     | PMG: 12 <sup>h</sup> 10 <sup>m</sup> 5 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |      |     | Mag: +1.3<br>PMG: 15 <sup>h</sup> 56 <sup>m</sup> |      |     | Mag: -2.5<br>PMG: 23 <sup>h</sup> 04 <sup>m</sup> |      |    | Mag: 0.0<br>PMG: 18 <sup>h</sup> 37 <sup>m</sup> |      |     |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  |     | hG ♂                                              | Dec  |     | hG ♃                                              | Dec  |    | hG ♄                                             | Dec  |     |      |
| h   | °                                      | '    | °                                                 | °    | '   | °                                                 | °    | '   | °                                                 | °    | '  | °                                                | °    | '   |      |
| 0   | 176                                    | 52.6 | 135                                               | 44.3 | +18 | 120                                               | 51.3 | +20 | 12                                                | 51.1 | +8 | 79                                               | 55.5 | +22 | 48.1 |
| 1   | 191                                    | 55.0 | 150                                               | 44.2 |     | 135                                               | 52.1 |     | 27                                                | 53.8 |    | 94                                               | 57.9 |     | 48.1 |
| 2   | 206                                    | 57.5 | 165                                               | 44.0 |     | 150                                               | 52.9 |     | 42                                                | 56.6 |    | 110                                              | 00.3 |     | 48.1 |
| 3   | 222                                    | 00.0 | 180                                               | 43.9 |     | 165                                               | 53.7 |     | 57                                                | 59.3 |    | 125                                              | 02.8 |     | 48.1 |
| 4   | 237                                    | 02.4 | 195                                               | 43.8 |     | 180                                               | 54.5 |     | 73                                                | 02.1 |    | 140                                              | 05.2 |     | 48.1 |
| 5   | 252                                    | 04.9 | 210                                               | 43.7 | +18 | 195                                               | 55.3 | +20 | 88                                                | 04.8 | +8 | 155                                              | 07.6 | +22 | 48.1 |
| 6   | 267                                    | 07.4 | 225                                               | 43.6 | +18 | 210                                               | 56.1 | +20 | 103                                               | 07.6 | +8 | 170                                              | 10.0 | +22 | 48.1 |
| 7   | 282                                    | 09.8 | 240                                               | 43.5 |     | 225                                               | 56.9 |     | 118                                               | 10.3 |    | 185                                              | 12.4 |     | 48.1 |
| 8   | 297                                    | 12.3 | 255                                               | 43.4 |     | 240                                               | 57.7 |     | 133                                               | 13.0 |    | 200                                              | 14.8 |     | 48.1 |
| 9   | 312                                    | 14.8 | 270                                               | 43.2 |     | 255                                               | 58.5 |     | 148                                               | 15.8 |    | 215                                              | 17.2 |     | 48.1 |
| 10  | 327                                    | 17.2 | 285                                               | 43.1 |     | 270                                               | 59.3 |     | 163                                               | 18.5 |    | 230                                              | 19.6 |     | 48.1 |
| 11  | 342                                    | 19.7 | 300                                               | 43.0 | +18 | 286                                               | 00.1 | +20 | 178                                               | 21.3 | +8 | 245                                              | 22.0 | +22 | 48.2 |
| 12  | 357                                    | 22.1 | 315                                               | 42.9 | +18 | 301                                               | 00.8 | +20 | 193                                               | 24.0 | +8 | 260                                              | 24.4 | +22 | 48.2 |
| 13  | 12                                     | 24.6 | 330                                               | 42.8 |     | 316                                               | 01.6 |     | 208                                               | 26.8 |    | 275                                              | 26.8 |     | 48.2 |
| 14  | 27                                     | 27.1 | 345                                               | 42.7 |     | 331                                               | 02.4 |     | 223                                               | 29.5 |    | 290                                              | 29.2 |     | 48.2 |
| 15  | 42                                     | 29.5 | 0                                                 | 42.6 |     | 346                                               | 03.2 |     | 238                                               | 32.3 |    | 305                                              | 31.6 |     | 48.2 |
| 16  | 57                                     | 32.0 | 15                                                | 42.4 |     | 1                                                 | 04.0 |     | 253                                               | 35.0 |    | 320                                              | 34.0 |     | 48.2 |
| 17  | 72                                     | 34.5 | 30                                                | 42.3 | +18 | 16                                                | 04.8 | +20 | 268                                               | 37.7 | +8 | 335                                              | 36.4 | +22 | 48.2 |
| 18  | 87                                     | 36.9 | 45                                                | 42.2 | +18 | 31                                                | 05.6 | +20 | 283                                               | 40.5 | +8 | 350                                              | 38.8 | +22 | 48.2 |
| 19  | 102                                    | 39.4 | 60                                                | 42.1 |     | 46                                                | 06.4 |     | 298                                               | 43.2 |    | 5                                                | 41.2 |     | 48.2 |
| 20  | 117                                    | 41.9 | 75                                                | 42.0 |     | 61                                                | 07.2 | +20 | 313                                               | 46.0 |    | 20                                               | 43.6 |     | 48.2 |
| 21  | 132                                    | 44.3 | 90                                                | 41.9 |     | 76                                                | 08.0 | +21 | 328                                               | 48.7 |    | 35                                               | 46.0 |     | 48.2 |
| 22  | 147                                    | 46.8 | 105                                               | 41.8 |     | 91                                                | 08.8 |     | 343                                               | 51.5 |    | 50                                               | 48.4 |     | 48.2 |
| 23  | 162                                    | 49.2 | 120                                               | 41.7 |     | 106                                               | 09.6 |     | 358                                               | 54.2 |    | 65                                               | 50.8 |     | 48.2 |
| 24  | 177                                    | 51.7 | 135                                               | 41.5 | +18 | 121                                               | 10.4 | +21 | 13                                                | 57.0 | +8 | 80                                               | 53.2 | +22 | 48.2 |
| Dif | —                                      |      | -1                                                | +10  |     | +8                                                | +4   |     | +27                                               | +1   |    | +24                                              |      |     | 0    |

| UT  | SOL                                                             |      |                                                   | ● LUNA                                                                                                                                                             |                     |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          |          | Salida de Luna                                   |          | Puesta de Luna |    |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|----------|--------------------------------------------------|----------|----------------|----|
|     | SD: 16 <sup>h</sup> 1<br>PMG: 12 <sup>h</sup> 07 <sup>m</sup> 4 |      |                                                   | Edad: 28 <sup>d</sup> 6 PHE {<br>4 <sup>h</sup> : 57 <sup>0</sup><br>12 <sup>h</sup> : 56 <sup>8</sup><br>20 <sup>h</sup> : 56 <sup>7</sup><br>R°: 44 <sup>m</sup> |                     |                                                   |          |               |                                                   |          |          |                                                  |          |                |    |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                               | Dif                 | Dec                                               |          |               | Dif                                               | Civil    | Náutico  | Hora                                             | R°       | Hora           | R° |
| h   | °                                                               | '    | °                                                 | °                                                                                                                                                                  | '                   | °                                                 | '        | h             | m                                                 | h        | m        | h                                                | m        | h              | m  |
| 0   | 178                                                             | 07.2 | -0 06.7                                           | 187                                                                                                                                                                | 02.7                | -8 28.3                                           | 60 N     | 18 15         | 18 57                                             | 19 47    | 6 33 1   |                                                  | 17 34 89 |                |    |
| 1   | 193                                                             | 07.4 | 05.7                                              | 201                                                                                                                                                                | 35.2 <sup>135</sup> | -8 13.6 <sup>147</sup>                            | 58       | 15            | 54                                                | 41       | 29 4     |                                                  | 36 85    |                |    |
| 2   | 208                                                             | 07.6 | 04.8                                              | 216                                                                                                                                                                | 07.7 <sup>135</sup> | -7 58.9 <sup>147</sup>                            | 56       | 14            | 52                                                | 36       | 26 7     |                                                  | 38 82    |                |    |
| 3   | 223                                                             | 07.8 | 03.8                                              | 230                                                                                                                                                                | 40.2 <sup>135</sup> | 44.2 <sup>147</sup>                               | 54       | 14            | 49                                                | 31       | 23 9     |                                                  | 40 79    |                |    |
| 4   | 238                                                             | 08.0 | 02.8                                              | 245                                                                                                                                                                | 12.9 <sup>137</sup> | 29.5 <sup>147</sup>                               | 52       | 14            | 47                                                | 27       | 20 12    |                                                  | 42 76    |                |    |
| 5   | 253                                                             | 08.2 | -0 01.8                                           | 259                                                                                                                                                                | 45.5 <sup>136</sup> | -7 14.7 <sup>148</sup>                            | 50       | 18 13         | 18 46                                             | 19 24    | 6 17 14  |                                                  | 17 44 74 |                |    |
| 6   | 268                                                             | 08.3 | -0 00.8                                           | 274                                                                                                                                                                | 18.3 <sup>138</sup> | -7 00.0 <sup>147</sup>                            | 45       | 18 13         | 18 42                                             | 19 17    | 6 12 19  |                                                  | 17 47 69 |                |    |
| 7   | 283                                                             | 08.5 | +0 00.2                                           | 288                                                                                                                                                                | 51.1 <sup>138</sup> | -6 45.2 <sup>148</sup>                            | 40       | 12            | 39                                                | 11       | 07 23    |                                                  | 50 65    |                |    |
| 8   | 298                                                             | 08.7 | 01.2                                              | 303                                                                                                                                                                | 23.9 <sup>138</sup> | 30.3 <sup>149</sup>                               | 35       | 12            | 37                                                | 07       | 03 26    |                                                  | 52 61    |                |    |
| 9   | 313                                                             | 08.9 | 02.2                                              | 317                                                                                                                                                                | 56.8 <sup>139</sup> | 15.5 <sup>148</sup>                               | 30       | 12            | 35                                                | 19 03    | 6 00 29  |                                                  | 54 58    |                |    |
| 10  | 328                                                             | 09.1 | 03.1                                              | 332                                                                                                                                                                | 29.7 <sup>139</sup> | -6 00.6 <sup>149</sup>                            | 20       | 11            | 33                                                | 18 59    | 5 53 35  |                                                  | 17 58 52 |                |    |
| 11  | 343                                                             | 09.3 | +0 04.1                                           | 347                                                                                                                                                                | 02.7 <sup>140</sup> | -5 45.8 <sup>148</sup>                            | 10 N     | 18 11         | 18 32                                             | 18 56    | 5 48 39  |                                                  | 18 01 48 |                |    |
| 12  | 358                                                             | 09.4 | +0 05.1                                           | 1                                                                                                                                                                  | 35.8 <sup>141</sup> | -5 30.9 <sup>149</sup>                            | 0        | 18 11         | 18 31                                             | 18 55    | 5 43 44  |                                                  | 18 04 43 |                |    |
| 13  | 13                                                              | 09.6 | 06.1                                              | 16                                                                                                                                                                 | 08.8 <sup>140</sup> | 16.0 <sup>149</sup>                               | 10 S     | 11            | 32                                                | 56       | 38 48    |                                                  | 07 39    |                |    |
| 14  | 28                                                              | 09.8 | 07.1                                              | 30                                                                                                                                                                 | 42.0 <sup>142</sup> | -5 01.1 <sup>149</sup>                            | 20       | 11            | 33                                                | 18 58    | 32 53    |                                                  | 10 34    |                |    |
| 15  | 43                                                              | 10.0 | 08.1                                              | 45                                                                                                                                                                 | 15.1 <sup>141</sup> | -4 46.2 <sup>149</sup>                            | 30       | 11            | 35                                                | 19 02    | 26 59    |                                                  | 13 29    |                |    |
| 16  | 58                                                              | 10.2 | 09.1                                              | 59                                                                                                                                                                 | 48.4 <sup>143</sup> | 31.3 <sup>149</sup>                               | 35       | 11            | 36                                                | 06       | 22 62    |                                                  | 15 26    |                |    |
| 17  | 73                                                              | 10.4 | +0 10.1                                           | 74                                                                                                                                                                 | 21.6 <sup>142</sup> | -4 16.3 <sup>150</sup>                            | 40       | 18 11         | 18 38                                             | 19 10    | 5 18 66  |                                                  | 18 18 22 |                |    |
| 18  | 88                                                              | 10.6 | +0 11.1                                           | 88                                                                                                                                                                 | 54.9 <sup>143</sup> | -4 01.4 <sup>149</sup>                            | 45       | 18 11         | 18 41                                             | 19 15    | 5 13 70  |                                                  | 18 20 18 |                |    |
| 19  | 103                                                             | 10.7 | 12.0                                              | 103                                                                                                                                                                | 28.3 <sup>144</sup> | -3 46.4 <sup>150</sup>                            | 50       | 12            | 44                                                | 22       | 07 75    |                                                  | 23 14    |                |    |
| 20  | 118                                                             | 10.9 | 13.0                                              | 118                                                                                                                                                                | 01.7 <sup>144</sup> | 31.5 <sup>149</sup>                               | 52       | 12            | 45                                                | 25       | 05 77    |                                                  | 24 12    |                |    |
| 21  | 133                                                             | 11.1 | 14.0                                              | 132                                                                                                                                                                | 35.1 <sup>144</sup> | 16.5 <sup>150</sup>                               | 54       | 12            | 47                                                | 29       | 5 02 80  |                                                  | 26 9     |                |    |
| 22  | 148                                                             | 11.3 | 15.0                                              | 147                                                                                                                                                                | 08.6 <sup>145</sup> | -3 01.6 <sup>149</sup>                            | 56       | 12            | 49                                                | 33       | 4 58 83  |                                                  | 28 6     |                |    |
| 23  | 163                                                             | 11.5 | 16.0                                              | 161                                                                                                                                                                | 42.1 <sup>145</sup> | -2 46.6 <sup>150</sup>                            | 58       | 12            | 51                                                | 38       | 5 55 86  |                                                  | 29 4     |                |    |
| 24  | 178                                                             | 11.7 | +0 17.0                                           | 176                                                                                                                                                                | 15.6 <sup>145</sup> | -2 31.7 <sup>149</sup>                            | 60 S     | 18 13         | 18 54                                             | 19 44    | 4 51 89  |                                                  | 18 31 1  |                |    |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                    |                     | MARTE                                             |          |               | JÚPITER                                           |          |          | SATURNO                                          |          |                |    |
|     | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 6                          |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |                                                                                                                                                                    |                     | Mag: +1.3<br>PMG: 15 <sup>h</sup> 54 <sup>m</sup> |          |               | Mag: -2.5<br>PMG: 23 <sup>h</sup> 00 <sup>m</sup> |          |          | Mag: 0.0<br>PMG: 18 <sup>h</sup> 33 <sup>m</sup> |          |                |    |
|     | hG ♈                                                            | hG ♀ | Dec                                               | hG ♂                                                                                                                                                               | Dec                 | hG ♃                                              | Dec      | hG ♃          | Dec                                               | hG ♄     | Dec      |                                                  |          |                |    |
| h   | °                                                               | °    | °                                                 | °                                                                                                                                                                  | °                   | °                                                 | °        | °             | °                                                 | °        | °        |                                                  |          |                |    |
| 0   | 177                                                             | 51.7 | 135 41.5                                          | +18 47.2                                                                                                                                                           | 121 10.4            | +21 01.4                                          | 13 57.0  | +8 23.9       |                                                   | 80 53.2  | +22 48.2 |                                                  |          |                |    |
| 1   | 192                                                             | 54.2 | 150 41.4                                          | 48.1                                                                                                                                                               | 136 11.2            | 01.8                                              | 28 59.7  | 24.1          |                                                   | 95 55.6  | 48.2     |                                                  |          |                |    |
| 2   | 207                                                             | 56.6 | 165 41.3                                          | 49.1                                                                                                                                                               | 151 12.0            | 02.1                                              | 44 02.4  | 24.2          |                                                   | 110 58.0 | 48.2     |                                                  |          |                |    |
| 3   | 222                                                             | 59.1 | 180 41.2                                          | 50.0                                                                                                                                                               | 166 12.8            | 02.5                                              | 59 05.2  | 24.3          |                                                   | 126 00.4 | 48.2     |                                                  |          |                |    |
| 4   | 238                                                             | 01.6 | 195 41.1                                          | 51.0                                                                                                                                                               | 181 13.5            | 02.8                                              | 74 07.9  | 24.4          |                                                   | 141 02.8 | 48.2     |                                                  |          |                |    |
| 5   | 253                                                             | 04.0 | 210 41.0                                          | +18 51.9                                                                                                                                                           | 196 14.3            | +21 03.2                                          | 89 10.7  | +8 24.5       |                                                   | 156 05.2 | +22 48.2 |                                                  |          |                |    |
| 6   | 268                                                             | 06.5 | 225 40.9                                          | +18 52.9                                                                                                                                                           | 211 15.1            | +21 03.6                                          | 104 13.4 | +8 24.6       |                                                   | 171 07.6 | +22 48.2 |                                                  |          |                |    |
| 7   | 283                                                             | 09.0 | 240 40.8                                          | 53.9                                                                                                                                                               | 226 15.9            | 03.9                                              | 119 16.2 | 24.7          |                                                   | 186 10.0 | 48.2     |                                                  |          |                |    |
| 8   | 298                                                             | 11.4 | 255 40.6                                          | 54.8                                                                                                                                                               | 241 16.7            | 04.3                                              | 134 18.9 | 24.8          |                                                   | 201 12.4 | 48.2     |                                                  |          |                |    |
| 9   | 313                                                             | 13.9 | 270 40.5                                          | 55.8                                                                                                                                                               | 256 17.5            | 04.7                                              | 149 21.6 | 25.0          |                                                   | 216 14.8 | 48.2     |                                                  |          |                |    |
| 10  | 328                                                             | 16.4 | 285 40.4                                          | 56.7                                                                                                                                                               | 271 18.3            | 05.0                                              | 164 24.4 | 25.1          |                                                   | 231 17.2 | 48.2     |                                                  |          |                |    |
| 11  | 343                                                             | 18.8 | 300 40.3                                          | +18 57.7                                                                                                                                                           | 286 19.1            | +21 05.4                                          | 179 27.1 | +8 25.2       |                                                   | 246 19.6 | +22 48.2 |                                                  |          |                |    |
| 12  | 358                                                             | 21.3 | 315 40.2                                          | +18 58.6                                                                                                                                                           | 301 19.9            | +21 05.7                                          | 194 29.9 | +8 25.3       |                                                   | 261 22.0 | +22 48.2 |                                                  |          |                |    |
| 13  | 13                                                              | 23.7 | 330 40.1                                          | +18 59.6                                                                                                                                                           | 316 20.7            | 06.1                                              | 209 32.6 | 25.4          |                                                   | 276 24.4 | 48.2     |                                                  |          |                |    |
| 14  | 28                                                              | 26.2 | 345 40.0                                          | +19 00.5                                                                                                                                                           | 331 21.5            | 06.5                                              | 224 35.4 | 25.5          |                                                   | 291 26.8 | 48.2     |                                                  |          |                |    |
| 15  | 43                                                              | 28.7 | 0 39.9                                            | 01.5                                                                                                                                                               | 346 22.3            | 06.8                                              | 239 38.1 | 25.6          |                                                   | 306 29.2 | 48.3     |                                                  |          |                |    |
| 16  | 58                                                              | 31.1 | 15 39.8                                           | 02.4                                                                                                                                                               | 1 23.0              | 07.2                                              | 254 40.8 | 25.7          |                                                   | 321 31.6 | 48.3     |                                                  |          |                |    |
| 17  | 73                                                              | 33.6 | 30 39.6                                           | +19 03.4                                                                                                                                                           | 16 23.8             | +21 07.5                                          | 269 43.6 | +8 25.9       |                                                   | 336 34.0 | +22 48.3 |                                                  |          |                |    |
| 18  | 88                                                              | 36.1 | 45 39.5                                           | +19 04.3                                                                                                                                                           | 31 24.6             | +21 07.9                                          | 284 46.3 | +8 26.0       |                                                   | 351 36.4 | +22 48.3 |                                                  |          |                |    |
| 19  | 103                                                             | 38.5 | 60 39.4                                           | 05.2                                                                                                                                                               | 46 25.4             | 08.3                                              | 299 49.1 | 26.1          |                                                   | 6 38.8   | 48.3     |                                                  |          |                |    |
| 20  | 118                                                             | 41.0 | 75 39.3                                           | 06.2                                                                                                                                                               | 61 26.2             | 08.6                                              | 314 51.8 | 26.2          |                                                   | 21 41.2  | 48.3     |                                                  |          |                |    |
| 21  | 133                                                             | 43.5 | 90 39.2                                           | 07.1                                                                                                                                                               | 76 27.0             | 09.0                                              | 329 54.5 | 26.3          |                                                   | 36 43.6  | 48.3     |                                                  |          |                |    |
| 22  | 148                                                             | 45.9 | 105 39.1                                          | 08.1                                                                                                                                                               | 91 27.8             | 09.3                                              | 344 57.3 | 26.4          |                                                   | 51 46.0  | 48.3     |                                                  |          |                |    |
| 23  | 163                                                             | 48.4 | 120 39.0                                          | 09.0                                                                                                                                                               | 106 28.6            | 09.7                                              | 0 00.0   | 26.5          |                                                   | 66 48.4  | 48.3     |                                                  |          |                |    |
| 24  | 178                                                             | 50.8 | 135 38.9                                          | +19 10.0                                                                                                                                                           | 121 29.4            | +21 10.0                                          | 15 02.8  | +8 26.6       |                                                   | 81 50.8  | +22 48.3 |                                                  |          |                |    |
| Dif | —                                                               | —    | -1                                                | +9                                                                                                                                                                 | +8                  | +4                                                | +27      | +1            |                                                   | +24      | 0        |                                                  |          |                |    |

| UT | SOL                                    |      |    | ● LUNA                 |                     |                     | Latitud             | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |
|----|----------------------------------------|------|----|------------------------|---------------------|---------------------|---------------------|--------------------------|-------|---------------|----------------|----|----------------|----|----|
|    | SD: 16 <sup>h</sup> 1                  |      |    | Edad: 0 <sup>d</sup> 1 | PHE {               | R°: 43 <sup>m</sup> |                     | R°                       |       |               | R°             |    |                |    |    |
|    | PMG: 12 <sup>h</sup> 07 <sup>m</sup> 1 |      |    |                        |                     | R°: 43 <sup>m</sup> |                     | R°                       |       |               | R°             |    |                |    |    |
|    | hG ☉                                   | Dec  |    | hG ☾                   | Dif                 | Dec                 | Dif                 | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |
| h  | °                                      | '    | °  | °                      | '                   | °                   | '                   | h                        | m     | h             | m              | h  | m              | h  | m  |
| 0  | 178                                    | 11.7 | +0 | 176                    | 15.6                | -2                  | 31.7                | 4                        | 26    | 5             | 16             | 5  | 58             | 6  | 34 |
| 1  | 193                                    | 11.9 |    | 190                    | 49.2 <sup>146</sup> |                     | 16.7 <sup>150</sup> | 32                       | 19    |               | 58             |    | 33             | 4  | 01 |
| 2  | 208                                    | 12.0 |    | 205                    | 22.8 <sup>146</sup> | -2                  | 01.7 <sup>150</sup> | 38                       | 22    |               | 59             |    | 33             | 6  | 19 |
| 3  | 223                                    | 12.2 |    | 219                    | 56.4 <sup>146</sup> | -1                  | 46.8 <sup>149</sup> | 42                       | 24    | 5             | 59             |    | 32             | 9  | 18 |
| 4  | 238                                    | 12.4 |    | 234                    | 30.1 <sup>147</sup> |                     | 31.8 <sup>150</sup> | 46                       | 26    | 6             | 00             |    | 32             | 11 | 58 |
| 5  | 253                                    | 12.6 | +0 | 249                    | 03.8 <sup>147</sup> | -1                  | 16.9 <sup>149</sup> | 50                       | 4     | 50            | 5              | 28 | 6              | 31 | 14 |
| 6  | 268                                    | 12.8 | +0 | 263                    | 37.5 <sup>147</sup> | -1                  | 02.0 <sup>149</sup> | 45                       | 4     | 57            | 5              | 32 | 6              | 31 | 18 |
| 7  | 283                                    | 13.0 |    | 278                    | 11.3 <sup>148</sup> | -0                  | 47.0 <sup>150</sup> | 40                       | 5     | 03            | 35             | 02 | 30             | 22 | 55 |
| 8  | 298                                    | 13.2 |    | 292                    | 45.1 <sup>148</sup> |                     | 32.1 <sup>149</sup> | 35                       |       | 07            | 37             | 02 | 29             | 26 | 53 |
| 9  | 313                                    | 13.3 |    | 307                    | 18.9 <sup>148</sup> |                     | 17.2 <sup>149</sup> | 30                       |       | 11            | 39             | 02 | 29             | 28 | 52 |
| 10 | 328                                    | 13.5 |    | 321                    | 52.7 <sup>148</sup> | -0                  | 02.3 <sup>149</sup> | 20                       |       | 15            | 41             | 03 | 28             | 34 | 50 |
| 11 | 343                                    | 13.7 | +0 | 336                    | 26.6 <sup>149</sup> | +0                  | 12.6 <sup>149</sup> | 10 N                     | 5     | 18            | 5              | 43 | 6              | 27 | 39 |
| 12 | 358                                    | 13.9 | +0 | 351                    | 00.5 <sup>149</sup> | +0                  | 27.4 <sup>148</sup> | 0                        | 5     | 19            | 5              | 43 | 6              | 27 | 43 |
| 13 | 13                                     | 14.1 |    | 5                      | 34.4 <sup>149</sup> |                     | 42.3 <sup>149</sup> | 10 S                     |       | 19            | 43             | 04 | 26             | 47 | 46 |
| 14 | 28                                     | 14.3 |    | 20                     | 08.3 <sup>149</sup> | +0                  | 57.1 <sup>148</sup> | 20                       |       | 17            | 42             | 04 | 25             | 52 | 44 |
| 15 | 43                                     | 14.5 |    | 34                     | 42.3 <sup>150</sup> | +1                  | 12.0 <sup>149</sup> | 30                       |       | 12            | 40             | 04 | 25             | 57 | 42 |
| 16 | 58                                     | 14.6 |    | 49                     | 16.2 <sup>149</sup> |                     | 26.8 <sup>148</sup> | 35                       |       | 09            | 39             | 04 | 24             | 61 | 41 |
| 17 | 73                                     | 14.8 | +0 | 63                     | 50.2 <sup>150</sup> | +1                  | 41.6 <sup>148</sup> | 40                       | 5     | 05            | 5              | 37 | 6              | 24 | 64 |
| 18 | 88                                     | 15.0 | +0 | 78                     | 24.2 <sup>150</sup> | +1                  | 56.3 <sup>147</sup> | 45                       | 5     | 00            | 5              | 35 | 6              | 23 | 68 |
| 19 | 103                                    | 15.2 |    | 92                     | 58.2 <sup>150</sup> | +2                  | 11.1 <sup>148</sup> | 50                       | 4     | 54            | 32             | 04 | 22             | 74 | 37 |
| 20 | 118                                    | 15.4 |    | 107                    | 32.3 <sup>151</sup> |                     | 25.8 <sup>147</sup> | 52                       |       | 50            | 30             | 04 | 22             | 76 | 36 |
| 21 | 133                                    | 15.6 |    | 122                    | 06.3 <sup>150</sup> |                     | 40.5 <sup>147</sup> | 54                       |       | 46            | 28             | 04 | 22             | 78 | 35 |
| 22 | 148                                    | 15.8 |    | 136                    | 40.4 <sup>151</sup> | +2                  | 55.2 <sup>147</sup> | 56                       |       | 42            | 26             | 03 | 21             | 81 | 34 |
| 23 | 163                                    | 15.9 |    | 151                    | 14.4 <sup>150</sup> | +3                  | 09.9 <sup>147</sup> | 58                       |       | 37            | 24             | 03 | 21             | 84 | 33 |
| 24 | 178                                    | 16.1 | +0 | 165                    | 48.5 <sup>151</sup> | +3                  | 24.5 <sup>146</sup> | 60 S                     | 4     | 32            | 5              | 22 | 6              | 20 | 88 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |  |    |     |  |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|--|----|-----|--|
|     | PMG: 12 <sup>h</sup> 02 <sup>m</sup> 6 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |      | Mag: +1.3<br>PMG: 15 <sup>h</sup> 53 <sup>m</sup> |      | Mag: -2.5<br>PMG: 22 <sup>h</sup> 56 <sup>m</sup> |      | Mag: 0.0<br>PMG: 18 <sup>h</sup> 30 <sup>m</sup> |      |     |  |    |     |  |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |  |    |     |  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |  |    |     |  |
| 0   | 178                                    | 50.8 | 135                                               | 38.9 | +19                                               | 10.0 | 121                                               | 29.4 | +21                                              | 10.0 |     |  |    |     |  |
| 1   | 193                                    | 53.3 | 150                                               | 38.8 |                                                   | 10.9 | 136                                               | 30.2 |                                                  | 10.4 |     |  |    |     |  |
| 2   | 208                                    | 55.8 | 165                                               | 38.7 |                                                   | 11.8 | 151                                               | 31.0 |                                                  | 10.8 |     |  |    |     |  |
| 3   | 223                                    | 58.2 | 180                                               | 38.5 |                                                   | 12.8 | 166                                               | 31.7 |                                                  | 11.1 |     |  |    |     |  |
| 4   | 239                                    | 00.7 | 195                                               | 38.4 |                                                   | 13.7 | 181                                               | 32.5 |                                                  | 11.5 |     |  |    |     |  |
| 5   | 254                                    | 03.2 | 210                                               | 38.3 | +19                                               | 14.7 | 196                                               | 33.3 | +21                                              | 11.8 |     |  |    |     |  |
| 6   | 269                                    | 05.6 | 225                                               | 38.2 | +19                                               | 15.6 | 211                                               | 34.1 | +21                                              | 12.2 |     |  |    |     |  |
| 7   | 284                                    | 08.1 | 240                                               | 38.1 |                                                   | 16.5 | 226                                               | 34.9 |                                                  | 12.5 |     |  |    |     |  |
| 8   | 299                                    | 10.6 | 255                                               | 38.0 |                                                   | 17.5 | 241                                               | 35.7 |                                                  | 12.9 |     |  |    |     |  |
| 9   | 314                                    | 13.0 | 270                                               | 37.9 |                                                   | 18.4 | 256                                               | 36.5 |                                                  | 13.3 |     |  |    |     |  |
| 10  | 329                                    | 15.5 | 285                                               | 37.8 |                                                   | 19.3 | 271                                               | 37.3 |                                                  | 13.6 |     |  |    |     |  |
| 11  | 344                                    | 18.0 | 300                                               | 37.7 | +19                                               | 20.3 | 286                                               | 38.1 | +21                                              | 14.0 |     |  |    |     |  |
| 12  | 359                                    | 20.4 | 315                                               | 37.6 | +19                                               | 21.2 | 301                                               | 38.8 | +21                                              | 14.3 |     |  |    |     |  |
| 13  | 14                                     | 22.9 | 330                                               | 37.5 |                                                   | 22.1 | 316                                               | 39.6 |                                                  | 14.7 |     |  |    |     |  |
| 14  | 29                                     | 25.3 | 345                                               | 37.4 |                                                   | 23.1 | 331                                               | 40.4 |                                                  | 15.0 |     |  |    |     |  |
| 15  | 44                                     | 27.8 | 0                                                 | 37.2 |                                                   | 24.0 | 346                                               | 41.2 |                                                  | 15.4 |     |  |    |     |  |
| 16  | 59                                     | 30.3 | 15                                                | 37.1 |                                                   | 24.9 | 1                                                 | 42.0 |                                                  | 15.7 |     |  |    |     |  |
| 17  | 74                                     | 32.7 | 30                                                | 37.0 | +19                                               | 25.8 | 16                                                | 42.8 | +21                                              | 16.1 |     |  |    |     |  |
| 18  | 89                                     | 35.2 | 45                                                | 36.9 | +19                                               | 26.8 | 31                                                | 43.6 | +21                                              | 16.4 |     |  |    |     |  |
| 19  | 104                                    | 37.7 | 60                                                | 36.8 |                                                   | 27.7 | 46                                                | 44.4 |                                                  | 16.8 |     |  |    |     |  |
| 20  | 119                                    | 40.1 | 75                                                | 36.7 |                                                   | 28.6 | 61                                                | 45.1 |                                                  | 17.1 |     |  |    |     |  |
| 21  | 134                                    | 42.6 | 90                                                | 36.6 |                                                   | 29.6 | 76                                                | 45.9 |                                                  | 17.5 |     |  |    |     |  |
| 22  | 149                                    | 45.1 | 105                                               | 36.5 |                                                   | 30.5 | 91                                                | 46.7 |                                                  | 17.8 |     |  |    |     |  |
| 23  | 164                                    | 47.5 | 120                                               | 36.4 |                                                   | 31.4 | 106                                               | 47.5 |                                                  | 18.2 |     |  |    |     |  |
| 24  | 179                                    | 50.0 | 135                                               | 36.3 | +19                                               | 32.3 | 121                                               | 48.3 | +21                                              | 18.5 |     |  |    |     |  |
| Dif | —                                      |      | -1                                                |      | +9                                                |      | +8                                                |      | +4                                               |      | +27 |  | +1 | +24 |  |

| UT  | SOL                                                             |      |                                                   | ● LUNA                                                                                                                                                                  |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |         | Salida de Luna |                                                  | Puesta de Luna |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|---------|----------------|--------------------------------------------------|----------------|------|
|     | SD: 16 <sup>h</sup> 1<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 8 |      |                                                   | Edad: 1 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 55 <sup>m</sup> 9<br>12 <sup>h</sup> : 55 <sup>m</sup> 7<br>20 <sup>h</sup> : 55 <sup>m</sup> 6<br>R°: 43 <sup>m</sup> |                     |                                                   |         |               |                                                   |         |                |                                                  |                |      |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                                    | Dif                 | Dec                                               |         |               | Dif                                               | Civil   | Náutico        | Hora                                             | R°             | Hora |
| h   | °                                                               | '    | °                                                 | °                                                                                                                                                                       | '                   | °                                                 | °       | h m           | h m                                               | h m     | h m m          | h m m                                            | h m m          |      |
| 0   | 178                                                             | 16.1 | +0 40.7                                           | 165                                                                                                                                                                     | 48.5                | +3 24.5                                           | 60 N    | 18 20         | 19 02                                             | 19 53   | 6 34 1         | 20 30 87                                         |                |      |
| 1   | 193                                                             | 16.3 |                                                   | 180                                                                                                                                                                     | 22.6 <sup>151</sup> | 39.1 <sup>146</sup>                               | 58      | 19            | 18 59                                             | 46      | 37 4           | 25 83                                            |                |      |
| 2   | 208                                                             | 16.5 |                                                   | 194                                                                                                                                                                     | 56.7 <sup>151</sup> | +3 53.7 <sup>146</sup>                            | 56      | 18            | 56                                                | 40      | 39 7           | 21 80                                            |                |      |
| 3   | 223                                                             | 16.7 |                                                   | 209                                                                                                                                                                     | 30.8 <sup>151</sup> | +4 08.3 <sup>146</sup>                            | 54      | 18            | 53                                                | 35      | 41 10          | 17 77                                            |                |      |
| 4   | 238                                                             | 16.9 |                                                   | 224                                                                                                                                                                     | 05.0 <sup>152</sup> | 22.8 <sup>145</sup>                               | 52      | 17            | 51                                                | 31      | 43 12          | 14 74                                            |                |      |
| 5   | 253                                                             | 17.1 | +0 45.6                                           | 238                                                                                                                                                                     | 39.1 <sup>151</sup> | +4 37.3 <sup>145</sup>                            | 50      | 18 17         | 18 49                                             | 19 27   | 6 45 14        | 20 11 72                                         |                |      |
| 6   | 268                                                             | 17.2 | +0 46.6                                           | 253                                                                                                                                                                     | 13.2 <sup>151</sup> | +4 51.8 <sup>145</sup>                            | 45      | 18 15         | 18 45                                             | 19 19   | 6 49 19        | 20 04 67                                         |                |      |
| 7   | 283                                                             | 17.4 |                                                   | 267                                                                                                                                                                     | 47.3 <sup>151</sup> | +5 06.2 <sup>144</sup>                            | 40      | 14            | 41                                                | 13      | 52 23          | 19 58 64                                         |                |      |
| 8   | 298                                                             | 17.6 |                                                   | 282                                                                                                                                                                     | 21.5 <sup>152</sup> | 20.6 <sup>144</sup>                               | 35      | 14            | 39                                                | 08      | 55 26          | 54 59                                            |                |      |
| 9   | 313                                                             | 17.8 |                                                   | 296                                                                                                                                                                     | 55.6 <sup>151</sup> | 35.0 <sup>144</sup>                               | 30      | 13            | 37                                                | 19 05   | 6 57 29        | 49 57                                            |                |      |
| 10  | 328                                                             | 18.0 |                                                   | 311                                                                                                                                                                     | 29.7 <sup>151</sup> | +5 49.3 <sup>143</sup>                            | 20      | 12            | 34                                                | 18 59   | 7 02 34        | 42 52                                            |                |      |
| 11  | 343                                                             | 18.2 | +0 51.5                                           | 326                                                                                                                                                                     | 03.9 <sup>152</sup> | +6 03.6 <sup>143</sup>                            | 10 N    | 18 11         | 18 32                                             | 18 56   | 7 06 38        | 19 36 47                                         |                |      |
| 12  | 358                                                             | 18.4 | +0 52.5                                           | 340                                                                                                                                                                     | 38.0 <sup>151</sup> | +6 17.8 <sup>142</sup>                            | 0       | 18 10         | 18 31                                             | 18 55   | 7 10 42        | 19 30 43                                         |                |      |
| 13  | 13                                                              | 18.6 |                                                   | 355                                                                                                                                                                     | 12.2 <sup>152</sup> | 32.1 <sup>143</sup>                               | 10 S    | 09            | 30                                                | 55      | 13 47          | 24 39                                            |                |      |
| 14  | 28                                                              | 18.7 |                                                   | 9                                                                                                                                                                       | 46.3 <sup>151</sup> | +6 46.3 <sup>142</sup>                            | 20      | 09            | 31                                                | 18 56   | 17 52          | 18 34                                            |                |      |
| 15  | 43                                                              | 18.9 |                                                   | 24                                                                                                                                                                      | 20.4 <sup>151</sup> | +7 00.4 <sup>141</sup>                            | 30      | 08            | 32                                                | 19 00   | 22 57          | 11 29                                            |                |      |
| 16  | 58                                                              | 19.1 |                                                   | 38                                                                                                                                                                      | 54.5 <sup>151</sup> | 14.5 <sup>141</sup>                               | 35      | 08            | 33                                                | 03      | 25 60          | 07 26                                            |                |      |
| 17  | 73                                                              | 19.3 | +0 57.5                                           | 53                                                                                                                                                                      | 28.7 <sup>152</sup> | +7 28.6 <sup>141</sup>                            | 40      | 18 08         | 18 35                                             | 19 06   | 7 28 63        | 19 02 23                                         |                |      |
| 18  | 88                                                              | 19.5 | +0 58.4                                           | 68                                                                                                                                                                      | 02.8 <sup>151</sup> | +7 42.6 <sup>140</sup>                            | 45      | 18 08         | 18 37                                             | 19 11   | 7 31 68        | 18 57 19                                         |                |      |
| 19  | 103                                                             | 19.7 | +0 59.4                                           | 82                                                                                                                                                                      | 36.9 <sup>151</sup> | +7 56.6 <sup>140</sup>                            | 50      | 07            | 39                                                | 17      | 36 72          | 50 15                                            |                |      |
| 20  | 118                                                             | 19.9 | +1 00.4                                           | 97                                                                                                                                                                      | 11.0 <sup>151</sup> | +8 10.5 <sup>139</sup>                            | 52      | 07            | 41                                                | 20      | 38 74          | 48 12                                            |                |      |
| 21  | 133                                                             | 20.1 |                                                   | 111                                                                                                                                                                     | 45.1 <sup>151</sup> | 24.4 <sup>139</sup>                               | 54      | 07            | 42                                                | 24      | 40 77          | 44 11                                            |                |      |
| 22  | 148                                                             | 20.2 |                                                   | 126                                                                                                                                                                     | 19.1 <sup>150</sup> | 38.3 <sup>139</sup>                               | 56      | 07            | 44                                                | 28      | 42 81          | 41 7                                             |                |      |
| 23  | 163                                                             | 20.4 |                                                   | 140                                                                                                                                                                     | 53.2 <sup>151</sup> | +8 52.1 <sup>138</sup>                            | 58      | 07            | 46                                                | 32      | 45 83          | 37 5                                             |                |      |
| 24  | 178                                                             | 20.6 | +1 04.4                                           | 155                                                                                                                                                                     | 27.3 <sup>151</sup> | +9 05.8 <sup>137</sup>                            | 60 S    | 18 07         | 18 48                                             | 19 37   | 7 48 87        | 18 33 1                                          |                |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                         |                     | MARTE                                             |         |               | JÚPITER                                           |         |                | SATURNO                                          |                |      |
|     | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 7                          |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |                                                                                                                                                                         |                     | Mag: +1.3<br>PMG: 15 <sup>h</sup> 52 <sup>m</sup> |         |               | Mag: -2.5<br>PMG: 22 <sup>h</sup> 51 <sup>m</sup> |         |                | Mag: 0.0<br>PMG: 18 <sup>h</sup> 26 <sup>m</sup> |                |      |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                                                                                                     |                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec     |                | hG ♄                                             | Dec            |      |
| h   | °                                                               | '    | °                                                 | °                                                                                                                                                                       | '                   | °                                                 | °       | '             | °                                                 | '       | °              | °                                                | '              | °    |
| 0   | 179                                                             | 50.0 | 135                                               | 36.3                                                                                                                                                                    | +19 32.3            | 121                                               | 48.3    | +21 18.5      | 16 08.5                                           | +8 29.3 |                | 82 48.3                                          | +22 48.4       |      |
| 1   | 194                                                             | 52.4 | 150                                               | 36.2                                                                                                                                                                    | 33.3                | 136                                               | 49.1    | 18.9          | 31 11.2                                           | 29.4    |                | 97 50.7                                          | 48.4           |      |
| 2   | 209                                                             | 54.9 | 165                                               | 36.1                                                                                                                                                                    | 34.2                | 151                                               | 49.9    | 19.2          | 46 14.0                                           | 29.5    |                | 112 53.1                                         | 48.4           |      |
| 3   | 224                                                             | 57.4 | 180                                               | 36.0                                                                                                                                                                    | 35.1                | 166                                               | 50.7    | 19.6          | 61 16.7                                           | 29.6    |                | 127 55.5                                         | 48.4           |      |
| 4   | 239                                                             | 59.8 | 195                                               | 35.9                                                                                                                                                                    | 36.0                | 181                                               | 51.4    | 19.9          | 76 19.4                                           | 29.7    |                | 142 57.9                                         | 48.4           |      |
| 5   | 255                                                             | 02.3 | 210                                               | 35.8                                                                                                                                                                    | +19 36.9            | 196                                               | 52.2    | +21 20.3      | 91 22.2                                           | +8 29.8 |                | 158 00.2                                         | +22 48.4       |      |
| 6   | 270                                                             | 04.8 | 225                                               | 35.6                                                                                                                                                                    | +19 37.9            | 211                                               | 53.0    | +21 20.6      | 106 24.9                                          | +8 29.9 |                | 173 02.6                                         | +22 48.4       |      |
| 7   | 285                                                             | 07.2 | 240                                               | 35.5                                                                                                                                                                    | 38.8                | 226                                               | 53.8    | 21.0          | 121 27.7                                          | 30.1    |                | 188 05.0                                         | 48.4           |      |
| 8   | 300                                                             | 09.7 | 255                                               | 35.4                                                                                                                                                                    | 39.7                | 241                                               | 54.6    | 21.3          | 136 30.4                                          | 30.2    |                | 203 07.4                                         | 48.4           |      |
| 9   | 315                                                             | 12.2 | 270                                               | 35.3                                                                                                                                                                    | 40.6                | 256                                               | 55.4    | 21.7          | 151 33.1                                          | 30.3    |                | 218 09.8                                         | 48.4           |      |
| 10  | 330                                                             | 14.6 | 285                                               | 35.2                                                                                                                                                                    | 41.5                | 271                                               | 56.2    | 22.0          | 166 35.9                                          | 30.4    |                | 233 12.2                                         | 48.4           |      |
| 11  | 345                                                             | 17.1 | 300                                               | 35.1                                                                                                                                                                    | +19 42.4            | 286                                               | 56.9    | +21 22.4      | 181 38.6                                          | +8 30.5 |                | 248 14.6                                         | +22 48.4       |      |
| 12  | 0                                                               | 19.6 | 315                                               | 35.0                                                                                                                                                                    | +19 43.4            | 301                                               | 57.7    | +21 22.7      | 196 41.3                                          | +8 30.6 |                | 263 17.0                                         | +22 48.4       |      |
| 13  | 15                                                              | 22.0 | 330                                               | 34.9                                                                                                                                                                    | 44.3                | 316                                               | 58.5    | 23.1          | 211 44.1                                          | 30.7    |                | 278 19.4                                         | 48.4           |      |
| 14  | 30                                                              | 24.5 | 345                                               | 34.8                                                                                                                                                                    | 45.2                | 331                                               | 59.3    | 23.4          | 226 46.8                                          | 30.8    |                | 293 21.8                                         | 48.4           |      |
| 15  | 45                                                              | 26.9 | 0                                                 | 34.7                                                                                                                                                                    | 46.1                | 347                                               | 00.1    | 23.8          | 241 49.5                                          | 30.9    |                | 308 24.1                                         | 48.4           |      |
| 16  | 60                                                              | 29.4 | 15                                                | 34.6                                                                                                                                                                    | 47.0                | 2                                                 | 00.9    | 24.1          | 256 52.3                                          | 31.0    |                | 323 26.5                                         | 48.4           |      |
| 17  | 75                                                              | 31.9 | 30                                                | 34.5                                                                                                                                                                    | +19 47.9            | 17                                                | 01.7    | +21 24.5      | 271 55.0                                          | +8 31.1 |                | 338 28.9                                         | +22 48.4       |      |
| 18  | 90                                                              | 34.3 | 45                                                | 34.4                                                                                                                                                                    | +19 48.8            | 32                                                | 02.4    | +21 24.8      | 286 57.7                                          | +8 31.2 |                | 353 31.3                                         | +22 48.4       |      |
| 19  | 105                                                             | 36.8 | 60                                                | 34.3                                                                                                                                                                    | 49.7                | 47                                                | 03.2    | 25.2          | 302 00.5                                          | 31.4    |                | 8 33.7                                           | 48.4           |      |
| 20  | 120                                                             | 39.3 | 75                                                | 34.2                                                                                                                                                                    | 50.6                | 62                                                | 04.0    | 25.5          | 317 03.2                                          | 31.5    |                | 23 36.1                                          | 48.4           |      |
| 21  | 135                                                             | 41.7 | 90                                                | 34.1                                                                                                                                                                    | 51.6                | 77                                                | 04.8    | 25.8          | 332 05.9                                          | 31.6    |                | 38 38.5                                          | 48.4           |      |
| 22  | 150                                                             | 44.2 | 105                                               | 34.0                                                                                                                                                                    | 52.5                | 92                                                | 05.6    | 26.2          | 347 08.7                                          | 31.7    |                | 53 40.9                                          | 48.4           |      |
| 23  | 165                                                             | 46.7 | 120                                               | 33.9                                                                                                                                                                    | 53.4                | 107                                               | 06.4    | 26.5          | 2 11.4                                            | 31.8    |                | 68 43.2                                          | 48.4           |      |
| 24  | 180                                                             | 49.1 | 135                                               | 33.8                                                                                                                                                                    | +19 54.3            | 122                                               | 07.1    | +21 26.9      | 17 14.1                                           | +8 31.9 |                | 83 45.6                                          | +22 48.4       |      |
| Dif | —                                                               |      | -1 +9                                             |                                                                                                                                                                         |                     | +8 +3                                             |         |               | +27 +1                                            |         |                | +24 0                                            |                |      |

| UT  | SOL                                    |      |          | ● LUNA                                                                                                                           |                                      |                         | Latitud                                           | Principio del crepúsculo |          | Salida de Sol                                     | Salida de Luna |      | Puesta de Luna                                   |       |    |   |
|-----|----------------------------------------|------|----------|----------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------|---------------------------------------------------|--------------------------|----------|---------------------------------------------------|----------------|------|--------------------------------------------------|-------|----|---|
|     | SD: 16'0                               |      |          | Edad: 2 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 55'4<br>12 <sup>h</sup> : 55'2<br>20 <sup>h</sup> : 55'1<br>R°: 43 <sup>m</sup> | SD: 15'1                             |                         |                                                   |                          |          |                                                   |                |      |                                                  |       |    |   |
|     | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |          |                                                                                                                                  | PMG: 14 <sup>h</sup> 03 <sup>m</sup> |                         |                                                   |                          |          |                                                   |                |      |                                                  |       |    |   |
|     | hG ☉                                   | Dec  |          | hG ☾                                                                                                                             | Dif                                  | Dec                     | Dif                                               |                          | Náutico  | Civil                                             |                | Hora | R°                                               | Hora  | R° |   |
| h   | °                                      | '    | °        | °                                                                                                                                | '                                    | °                       | '                                                 | °                        | h        | m                                                 | h              | m    | h                                                | m     | h  | m |
| 0   | 178                                    | 20.6 | +1 04.4  | 155                                                                                                                              | 27.3                                 | +9 05.8                 |                                                   | 60 N                     | 4 19     | 5 10                                              | 5 52           | 6 35 | 2                                                | 21 57 | 89 |   |
| 1   | 193                                    | 20.8 |          | 170                                                                                                                              | 01.3 <sup>150</sup>                  | 19.5 <sup>137</sup>     |                                                   | 58                       | 26       | 13                                                | 53             | 41   | 5                                                | 48    | 85 |   |
| 2   | 208                                    | 21.0 |          | 184                                                                                                                              | 35.3 <sup>150</sup>                  | 33.2 <sup>137</sup>     |                                                   | 56                       | 32       | 16                                                | 54             | 46   | 8                                                | 41    | 80 |   |
| 3   | 223                                    | 21.2 |          | 199                                                                                                                              | 09.4 <sup>151</sup>                  | +9 46.8 <sup>136</sup>  |                                                   | 54                       | 37       | 19                                                | 54             | 51   | 11                                               | 34    | 77 |   |
| 4   | 238                                    | 21.4 |          | 213                                                                                                                              | 43.4 <sup>150</sup>                  | +10 00.3 <sup>135</sup> |                                                   | 52                       | 41       | 21                                                | 55             | 55   | 14                                               | 28    | 75 |   |
| 5   | 253                                    | 21.6 | +1 09.3  | 228                                                                                                                              | 17.3 <sup>149</sup>                  | +10 13.9 <sup>136</sup> |                                                   | 50                       | 4 45     | 5 23                                              | 5 56           | 6 59 | 16                                               | 21 23 | 72 |   |
| 6   | 268                                    | 21.7 | +1 10.3  | 242                                                                                                                              | 51.3 <sup>150</sup>                  | +10 27.3 <sup>134</sup> |                                                   | 45                       | 4 53     | 5 28                                              | 5 57           | 7 08 | 20                                               | 21 11 | 67 |   |
| 7   | 283                                    | 21.9 |          | 257                                                                                                                              | 25.3 <sup>150</sup>                  | 40.7 <sup>134</sup>     |                                                   | 40                       | 5 00     | 31                                                | 58             | 15   | 24                                               | 21 02 | 63 |   |
| 8   | 298                                    | 22.1 |          | 271                                                                                                                              | 59.2 <sup>149</sup>                  | +10 54.1 <sup>134</sup> |                                                   | 35                       | 04       | 34                                                | 5 59           | 21   | 27                                               | 20 53 | 60 |   |
| 9   | 313                                    | 22.3 |          | 286                                                                                                                              | 33.1 <sup>149</sup>                  | +11 07.4 <sup>133</sup> |                                                   | 30                       | 08       | 36                                                | 6 00           | 26   | 31                                               | 46    | 57 |   |
| 10  | 328                                    | 22.5 |          | 301                                                                                                                              | 07.0 <sup>149</sup>                  | 20.6 <sup>132</sup>     |                                                   | 20                       | 14       | 39                                                | 01             | 36   | 35                                               | 34    | 52 |   |
| 11  | 343                                    | 22.7 | +1 15.2  | 315                                                                                                                              | 40.9 <sup>149</sup>                  | +11 33.8 <sup>132</sup> |                                                   | 10 N                     | 5 17     | 5 41                                              | 6 02           | 7 44 | 40                                               | 20 23 | 48 |   |
| 12  | 358                                    | 22.9 | +1 16.2  | 330                                                                                                                              | 14.7 <sup>148</sup>                  | +11 46.9 <sup>131</sup> |                                                   | 0                        | 5 19     | 5 43                                              | 6 03           | 7 52 | 44                                               | 20 13 | 44 |   |
| 13  | 13                                     | 23.1 |          | 344                                                                                                                              | 48.6 <sup>149</sup>                  | +12 00.0 <sup>131</sup> |                                                   | 10 S                     | 19       | 43                                                | 04             | 8 00 | 48                                               | 20 03 | 40 |   |
| 14  | 28                                     | 23.2 |          | 359                                                                                                                              | 22.4 <sup>148</sup>                  | +12 13.0 <sup>130</sup> |                                                   | 20                       | 17       | 43                                                | 05             | 09   | 52                                               | 19 52 | 37 |   |
| 15  | 43                                     | 23.4 |          | 13                                                                                                                               | 56.1 <sup>147</sup>                  | 25.9 <sup>129</sup>     |                                                   | 30                       | 14       | 42                                                | 05             | 19   | 57                                               | 40    | 32 |   |
| 16  | 58                                     | 23.6 |          | 28                                                                                                                               | 29.9 <sup>148</sup>                  | 38.8 <sup>129</sup>     |                                                   | 35                       | 11       | 41                                                | 06             | 25   | 59                                               | 33    | 29 |   |
| 17  | 73                                     | 23.8 | +1 21.1  | 43                                                                                                                               | 03.6 <sup>147</sup>                  | +12 51.6 <sup>128</sup> |                                                   | 40                       | 5 08     | 5 39                                              | 6 06           | 8 31 | 63                                               | 19 25 | 26 |   |
| 18  | 88                                     | 24.0 | +1 22.1  | 57                                                                                                                               | 37.3 <sup>147</sup>                  | +13 04.4 <sup>128</sup> |                                                   | 45                       | 5 03     | 5 37                                              | 6 07           | 8 39 | 67                                               | 19 16 | 22 |   |
| 19  | 103                                    | 24.2 |          | 72                                                                                                                               | 11.0 <sup>147</sup>                  | 17.1 <sup>127</sup>     |                                                   | 50                       | 4 57     | 35                                                | 07             | 48   | 72                                               | 05    | 17 |   |
| 20  | 118                                    | 24.4 |          | 86                                                                                                                               | 44.7 <sup>147</sup>                  | 29.7 <sup>126</sup>     |                                                   | 52                       | 54       | 33                                                | 07             | 52   | 75                                               | 19 00 | 15 |   |
| 21  | 133                                    | 24.6 |          | 101                                                                                                                              | 18.3 <sup>146</sup>                  | 42.3 <sup>126</sup>     |                                                   | 54                       | 50       | 32                                                | 07             | 8 57 | 77                                               | 18 55 | 12 |   |
| 22  | 148                                    | 24.7 |          | 115                                                                                                                              | 51.9 <sup>146</sup>                  | +13 54.8 <sup>125</sup> |                                                   | 56                       | 47       | 30                                                | 08             | 9 03 | 80                                               | 48    | 10 |   |
| 23  | 163                                    | 24.9 |          | 130                                                                                                                              | 25.4 <sup>145</sup>                  | +14 07.3 <sup>125</sup> |                                                   | 58                       | 42       | 29                                                | 08             | 08   | 84                                               | 42    | 6  |   |
| 24  | 178                                    | 25.1 | +1 28.0  | 144                                                                                                                              | 59.0 <sup>146</sup>                  | +14 19.6 <sup>123</sup> |                                                   | 60 S                     | 4 37     | 5 26                                              | 6 08           | 9 15 | 88                                               | 18 34 | 2  |   |
| UT  | ARIES                                  |      |          | VENUS                                                                                                                            |                                      |                         | MARTE                                             |                          |          | JÚPITER                                           |                |      | SATURNO                                          |       |    |   |
|     | PMG 11 <sup>h</sup> 54 <sup>m</sup> 8  |      |          | Mag: -4.4<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup>                                                                                |                                      |                         | Mag: +1.3<br>PMG: 15 <sup>h</sup> 51 <sup>m</sup> |                          |          | Mag: -2.5<br>PMG: 22 <sup>h</sup> 47 <sup>m</sup> |                |      | Mag: 0.0<br>PMG: 18 <sup>h</sup> 22 <sup>m</sup> |       |    |   |
|     | hG ♈                                   | Dec  |          | hG ♀                                                                                                                             | Dec                                  |                         | hG ♂                                              | Dec                      |          | hG ♃                                              | Dec            |      | hG ♄                                             | Dec   |    |   |
| h   | °                                      | '    | °        | °                                                                                                                                | '                                    | °                       | °                                                 | '                        | °        | °                                                 | '              | °    | °                                                | '     | °  |   |
| 0   | 180                                    | 49.1 | 135 33.8 | +19 54.3                                                                                                                         | 122 07.1                             | +21 26.9                | 17 14.1                                           | +8 31.9                  | 83 45.6  | +22 48.4                                          |                |      |                                                  |       |    |   |
| 1   | 195                                    | 51.6 | 150 33.7 | 55.2                                                                                                                             | 137 07.9                             | 27.2                    | 32 16.9                                           | 32.0                     | 98 48.0  | 48.4                                              |                |      |                                                  |       |    |   |
| 2   | 210                                    | 54.0 | 165 33.6 | 56.1                                                                                                                             | 152 08.7                             | 27.6                    | 47 19.6                                           | 32.1                     | 113 50.4 | 48.4                                              |                |      |                                                  |       |    |   |
| 3   | 225                                    | 56.5 | 180 33.5 | 57.0                                                                                                                             | 167 09.5                             | 27.9                    | 62 22.3                                           | 32.2                     | 128 52.8 | 48.4                                              |                |      |                                                  |       |    |   |
| 4   | 240                                    | 59.0 | 195 33.4 | 57.9                                                                                                                             | 182 10.3                             | 28.3                    | 77 25.1                                           | 32.3                     | 143 55.2 | 48.4                                              |                |      |                                                  |       |    |   |
| 5   | 256                                    | 01.4 | 210 33.3 | +19 58.8                                                                                                                         | 197 11.1                             | +21 28.6                | 92 27.8                                           | +8 32.4                  | 158 57.6 | +22 48.4                                          |                |      |                                                  |       |    |   |
| 6   | 271                                    | 03.9 | 225 33.2 | +19 59.7                                                                                                                         | 212 11.8                             | +21 28.9                | 107 30.5                                          | +8 32.5                  | 174 00.0 | +22 48.4                                          |                |      |                                                  |       |    |   |
| 7   | 286                                    | 06.4 | 240 33.1 | +20 00.6                                                                                                                         | 227 12.6                             | 29.3                    | 122 33.3                                          | 32.6                     | 189 02.3 | 48.4                                              |                |      |                                                  |       |    |   |
| 8   | 301                                    | 08.8 | 255 33.0 | 01.5                                                                                                                             | 242 13.4                             | 29.6                    | 137 36.0                                          | 32.8                     | 204 04.7 | 48.4                                              |                |      |                                                  |       |    |   |
| 9   | 316                                    | 11.3 | 270 32.9 | 02.4                                                                                                                             | 257 14.2                             | 30.0                    | 152 38.7                                          | 32.9                     | 219 07.1 | 48.5                                              |                |      |                                                  |       |    |   |
| 10  | 331                                    | 13.8 | 285 32.8 | 03.3                                                                                                                             | 272 15.0                             | 30.3                    | 167 41.5                                          | 33.0                     | 234 09.5 | 48.5                                              |                |      |                                                  |       |    |   |
| 11  | 346                                    | 16.2 | 300 32.7 | +20 04.2                                                                                                                         | 287 15.8                             | +21 30.6                | 182 44.2                                          | +8 33.1                  | 249 11.9 | +22 48.5                                          |                |      |                                                  |       |    |   |
| 12  | 1                                      | 18.7 | 315 32.6 | +20 05.1                                                                                                                         | 302 16.5                             | +21 31.0                | 197 46.9                                          | +8 33.2                  | 264 14.3 | +22 48.5                                          |                |      |                                                  |       |    |   |
| 13  | 16                                     | 21.2 | 330 32.5 | 06.0                                                                                                                             | 317 17.3                             | 31.3                    | 212 49.7                                          | 33.3                     | 279 16.6 | 48.5                                              |                |      |                                                  |       |    |   |
| 14  | 31                                     | 23.6 | 345 32.4 | 06.9                                                                                                                             | 332 18.1                             | 31.7                    | 227 52.4                                          | 33.4                     | 294 19.0 | 48.5                                              |                |      |                                                  |       |    |   |
| 15  | 46                                     | 26.1 | 0 32.3   | 07.8                                                                                                                             | 347 18.9                             | 32.0                    | 242 55.1                                          | 33.5                     | 309 21.4 | 48.5                                              |                |      |                                                  |       |    |   |
| 16  | 61                                     | 28.5 | 15 32.2  | 08.7                                                                                                                             | 2 19.7                               | 32.3                    | 257 57.9                                          | 33.6                     | 324 23.8 | 48.5                                              |                |      |                                                  |       |    |   |
| 17  | 76                                     | 31.0 | 30 32.1  | +20 09.6                                                                                                                         | 17 20.4                              | +21 32.7                | 273 00.6                                          | +8 33.7                  | 339 26.2 | +22 48.5                                          |                |      |                                                  |       |    |   |
| 18  | 91                                     | 33.5 | 45 32.0  | +20 10.4                                                                                                                         | 32 21.2                              | +21 33.0                | 288 03.3                                          | +8 33.8                  | 354 28.6 | +22 48.5                                          |                |      |                                                  |       |    |   |
| 19  | 106                                    | 35.9 | 60 31.9  | 11.3                                                                                                                             | 47 22.0                              | 33.4                    | 303 06.0                                          | 33.9                     | 9 30.9   | 48.5                                              |                |      |                                                  |       |    |   |
| 20  | 121                                    | 38.4 | 75 31.8  | 12.2                                                                                                                             | 62 22.8                              | 33.7                    | 318 08.8                                          | 34.0                     | 24 33.3  | 48.5                                              |                |      |                                                  |       |    |   |
| 21  | 136                                    | 40.9 | 90 31.7  | 13.1                                                                                                                             | 77 23.6                              | 34.0                    | 333 11.5                                          | 34.1                     | 39 35.7  | 48.5                                              |                |      |                                                  |       |    |   |
| 22  | 151                                    | 43.3 | 105 31.6 | 14.0                                                                                                                             | 92 24.4                              | 34.4                    | 348 14.2                                          | 34.2                     | 54 38.1  | 48.5                                              |                |      |                                                  |       |    |   |
| 23  | 166                                    | 45.8 | 120 31.5 | 14.9                                                                                                                             | 107 25.1                             | 34.7                    | 3 17.0                                            | 34.3                     | 69 40.5  | 48.5                                              |                |      |                                                  |       |    |   |
| 24  | 181                                    | 48.3 | 135 31.4 | +20 15.8                                                                                                                         | 122 25.9                             | +21 35.1                | 18 19.7                                           | +8 34.5                  | 84 42.9  | +22 48.5                                          |                |      |                                                  |       |    |   |
| Dif | —                                      |      | -1       | +9                                                                                                                               | +8                                   | +3                      | +27                                               | +1                       | +24      | 0                                                 |                |      |                                                  |       |    |   |

| UT | SOL                                                |      |         | ● LUNA                 |                                                                                                              |                         | Latitud | Puesta de Sol | Final del crepúsculo |       |       | Salida de Luna |         | Puesta de Luna |       |
|----|----------------------------------------------------|------|---------|------------------------|--------------------------------------------------------------------------------------------------------------|-------------------------|---------|---------------|----------------------|-------|-------|----------------|---------|----------------|-------|
|    | SD: 16:0<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 2 |      |         | Edad: 3 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54'/9<br>12 <sup>h</sup> : 54'/8<br>20 <sup>h</sup> : 54'/7<br>R°: 46 <sup>m</sup> |                         |         |               |                      |       |       |                |         |                |       |
|    | hG ☉                                               | Dec  |         |                        |                                                                                                              | hG ☾                    |         |               | Dif                  | Dec   | Dif   | Civil          | Náutico | Hora           | R°    |
| h  | °                                                  | '    | °       | °                      | '                                                                                                            | °                       | '       | °             | h m                  | h m   | h m   | h m m          | h m m   | h m m          | h m m |
| 0  | 178                                                | 25.1 | +1 28.0 | 144                    | 59.0                                                                                                         | +14 19.6                | 60 N    | 18 25         | 19 07                | 19 58 | 6 37  | 3              | 23 26   | 89             |       |
| 1  | 193                                                | 25.3 |         | 159                    | 32.5 <sup>145</sup>                                                                                          | 32.0 <sup>124</sup>     | 58      | 24            |                      | 03    | 51    | 46             | 7       | 13             | 84    |
| 2  | 208                                                | 25.5 |         | 174                    | 05.8 <sup>144</sup>                                                                                          | 44.2 <sup>122</sup>     | 56      | 23            | 19 00                | 45    | 6 54  | 11             | 23 01   | 80             |       |
| 3  | 223                                                | 25.7 |         | 188                    | 39.4 <sup>145</sup>                                                                                          | +14 56.4 <sup>122</sup> | 54      | 22            | 18 57                | 40    | 7 02  | 14             | 22 51   | 77             |       |
| 4  | 238                                                | 25.9 |         | 203                    | 12.8 <sup>144</sup>                                                                                          | +15 08.5 <sup>121</sup> | 52      | 21            |                      | 54    | 35    | 09             | 16      | 43             | 73    |
| 5  | 253                                                | 26.1 | +1 32.9 | 217                    | 46.1 <sup>143</sup>                                                                                          | +15 20.5 <sup>120</sup> | 50      | 18 20         | 18 52                | 19 31 | 7 15  | 19             | 22 35   | 71             |       |
| 6  | 268                                                | 26.2 | +1 33.9 | 232                    | 19.5 <sup>144</sup>                                                                                          | +15 32.5 <sup>120</sup> | 45      | 18 18         | 18 47                | 19 22 | 7 28  | 24             | 22 18   | 66             |       |
| 7  | 283                                                | 26.4 |         | 246                    | 52.8 <sup>143</sup>                                                                                          | 44.4 <sup>119</sup>     | 40      | 16            |                      | 43    | 15    | 39             | 27      | 22 05          | 62    |
| 8  | 298                                                | 26.6 |         | 261                    | 26.0 <sup>142</sup>                                                                                          | +15 56.2 <sup>118</sup> | 35      | 15            |                      | 40    | 10    | 48             | 31      | 21 53          | 60    |
| 9  | 313                                                | 26.8 |         | 275                    | 59.3 <sup>143</sup>                                                                                          | +16 07.9 <sup>117</sup> | 30      | 14            |                      | 38    | 06    | 7 57           | 33      | 43             | 57    |
| 10 | 328                                                | 27.0 |         | 290                    | 32.5 <sup>142</sup>                                                                                          | 19.6 <sup>117</sup>     | 20      | 12            |                      | 34    | 19 00 | 8 11           | 38      | 26             | 53    |
| 11 | 343                                                | 27.2 | +1 38.8 | 305                    | 05.6 <sup>141</sup>                                                                                          | +16 31.2 <sup>116</sup> | 10 N    | 18 11         | 18 32                | 18 56 | 8 24  | 41             | 21 11   | 49             |       |
| 12 | 358                                                | 27.4 | +1 39.8 | 319                    | 38.7 <sup>141</sup>                                                                                          | +16 42.7 <sup>115</sup> | 0       | 18 09         | 18 30                | 18 54 | 8 36  | 45             | 20 57   | 46             |       |
| 13 | 13                                                 | 27.6 |         | 334                    | 11.8 <sup>141</sup>                                                                                          | +16 54.1 <sup>114</sup> | 10 S    |               | 08                   | 29    | 54    | 8 48           | 48      | 43             | 43    |
| 14 | 28                                                 | 27.8 |         | 348                    | 44.8 <sup>140</sup>                                                                                          | +17 05.5 <sup>114</sup> | 20      |               | 07                   | 29    | 55    | 9 01           | 52      | 29             | 39    |
| 15 | 43                                                 | 27.9 |         | 3                      | 17.8 <sup>140</sup>                                                                                          | 16.8 <sup>113</sup>     | 30      |               | 06                   | 30    | 18 57 | 16             | 57      | 12             | 35    |
| 16 | 58                                                 | 28.1 |         | 17                     | 50.8 <sup>140</sup>                                                                                          | 28.0 <sup>112</sup>     | 35      |               | 05                   | 30    | 19 00 | 24             | 60      | 20 02          | 32    |
| 17 | 73                                                 | 28.3 | +1 44.7 | 32                     | 23.7 <sup>139</sup>                                                                                          | +17 39.1 <sup>111</sup> | 40      | 18 05         | 18 31                | 19 03 | 9 34  | 63             | 19 51   | 29             |       |
| 18 | 88                                                 | 28.5 | +1 45.7 | 46                     | 56.6 <sup>139</sup>                                                                                          | +17 50.1 <sup>110</sup> | 45      | 18 04         | 18 33                | 19 07 | 9 46  | 67             | 19 38   | 26             |       |
| 19 | 103                                                | 28.7 |         | 61                     | 29.4 <sup>138</sup>                                                                                          | +18 01.1 <sup>110</sup> | 50      |               | 03                   | 35    | 13    | 10 00          | 72      | 22             | 21    |
| 20 | 118                                                | 28.9 |         | 76                     | 02.2 <sup>138</sup>                                                                                          | 12.0 <sup>109</sup>     | 52      |               | 02                   | 36    | 15    | 07             | 74      | 15             | 19    |
| 21 | 133                                                | 29.1 |         | 90                     | 35.0 <sup>138</sup>                                                                                          | 22.8 <sup>108</sup>     | 54      |               | 02                   | 37    | 19    | 14             | 78      | 19 07          | 16    |
| 22 | 148                                                | 29.3 |         | 105                    | 07.7 <sup>137</sup>                                                                                          | 33.5 <sup>107</sup>     | 56      |               | 02                   | 39    | 22    | 23             | 80      | 18 58          | 13    |
| 23 | 163                                                | 29.4 |         | 119                    | 40.3 <sup>136</sup>                                                                                          | 44.1 <sup>106</sup>     | 58      |               | 01                   | 40    | 26    | 32             | 85      | 48             | 9     |
| 24 | 178                                                | 29.6 | +1 51.6 | 134                    | 12.9 <sup>136</sup>                                                                                          | +18 54.7 <sup>106</sup> | 60 S    | 18 01         | 18 42                | 19 31 | 10 43 | 90             | 18 36   | 4              |       |

| UT  | ARIES                                  |      | VENUS                                             |      |          | MARTE                                             |      |          | JÚPITER                                           |      |         | SATURNO                                          |      |          |   |
|-----|----------------------------------------|------|---------------------------------------------------|------|----------|---------------------------------------------------|------|----------|---------------------------------------------------|------|---------|--------------------------------------------------|------|----------|---|
|     | PMG: 11 <sup>h</sup> 50 <sup>m</sup> 8 |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |      |          | Mag: +1.3<br>PMG: 15 <sup>h</sup> 49 <sup>m</sup> |      |          | Mag: -2.5<br>PMG: 22 <sup>h</sup> 43 <sup>m</sup> |      |         | Mag: 0.0<br>PMG: 18 <sup>h</sup> 18 <sup>m</sup> |      |          |   |
|     | hG ♈                                   |      | hG ♀                                              | Dec  |          | hG ♂                                              | Dec  |          | hG ♃                                              | Dec  |         | hG ♄                                             | Dec  |          |   |
| h   | °                                      | '    | °                                                 | '    | °        | °                                                 | '    | °        | '                                                 | °    | '       | °                                                | '    | °        | ' |
| 0   | 181                                    | 48.3 | 135                                               | 31.4 | +20 15.8 | 122                                               | 25.9 | +21 35.1 | 18                                                | 19.7 | +8 34.5 | 84                                               | 42.9 | +22 48.5 |   |
| 1   | 196                                    | 50.7 | 150                                               | 31.3 |          | 137                                               | 26.7 | 35.4     | 33                                                | 22.4 | 34.6    | 99                                               | 45.2 | 48.5     |   |
| 2   | 211                                    | 53.2 | 165                                               | 31.2 |          | 152                                               | 27.5 | 35.7     | 48                                                | 25.2 | 34.7    | 114                                              | 47.6 | 48.5     |   |
| 3   | 226                                    | 55.7 | 180                                               | 31.1 |          | 167                                               | 28.3 | 36.1     | 63                                                | 27.9 | 34.8    | 129                                              | 50.0 | 48.5     |   |
| 4   | 241                                    | 58.1 | 195                                               | 31.0 |          | 182                                               | 29.0 | 36.4     | 78                                                | 30.6 | 34.9    | 144                                              | 52.4 | 48.5     |   |
| 5   | 257                                    | 00.6 | 210                                               | 30.9 | +20 20.2 | 197                                               | 29.8 | +21 36.7 | 93                                                | 33.3 | +8 35.0 | 159                                              | 54.8 | +22 48.5 |   |
| 6   | 272                                    | 03.0 | 225                                               | 30.8 | +20 21.1 | 212                                               | 30.6 | +21 37.1 | 108                                               | 36.1 | +8 35.1 | 174                                              | 57.2 | +22 48.5 |   |
| 7   | 287                                    | 05.5 | 240                                               | 30.7 |          | 227                                               | 31.4 | 37.4     | 123                                               | 38.8 | 35.2    | 189                                              | 59.5 | 48.5     |   |
| 8   | 302                                    | 08.0 | 255                                               | 30.6 |          | 242                                               | 32.2 | 37.7     | 138                                               | 41.5 | 35.3    | 205                                              | 01.9 | 48.5     |   |
| 9   | 317                                    | 10.4 | 270                                               | 30.5 |          | 257                                               | 32.9 | 38.1     | 153                                               | 44.3 | 35.4    | 220                                              | 04.3 | 48.5     |   |
| 10  | 332                                    | 12.9 | 285                                               | 30.4 |          | 272                                               | 33.7 | 38.4     | 168                                               | 47.0 | 35.5    | 235                                              | 06.7 | 48.5     |   |
| 11  | 347                                    | 15.4 | 300                                               | 30.3 | +20 25.5 | 287                                               | 34.5 | +21 38.7 | 183                                               | 49.7 | +8 35.6 | 250                                              | 09.1 | +22 48.5 |   |
| 12  | 2                                      | 17.8 | 315                                               | 30.2 | +20 26.4 | 302                                               | 35.3 | +21 39.1 | 198                                               | 52.4 | +8 35.7 | 265                                              | 11.4 | +22 48.5 |   |
| 13  | 17                                     | 20.3 | 330                                               | 30.1 |          | 317                                               | 36.1 | 39.4     | 213                                               | 55.2 | 35.8    | 280                                              | 13.8 | 48.5     |   |
| 14  | 32                                     | 22.8 | 345                                               | 30.0 |          | 332                                               | 36.8 | 39.7     | 228                                               | 57.9 | 35.9    | 295                                              | 16.2 | 48.5     |   |
| 15  | 47                                     | 25.2 | 0                                                 | 29.9 |          | 347                                               | 37.6 | 40.1     | 244                                               | 00.6 | 36.0    | 310                                              | 18.6 | 48.5     |   |
| 16  | 62                                     | 27.7 | 15                                                | 29.8 |          | 2                                                 | 38.4 | 40.4     | 259                                               | 03.3 | 36.1    | 325                                              | 21.0 | 48.5     |   |
| 17  | 77                                     | 30.1 | 30                                                | 29.7 | +20 30.8 | 17                                                | 39.2 | +21 40.7 | 274                                               | 06.1 | +8 36.2 | 340                                              | 23.3 | +22 48.5 |   |
| 18  | 92                                     | 32.6 | 45                                                | 29.6 | +20 31.6 | 32                                                | 40.0 | +21 41.1 | 289                                               | 08.8 | +8 36.3 | 355                                              | 25.7 | +22 48.5 |   |
| 19  | 107                                    | 35.1 | 60                                                | 29.5 |          | 47                                                | 40.7 | 41.4     | 304                                               | 11.5 | 36.4    | 10                                               | 28.1 | 48.5     |   |
| 20  | 122                                    | 37.5 | 75                                                | 29.4 |          | 62                                                | 41.5 | 41.7     | 319                                               | 14.2 | 36.6    | 25                                               | 30.5 | 48.5     |   |
| 21  | 137                                    | 40.0 | 90                                                | 29.4 |          | 77                                                | 42.3 | 42.1     | 334                                               | 17.0 | 36.7    | 40                                               | 32.8 | 48.5     |   |
| 22  | 152                                    | 42.5 | 105                                               | 29.3 |          | 92                                                | 43.1 | 42.4     | 349                                               | 19.7 | 36.8    | 55                                               | 35.2 | 48.5     |   |
| 23  | 167                                    | 44.9 | 120                                               | 29.2 |          | 107                                               | 43.8 | 42.7     | 4                                                 | 22.4 | 36.9    | 70                                               | 37.6 | 48.5     |   |
| 24  | 182                                    | 47.4 | 135                                               | 29.1 | +20 36.9 | 122                                               | 44.6 | +21 43.1 | 19                                                | 25.2 | +8 37.0 | 85                                               | 40.0 | +22 48.5 |   |
| Dif | —                                      |      | -1                                                | +9   |          | +8                                                | +3   |          | +27                                               |      | +1      |                                                  | +24  |          |   |

| UT  | SOL                                                |      |                                                   | ● LUNA                 |                                                                                                           |                                                   | Latitud             | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |     |      |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|-----|------|----|
|     | SD: 16'0<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 9 |      |                                                   | Edad: 4 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54'6<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'4<br>R°: 47 <sup>m</sup> |                                                   |                     |                          |                                                   |               |                |                                                  |                |     |      |    |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                   |                                                                                                           | Dif                                               |                     | Dec                      | Dif                                               |               | Náutico        | Civil                                            | Hora           | R°  | Hora | R° |
| h   | °                                                  | '    | °                                                 | °                      | '                                                                                                         | °                                                 | '                   | °                        | h                                                 | m             | h              | m                                                | h              | m   | h    | m  |
| 0   | 178                                                | 29.6 | +1                                                | 134                    | 12.9                                                                                                      | +18                                               | 54.7                | 60 N                     | 4                                                 | 13            | 5              | 04                                               | 5              | 46  | 6    | 40 |
| 1   | 193                                                | 29.8 |                                                   | 148                    | 45.5 <sup>136</sup>                                                                                       | +19                                               | 05.1 <sup>104</sup> | 58                       | 20                                                | 08            |                |                                                  | 6              | 53  | 12   |    |
| 2   | 208                                                | 30.0 |                                                   | 163                    | 18.0 <sup>135</sup>                                                                                       |                                                   | 15.5 <sup>104</sup> | 56                       | 26                                                | 11            |                |                                                  | 7              | 05  | 16   |    |
| 3   | 223                                                | 30.2 |                                                   | 177                    | 50.5 <sup>135</sup>                                                                                       |                                                   | 25.8 <sup>103</sup> | 54                       | 32                                                | 14            |                |                                                  | 16             | 19  |      |    |
| 4   | 238                                                | 30.4 |                                                   | 192                    | 22.9 <sup>134</sup>                                                                                       |                                                   | 36.0 <sup>102</sup> | 52                       | 36                                                | 17            |                |                                                  | 51             | 25  | 22   | 23 |
| 5   | 253                                                | 30.6 | +1                                                | 206                    | 55.3 <sup>134</sup>                                                                                       | +19                                               | 46.1 <sup>101</sup> | 50                       | 4                                                 | 41            | 5              | 19                                               | 5              | 51  | 7    | 34 |
| 6   | 268                                                | 30.8 | +1                                                | 221                    | 27.7 <sup>134</sup>                                                                                       | +19                                               | 56.1 <sup>100</sup> | 45                       | 4                                                 | 49            | 5              | 24                                               | 5              | 53  | 7    | 52 |
| 7   | 283                                                | 31.0 |                                                   | 236                    | 00.0 <sup>133</sup>                                                                                       | +20                                               | 06.0 <sup>99</sup>  | 40                       | 4                                                 | 56            | 28             |                                                  | 55             | 8   | 06   | 32 |
| 8   | 298                                                | 31.1 | +1                                                | 250                    | 32.2 <sup>132</sup>                                                                                       |                                                   | 15.9 <sup>99</sup>  | 35                       | 5                                                 | 01            | 31             |                                                  | 56             | 19  | 34   | 22 |
| 9   | 313                                                | 31.3 | +2                                                | 265                    | 04.4 <sup>132</sup>                                                                                       |                                                   | 25.6 <sup>97</sup>  | 30                       | 06                                                | 34            | 5              | 58                                               |                | 30  | 37   | 40 |
| 10  | 328                                                | 31.5 |                                                   | 279                    | 36.6 <sup>132</sup>                                                                                       |                                                   | 35.3 <sup>97</sup>  | 20                       | 12                                                | 38            | 6              | 00                                               |                | 8   | 49   | 40 |
| 11  | 343                                                | 31.7 | +2                                                | 294                    | 08.7 <sup>131</sup>                                                                                       | +20                                               | 44.9 <sup>96</sup>  | 10 N                     | 5                                                 | 16            | 5              | 40                                               | 6              | 01  | 9    | 05 |
| 12  | 358                                                | 31.9 | +2                                                | 308                    | 40.8 <sup>131</sup>                                                                                       | +20                                               | 54.3 <sup>94</sup>  | 0                        | 5                                                 | 18            | 5              | 42                                               | 6              | 03  | 9    | 21 |
| 13  | 13                                                 | 32.1 |                                                   | 323                    | 12.8 <sup>130</sup>                                                                                       | +21                                               | 03.7 <sup>94</sup>  | 10 S                     | 19                                                |               | 43             |                                                  | 04             | 36  | 50   |    |
| 14  | 28                                                 | 32.3 |                                                   | 337                    | 44.7 <sup>129</sup>                                                                                       |                                                   | 13.0 <sup>93</sup>  | 20                       | 18                                                |               | 43             |                                                  | 05             | 9   | 53   | 53 |
| 15  | 43                                                 | 32.5 |                                                   | 352                    | 16.6 <sup>129</sup>                                                                                       |                                                   | 22.2 <sup>92</sup>  | 30                       | 15                                                |               | 43             |                                                  | 07             | 10  | 13   | 57 |
| 16  | 58                                                 | 32.7 |                                                   | 6                      | 48.5 <sup>129</sup>                                                                                       |                                                   | 31.2 <sup>90</sup>  | 35                       | 13                                                |               | 42             |                                                  | 07             | 24  | 59   |    |
| 17  | 73                                                 | 32.8 | +2                                                | 21                     | 20.3 <sup>128</sup>                                                                                       | +21                                               | 40.2 <sup>90</sup>  | 40                       | 5                                                 | 10            | 5              | 41                                               | 6              | 08  | 10   | 37 |
| 18  | 88                                                 | 33.0 | +2                                                | 35                     | 52.1 <sup>128</sup>                                                                                       | +21                                               | 49.1 <sup>89</sup>  | 45                       | 5                                                 | 06            | 5              | 40                                               | 6              | 09  | 10   | 53 |
| 19  | 103                                                | 33.2 |                                                   | 50                     | 23.8 <sup>127</sup>                                                                                       | +21                                               | 57.9 <sup>88</sup>  | 50                       | 5                                                 | 00            | 38             |                                                  | 10             | 11  | 12   | 70 |
| 20  | 118                                                | 33.4 |                                                   | 64                     | 55.5 <sup>127</sup>                                                                                       | +22                                               | 06.6 <sup>87</sup>  | 52                       | 4                                                 | 57            | 37             |                                                  | 11             | 21  | 73   |    |
| 21  | 133                                                | 33.6 |                                                   | 79                     | 27.1 <sup>126</sup>                                                                                       |                                                   | 15.2 <sup>86</sup>  | 54                       | 54                                                | 36            | 11             |                                                  | 12             | 32  | 75   |    |
| 22  | 148                                                | 33.8 |                                                   | 93                     | 58.7 <sup>126</sup>                                                                                       |                                                   | 23.7 <sup>85</sup>  | 56                       | 51                                                | 35            | 12             |                                                  | 13             | 43  | 79   | 19 |
| 23  | 163                                                | 34.0 |                                                   | 108                    | 30.2 <sup>125</sup>                                                                                       |                                                   | 32.1 <sup>84</sup>  | 58                       | 47                                                | 33            | 12             |                                                  | 14             | 11  | 57   | 83 |
| 24  | 178                                                | 34.2 | +2                                                | 123                    | 01.7 <sup>125</sup>                                                                                       | +22                                               | 40.4 <sup>83</sup>  | 60 S                     | 4                                                 | 42            | 5              | 31                                               | 6              | 13  | 12   | 13 |
| UT  | ARIES                                              |      | VENUS                                             |                        |                                                                                                           | MARTE                                             |                     |                          | JÚPITER                                           |               |                | SATURNO                                          |                |     |      |    |
|     | PMG: 11 <sup>h</sup> 46 <sup>m</sup> 9             |      | Mag: -4.4<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |                        |                                                                                                           | Mag: +1.4<br>PMG: 15 <sup>h</sup> 48 <sup>m</sup> |                     |                          | Mag: -2.5<br>PMG: 22 <sup>h</sup> 38 <sup>m</sup> |               |                | Mag: 0.0<br>PMG: 18 <sup>h</sup> 14 <sup>m</sup> |                |     |      |    |
|     | hG ♈                                               |      | hG ♀                                              | Dec                    |                                                                                                           | hG ♂                                              | Dec                 |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |     |      |    |
| h   | °                                                  | '    | °                                                 | °                      | '                                                                                                         | °                                                 | '                   | °                        | °                                                 | '             | °              | °                                                | '              | °   | '    | °  |
| 0   | 182                                                | 47.4 | 135                                               | 29.1                   | +20                                                                                                       | 122                                               | 44.6                | +21                      | 19                                                | 25.2          | +8             | 85                                               | 40.0           | +22 | 48.5 |    |
| 1   | 197                                                | 49.9 | 150                                               | 29.0                   |                                                                                                           | 137                                               | 45.4                |                          | 34                                                | 27.9          |                | 100                                              | 42.4           |     | 48.5 |    |
| 2   | 212                                                | 52.3 | 165                                               | 28.9                   |                                                                                                           | 152                                               | 46.2                |                          | 49                                                | 30.6          |                | 115                                              | 44.7           |     | 48.5 |    |
| 3   | 227                                                | 54.8 | 180                                               | 28.8                   |                                                                                                           | 167                                               | 47.0                |                          | 64                                                | 33.3          |                | 130                                              | 47.1           |     | 48.6 |    |
| 4   | 242                                                | 57.3 | 195                                               | 28.7                   |                                                                                                           | 182                                               | 47.7                |                          | 79                                                | 36.1          |                | 145                                              | 49.5           |     | 48.6 |    |
| 5   | 257                                                | 59.7 | 210                                               | 28.6                   | +20                                                                                                       | 197                                               | 48.5                | +21                      | 94                                                | 38.8          | +8             | 160                                              | 51.9           | +22 | 48.6 |    |
| 6   | 273                                                | 02.2 | 225                                               | 28.5                   | +20                                                                                                       | 212                                               | 49.3                | +21                      | 109                                               | 41.5          | +8             | 175                                              | 54.2           | +22 | 48.6 |    |
| 7   | 288                                                | 04.6 | 240                                               | 28.4                   |                                                                                                           | 227                                               | 50.1                |                          | 124                                               | 44.2          |                | 190                                              | 56.6           |     | 48.6 |    |
| 8   | 303                                                | 07.1 | 255                                               | 28.3                   |                                                                                                           | 242                                               | 50.8                |                          | 139                                               | 46.9          |                | 205                                              | 59.0           |     | 48.6 |    |
| 9   | 318                                                | 09.6 | 270                                               | 28.2                   |                                                                                                           | 257                                               | 51.6                |                          | 154                                               | 49.7          |                | 221                                              | 01.4           |     | 48.6 |    |
| 10  | 333                                                | 12.0 | 285                                               | 28.2                   |                                                                                                           | 272                                               | 52.4                |                          | 169                                               | 52.4          |                | 236                                              | 03.7           |     | 48.6 |    |
| 11  | 348                                                | 14.5 | 300                                               | 28.1                   | +20                                                                                                       | 287                                               | 53.2                | +21                      | 184                                               | 55.1          | +8             | 251                                              | 06.1           | +22 | 48.6 |    |
| 12  | 3                                                  | 17.0 | 315                                               | 28.0                   | +20                                                                                                       | 302                                               | 53.9                | +21                      | 199                                               | 57.8          | +8             | 266                                              | 08.5           | +22 | 48.6 |    |
| 13  | 18                                                 | 19.4 | 330                                               | 27.9                   |                                                                                                           | 317                                               | 54.7                |                          | 215                                               | 00.6          |                | 281                                              | 10.9           |     | 48.6 |    |
| 14  | 33                                                 | 21.9 | 345                                               | 27.8                   |                                                                                                           | 332                                               | 55.5                |                          | 230                                               | 03.3          |                | 296                                              | 13.2           |     | 48.6 |    |
| 15  | 48                                                 | 24.4 | 0                                                 | 27.7                   |                                                                                                           | 347                                               | 56.3                |                          | 245                                               | 06.0          |                | 311                                              | 15.6           |     | 48.6 |    |
| 16  | 63                                                 | 26.8 | 15                                                | 27.6                   |                                                                                                           | 2                                                 | 57.1                |                          | 260                                               | 08.7          |                | 326                                              | 18.0           |     | 48.6 |    |
| 17  | 78                                                 | 29.3 | 30                                                | 27.5                   | +20                                                                                                       | 17                                                | 57.8                | +21                      | 275                                               | 11.5          | +8             | 341                                              | 20.4           | +22 | 48.6 |    |
| 18  | 93                                                 | 31.8 | 45                                                | 27.4                   | +20                                                                                                       | 32                                                | 58.6                | +21                      | 290                                               | 14.2          | +8             | 356                                              | 22.7           | +22 | 48.6 |    |
| 19  | 108                                                | 34.2 | 60                                                | 27.3                   |                                                                                                           | 53.2                                              | 47                  | 59.4                     | 305                                               | 16.9          |                | 11                                               | 25.1           |     | 48.6 |    |
| 20  | 123                                                | 36.7 | 75                                                | 27.3                   |                                                                                                           | 54.1                                              | 63                  | 00.2                     | 320                                               | 19.6          |                | 26                                               | 27.5           |     | 48.6 |    |
| 21  | 138                                                | 39.1 | 90                                                | 27.2                   |                                                                                                           | 54.9                                              | 78                  | 00.9                     | 335                                               | 22.3          |                | 41                                               | 29.9           |     | 48.6 |    |
| 22  | 153                                                | 41.6 | 105                                               | 27.1                   |                                                                                                           | 55.8                                              | 93                  | 01.7                     | 350                                               | 25.1          |                | 56                                               | 32.2           |     | 48.6 |    |
| 23  | 168                                                | 44.1 | 120                                               | 27.0                   |                                                                                                           | 56.6                                              | 108                 | 02.5                     | 5                                                 | 27.8          |                | 71                                               | 34.6           |     | 48.6 |    |
| 24  | 183                                                | 46.5 | 135                                               | 26.9                   | +20                                                                                                       | 57.5                                              | 123                 | 03.3                     | 20                                                | 30.5          | +8             | 86                                               | 37.0           | +22 | 48.6 |    |
| Dif | —                                                  |      | -1                                                |                        | +9                                                                                                        | +8                                                |                     | +3                       | +27                                               |               | +1             | +24                                              |                |     |      | 0  |



| UT | SOL                                    |      |         | ☾ LUNA                 |                                                                                    |          | Latitud | Puesta de Sol | Final del crepúsculo                 |         | Salida de Luna      |          | Puesta de Luna |       |
|----|----------------------------------------|------|---------|------------------------|------------------------------------------------------------------------------------|----------|---------|---------------|--------------------------------------|---------|---------------------|----------|----------------|-------|
|    | SD: 16'0                               |      |         | Edad: 5 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'3<br>20 <sup>h</sup> : 54'2 |          |         |               |                                      |         |                     |          |                |       |
|    | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 6 |      |         |                        |                                                                                    | SD: 14'8 |         |               | PMG: 16 <sup>h</sup> 19 <sup>m</sup> |         | R°: 50 <sup>m</sup> |          |                |       |
|    | hG ☉                                   | Dec  |         | hG ☾                   | Dif                                                                                | Dec      | Dif     |               | Civil                                | Náutico | Hora                | R°       | Hora           | R°    |
| h  | °                                      | '    | °       | °                      | '                                                                                  | °        | '       | °             | h m                                  | h m     | h m                 | h m m    | h m m          | h m m |
| 0  | 178                                    | 34.2 | +2 15.2 | 123                    | 01.7                                                                               | +22 40.4 | 82      | 60 N          | 18 30                                | 19 12   | 20 04               | 6 46 12  | 0 55 88        |       |
| 1  | 193                                    | 34.4 | 16.2    | 137                    | 33.1 <sup>124</sup>                                                                | 48.6     | 82      | 58            | 28                                   | 08      | 19 56               | 7 05 19  | 37 81          |       |
| 2  | 208                                    | 34.5 | 17.2    | 152                    | 04.4 <sup>123</sup>                                                                | +22 56.7 | 81      | 56            | 27                                   | 04      | 50                  | 21 24    | 21 77          |       |
| 3  | 223                                    | 34.7 | 18.1    | 166                    | 35.8 <sup>124</sup>                                                                | +23 04.6 | 79      | 54            | 25                                   | 19 01   | 44                  | 35 27    | 0 08 73        |       |
| 4  | 238                                    | 34.9 | 19.1    | 181                    | 07.0 <sup>122</sup>                                                                | 12.5     | 79      | 52            | 24                                   | 18 58   | 39                  | 47 29    | ** ** **       |       |
| 5  | 253                                    | 35.1 | +2 20.1 | 195                    | 38.3 <sup>123</sup>                                                                | +23 20.3 | 78      | 50            | 18 23                                | 18 55   | 19 34               | 7 58 31  | ** ** **       |       |
| 6  | 268                                    | 35.3 | +2 21.1 | 210                    | 09.4 <sup>121</sup>                                                                | +23 27.9 | 76      | 45            | 18 20                                | 18 50   | 19 25               | 8 20 35  | ** ** **       |       |
| 7  | 283                                    | 35.5 | 22.1    | 224                    | 40.5 <sup>121</sup>                                                                | 35.5     | 76      | 40            | 18                                   | 46      | 18                  | 38 38    | ** ** **       |       |
| 8  | 298                                    | 35.7 | 23.0    | 239                    | 11.6 <sup>121</sup>                                                                | 43.0     | 75      | 35            | 17                                   | 42      | 12                  | 8 53 40  | 23 52 56       |       |
| 9  | 313                                    | 35.9 | 24.0    | 253                    | 42.6 <sup>120</sup>                                                                | 50.3     | 73      | 30            | 15                                   | 39      | 07                  | 9 07 41  | 37 55          |       |
| 10 | 328                                    | 36.1 | 25.0    | 268                    | 13.6 <sup>120</sup>                                                                | +23 57.5 | 72      | 20            | 13                                   | 35      | 19 01               | 29 45    | 23 12 54       |       |
| 11 | 343                                    | 36.2 | +2 26.0 | 282                    | 44.5 <sup>119</sup>                                                                | +24 04.7 | 72      | 10 N          | 18 11                                | 18 32   | 18 56               | 9 49 47  | 22 51 52       |       |
| 12 | 358                                    | 36.4 | +2 27.0 | 297                    | 15.4 <sup>119</sup>                                                                | +24 11.7 | 70      | 0             | 18 09                                | 18 30   | 18 54               | 10 08 49 | 22 31 50       |       |
| 13 | 13                                     | 36.6 | 27.9    | 311                    | 46.2 <sup>118</sup>                                                                | 18.6     | 69      | 10 S          | 07                                   | 28      | 52                  | 26 52    | 22 11 49       |       |
| 14 | 28                                     | 36.8 | 28.9    | 326                    | 17.0 <sup>118</sup>                                                                | 25.4     | 68      | 20            | 05                                   | 27      | 53                  | 10 46 54 | 21 50 47       |       |
| 15 | 43                                     | 37.0 | 29.9    | 340                    | 47.7 <sup>117</sup>                                                                | 32.1     | 67      | 30            | 03                                   | 27      | 55                  | 11 10 56 | 26 44          |       |
| 16 | 58                                     | 37.2 | 30.9    | 355                    | 18.4 <sup>117</sup>                                                                | 38.6     | 65      | 35            | 02                                   | 28      | 18 57               | 23 58    | 21 12 42       |       |
| 17 | 73                                     | 37.4 | +2 31.9 | 9                      | 49.0 <sup>116</sup>                                                                | +24 45.1 | 65      | 40            | 18 01                                | 18 28   | 19 00               | 11 39 60 | 20 55 41       |       |
| 18 | 88                                     | 37.6 | +2 32.8 | 24                     | 19.6 <sup>116</sup>                                                                | +24 51.4 | 63      | 45            | 18 00                                | 18 29   | 19 03               | 11 58 63 | 20 35 39       |       |
| 19 | 103                                    | 37.8 | 33.8    | 38                     | 50.2 <sup>116</sup>                                                                | +24 57.7 | 63      | 50            | 17 59                                | 31      | 08                  | 12 22 66 | 20 11 35       |       |
| 20 | 118                                    | 37.9 | 34.8    | 53                     | 20.6 <sup>114</sup>                                                                | +25 03.8 | 61      | 52            | 58                                   | 31      | 11                  | 34 68    | 19 59 34       |       |
| 21 | 133                                    | 38.1 | 35.8    | 67                     | 51.1 <sup>115</sup>                                                                | 09.8     | 60      | 54            | 57                                   | 32      | 13                  | 12 47 70 | 45 32          |       |
| 22 | 148                                    | 38.3 | 36.7    | 82                     | 21.5 <sup>114</sup>                                                                | 15.6     | 58      | 56            | 56                                   | 33      | 17                  | 13 02 74 | 30 28          |       |
| 23 | 163                                    | 38.5 | 37.7    | 96                     | 51.8 <sup>113</sup>                                                                | 21.4     | 58      | 58            | 55                                   | 34      | 20                  | 20 78    | 19 11 25       |       |
| 24 | 178                                    | 38.7 | +2 38.7 | 111                    | 22.1 <sup>113</sup>                                                                | +25 27.1 | 57      | 60 S          | 17 55                                | 18 36   | 19 25               | 13 43 85 | 18 48 18       |       |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                          |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------------------------------|----------|
|     | PMG 11 <sup>h</sup> 43 <sup>m</sup> 0 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |          | Mag: +1.4<br>PMG: 15 <sup>h</sup> 47 <sup>m</sup> |          | Mag: -2.5<br>PMG: 22 <sup>h</sup> 34 <sup>m</sup> |         | Mag: 0.0<br>PMG: 18 <sup>h</sup> 11 <sup>m</sup> |          |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                             | Dec      |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                | '        |
| 0   | 183                                   | 46.5 | 135 26.9                                          | +20 57.5 | 123 03.3                                          | +21 50.9 | 20 30.5                                           | +8 39.4 | 86 37.0                                          | +22 48.6 |
| 1   | 198                                   | 49.0 | 150 26.8                                          | 58.3     | 138 04.0                                          | 51.2     | 35 33.2                                           | 39.5    | 101 39.3                                         | 48.6     |
| 2   | 213                                   | 51.5 | 165 26.7                                          | +20 59.2 | 153 04.8                                          | 51.6     | 50 36.0                                           | 39.6    | 116 41.7                                         | 48.6     |
| 3   | 228                                   | 53.9 | 180 26.6                                          | +21 00.0 | 168 05.6                                          | 51.9     | 65 38.7                                           | 39.7    | 131 44.1                                         | 48.6     |
| 4   | 243                                   | 56.4 | 195 26.6                                          | +21 00.9 | 183 06.4                                          | 52.2     | 80 41.4                                           | 39.8    | 146 46.5                                         | 48.6     |
| 5   | 258                                   | 58.9 | 210 26.5                                          | +21 01.7 | 198 07.1                                          | +21 52.5 | 95 44.1                                           | +8 39.9 | 161 48.8                                         | +22 48.6 |
| 6   | 274                                   | 01.3 | 225 26.4                                          | +21 02.5 | 213 07.9                                          | +21 52.9 | 110 46.8                                          | +8 40.0 | 176 51.2                                         | +22 48.6 |
| 7   | 289                                   | 03.8 | 240 26.3                                          | 03.4     | 228 08.7                                          | 53.2     | 125 49.6                                          | 40.1    | 191 53.6                                         | 48.6     |
| 8   | 304                                   | 06.2 | 255 26.2                                          | 04.2     | 243 09.5                                          | 53.5     | 140 52.3                                          | 40.2    | 206 55.9                                         | 48.6     |
| 9   | 319                                   | 08.7 | 270 26.1                                          | 05.1     | 258 10.2                                          | 53.8     | 155 55.0                                          | 40.3    | 221 58.3                                         | 48.6     |
| 10  | 334                                   | 11.2 | 285 26.0                                          | 05.9     | 273 11.0                                          | 54.1     | 170 57.7                                          | 40.4    | 237 00.7                                         | 48.6     |
| 11  | 349                                   | 13.6 | 300 26.0                                          | +21 06.8 | 288 11.8                                          | +21 54.5 | 186 00.4                                          | +8 40.5 | 252 03.1                                         | +22 48.6 |
| 12  | 4                                     | 16.1 | 315 25.9                                          | +21 07.6 | 303 12.6                                          | +21 54.8 | 201 03.2                                          | +8 40.6 | 267 05.4                                         | +22 48.6 |
| 13  | 19                                    | 18.6 | 330 25.8                                          | 08.4     | 318 13.3                                          | 55.1     | 216 05.9                                          | 40.7    | 282 07.8                                         | 48.6     |
| 14  | 34                                    | 21.0 | 345 25.7                                          | 09.3     | 333 14.1                                          | 55.4     | 231 08.6                                          | 40.9    | 297 10.2                                         | 48.6     |
| 15  | 49                                    | 23.5 | 0 25.6                                            | 10.1     | 348 14.9                                          | 55.7     | 246 11.3                                          | 41.0    | 312 12.5                                         | 48.6     |
| 16  | 64                                    | 26.0 | 15 25.5                                           | 10.9     | 3 15.6                                            | 56.1     | 261 14.0                                          | 41.1    | 327 14.9                                         | 48.6     |
| 17  | 79                                    | 28.4 | 30 25.5                                           | +21 11.8 | 18 16.4                                           | +21 56.4 | 276 16.7                                          | +8 41.2 | 342 17.3                                         | +22 48.6 |
| 18  | 94                                    | 30.9 | 45 25.4                                           | +21 12.6 | 33 17.2                                           | +21 56.7 | 291 19.5                                          | +8 41.3 | 357 19.6                                         | +22 48.6 |
| 19  | 109                                   | 33.4 | 60 25.3                                           | 13.5     | 48 18.0                                           | 57.0     | 306 22.2                                          | 41.4    | 12 22.0                                          | 48.6     |
| 20  | 124                                   | 35.8 | 75 25.2                                           | 14.3     | 63 18.7                                           | 57.3     | 321 24.9                                          | 41.5    | 27 24.4                                          | 48.6     |
| 21  | 139                                   | 38.3 | 90 25.1                                           | 15.1     | 78 19.5                                           | 57.7     | 336 27.6                                          | 41.6    | 42 26.7                                          | 48.6     |
| 22  | 154                                   | 40.7 | 105 25.0                                          | 16.0     | 93 20.3                                           | 58.0     | 351 30.3                                          | 41.7    | 57 29.1                                          | 48.6     |
| 23  | 169                                   | 43.2 | 120 25.0                                          | 16.8     | 108 21.1                                          | 58.3     | 6 33.1                                            | 41.8    | 72 31.5                                          | 48.6     |
| 24  | 184                                   | 45.7 | 135 24.9                                          | +21 17.6 | 123 21.8                                          | +21 58.6 | 21 35.8                                           | +8 41.9 | 87 33.8                                          | +22 48.6 |
| Dif | —                                     |      | -1                                                | +8       | +8                                                | +3       | +27                                               | +1      | +24                                              | 0        |

ALMANAQUE NÁUTICO PERSEIS

| UT | SOL                                                |      |    | ☾ LUNA                                                                                                                                                                |     |                     | Latitud                | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |      |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|------------------------|---------------|----------------------|-------|----------------|----------|----------------|------|
|    | SD: 16°0<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 0 |      |    | Edad: 7 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 54/3<br>12 <sup>h</sup> : 54/3<br>20 <sup>h</sup> : 54/4<br>PMG: 18 <sup>h</sup> 00 <sup>m</sup> R°: 52 <sup>m</sup> |     |                     |                        |               |                      |       |                |          |                |      |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                  | Dif | Dec                 |                        |               | Dif                  | Civil | Náutico        | Hora     | R°             | Hora |
| h  | °                                                  | '    | °  | '                                                                                                                                                                     | °   | '                   | °                      | h m           | h m                  | h m   | h m m          | h m m    | h m m          |      |
| 0  | 178                                                | 43.2 | +3 | 02.2                                                                                                                                                                  | 99  | 16.9                | +27 06.2               | 60 N          | 18 35                | 19 17 | 20 10          | 7 25 52  | 3 41 56        |      |
| 1  | 193                                                | 43.4 |    | 03.1                                                                                                                                                                  | 113 | 46.3 <sup>104</sup> | 08.8 <sup>26</sup>     | 58            | 33                   | 13    | 20 01          | 7 57 52  | 3 10 55        |      |
| 2  | 208                                                | 43.6 |    | 04.1                                                                                                                                                                  | 128 | 15.6 <sup>103</sup> | 11.2 <sup>24</sup>     | 56            | 31                   | 08    | 19 54          | 8 20 53  | 2 46 55        |      |
| 3  | 223                                                | 43.8 |    | 05.1                                                                                                                                                                  | 142 | 44.8 <sup>102</sup> | 13.5 <sup>23</sup>     | 54            | 29                   | 05    | 48             | 40 52    | 27 54          |      |
| 4  | 238                                                | 44.0 |    | 06.1                                                                                                                                                                  | 157 | 14.1 <sup>103</sup> | 15.7 <sup>22</sup>     | 52            | 27                   | 19 02 | 43             | 8 56 52  | 2 11 54        |      |
| 5  | 253                                                | 44.2 | +3 | 07.1                                                                                                                                                                  | 171 | 43.3 <sup>102</sup> | +27 17.7 <sup>20</sup> | 50            | 18 26                | 18 59 | 19 38          | 9 10 52  | 1 57 54        |      |
| 6  | 268                                                | 44.4 | +3 | 08.0                                                                                                                                                                  | 186 | 12.5 <sup>102</sup> | +27 19.6 <sup>19</sup> | 45            | 18 23                | 18 53 | 19 28          | 9 38 53  | 1 29 53        |      |
| 7  | 283                                                | 44.6 |    | 09.0                                                                                                                                                                  | 200 | 41.6 <sup>101</sup> | 21.4 <sup>18</sup>     | 40            | 20                   | 48    | 20             | 10 01 52 | 1 06 54        |      |
| 8  | 298                                                | 44.7 |    | 10.0                                                                                                                                                                  | 215 | 10.8 <sup>102</sup> | 23.0 <sup>16</sup>     | 35            | 18                   | 44    | 14             | 19 53    | 0 48 53        |      |
| 9  | 313                                                | 44.9 |    | 11.0                                                                                                                                                                  | 229 | 39.9 <sup>101</sup> | 24.5 <sup>15</sup>     | 30            | 16                   | 40    | 09             | 10 35 52 | 32 53          |      |
| 10 | 328                                                | 45.1 |    | 11.9                                                                                                                                                                  | 244 | 09.0 <sup>101</sup> | 25.9 <sup>14</sup>     | 20            | 13                   | 35    | 19 01          | 11 02 52 | 0 06 52        |      |
| 11 | 343                                                | 45.3 | +3 | 12.9                                                                                                                                                                  | 258 | 38.0 <sup>100</sup> | +27 27.2 <sup>13</sup> | 10 N          | 18 11                | 18 32 | 18 56          | 11 26 52 | ** ** *        |      |
| 12 | 358                                                | 45.5 | +3 | 13.9                                                                                                                                                                  | 273 | 07.1 <sup>101</sup> | +27 28.3 <sup>11</sup> | 0             | 18 08                | 18 29 | 18 53          | 11 48 51 | ** ** *        |      |
| 13 | 13                                                 | 45.7 |    | 14.9                                                                                                                                                                  | 287 | 36.1 <sup>100</sup> | 29.3 <sup>10</sup>     | 10 S          | 06                   | 27    | 51             | 12 09 52 | 23 51 52       |      |
| 14 | 28                                                 | 45.9 |    | 15.8                                                                                                                                                                  | 302 | 05.1 <sup>100</sup> | 30.1 <sup>8</sup>      | 20            | 04                   | 26    | 51             | 12 33 51 | 27 53          |      |
| 15 | 43                                                 | 46.1 |    | 16.8                                                                                                                                                                  | 316 | 34.1 <sup>100</sup> | 30.9 <sup>8</sup>      | 30            | 01                   | 25    | 53             | 13 00 51 | 23 00 54       |      |
| 16 | 58                                                 | 46.2 |    | 17.8                                                                                                                                                                  | 331 | 03.1 <sup>100</sup> | 31.4 <sup>5</sup>      | 35            | 18 00                | 25    | 54             | 16 51    | 22 44 55       |      |
| 17 | 73                                                 | 46.4 | +3 | 18.8                                                                                                                                                                  | 345 | 32.0 <sup>99</sup>  | +27 31.9 <sup>5</sup>  | 40            | 17 58                | 18 25 | 18 56          | 13 35 50 | 22 25 55       |      |
| 18 | 88                                                 | 46.6 | +3 | 19.7                                                                                                                                                                  | 0   | 00.9 <sup>99</sup>  | +27 32.2 <sup>3</sup>  | 45            | 17 56                | 18 25 | 19 00          | 13 58 49 | 22 02 57       |      |
| 19 | 103                                                | 46.8 |    | 20.7                                                                                                                                                                  | 14  | 29.9 <sup>100</sup> | 32.4 <sup>2</sup>      | 50            | 54                   | 26    | 04             | 14 27 48 | 21 33 58       |      |
| 20 | 118                                                | 47.0 |    | 21.7                                                                                                                                                                  | 28  | 58.8 <sup>99</sup>  | 32.4 <sup>0</sup>      | 52            | 53                   | 27    | 06             | 41 48    | 18 59          |      |
| 21 | 133                                                | 47.2 |    | 22.7                                                                                                                                                                  | 43  | 27.6 <sup>98</sup>  | 32.4 <sup>0</sup>      | 54            | 52                   | 27    | 08             | 14 58 47 | 21 02 59       |      |
| 22 | 148                                                | 47.4 |    | 23.6                                                                                                                                                                  | 57  | 56.5 <sup>99</sup>  | 32.1 <sup>3</sup>      | 56            | 51                   | 28    | 11             | 15 18 46 | 20 42 60       |      |
| 23 | 163                                                | 47.6 |    | 24.6                                                                                                                                                                  | 72  | 25.4 <sup>99</sup>  | 31.8 <sup>3</sup>      | 58            | 50                   | 29    | 15             | 15 43 44 | 20 17 62       |      |
| 24 | 178                                                | 47.8 | +3 | 25.6                                                                                                                                                                  | 86  | 54.3 <sup>99</sup>  | +27 31.3 <sup>5</sup>  | 60 S          | 17 48                | 18 30 | 19 18          | 16 16 42 | 19 43 66       |      |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                          |      |         |     |      |          |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|--------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 11 <sup>h</sup> 35 <sup>m</sup> 1 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.4<br>PMG: 15 <sup>h</sup> 45 <sup>m</sup> |     | Mag: -2.5<br>PMG: 22 <sup>h</sup> 25 <sup>m</sup> |          | Mag: 0.0<br>PMG: 18 <sup>h</sup> 03 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                             | Dec  |         |     |      |          |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                | '    |         |     |      |          |
| 0   | 185                                    | 44.8 | 135                                               | 23.0 | +21 37.3                                          | 123 | 40.3                                              | +22 06.1 | 22                                               | 40.9 | +8 44.2 | 88  | 30.6 | +22 48.7 |
| 1   | 200                                    | 47.3 | 150                                               | 23.0 | 38.1                                              | 138 | 41.1                                              | 06.4     | 37                                               | 43.6 | 44.3    | 103 | 33.0 | 48.7     |
| 2   | 215                                    | 49.7 | 165                                               | 22.9 | 38.9                                              | 153 | 41.9                                              | 06.7     | 52                                               | 46.3 | 44.4    | 118 | 35.3 | 48.7     |
| 3   | 230                                    | 52.2 | 180                                               | 22.8 | 39.7                                              | 168 | 42.6                                              | 07.1     | 67                                               | 49.1 | 44.5    | 133 | 37.7 | 48.7     |
| 4   | 245                                    | 54.7 | 195                                               | 22.7 | 40.5                                              | 183 | 43.4                                              | 07.4     | 82                                               | 51.8 | 44.6    | 148 | 40.1 | 48.7     |
| 5   | 260                                    | 57.1 | 210                                               | 22.7 | +21 41.3                                          | 198 | 44.2                                              | +22 07.7 | 97                                               | 54.5 | +8 44.7 | 163 | 42.4 | +22 48.7 |
| 6   | 275                                    | 59.6 | 225                                               | 22.6 | +21 42.2                                          | 213 | 45.0                                              | +22 08.0 | 112                                              | 57.2 | +8 44.8 | 178 | 44.8 | +22 48.7 |
| 7   | 291                                    | 02.1 | 240                                               | 22.5 | 43.0                                              | 228 | 45.7                                              | 08.3     | 127                                              | 59.9 | 44.9    | 193 | 47.1 | 48.7     |
| 8   | 306                                    | 04.5 | 255                                               | 22.4 | 43.8                                              | 243 | 46.5                                              | 08.6     | 143                                              | 02.6 | 45.0    | 208 | 49.5 | 48.7     |
| 9   | 321                                    | 07.0 | 270                                               | 22.4 | 44.6                                              | 258 | 47.3                                              | 08.9     | 158                                              | 05.3 | 45.1    | 223 | 51.9 | 48.7     |
| 10  | 336                                    | 09.5 | 285                                               | 22.3 | 45.4                                              | 273 | 48.0                                              | 09.2     | 173                                              | 08.0 | 45.2    | 238 | 54.2 | 48.7     |
| 11  | 351                                    | 11.9 | 300                                               | 22.2 | +21 46.2                                          | 288 | 48.8                                              | +22 09.5 | 188                                              | 10.7 | +8 45.3 | 253 | 56.6 | +22 48.7 |
| 12  | 6                                      | 14.4 | 315                                               | 22.2 | +21 47.0                                          | 303 | 49.6                                              | +22 09.8 | 203                                              | 13.5 | +8 45.4 | 268 | 59.0 | +22 48.7 |
| 13  | 21                                     | 16.8 | 330                                               | 22.1 | 47.8                                              | 318 | 50.3                                              | 10.1     | 218                                              | 16.2 | 45.5    | 284 | 01.3 | 48.7     |
| 14  | 36                                     | 19.3 | 345                                               | 22.0 | 48.6                                              | 333 | 51.1                                              | 10.4     | 233                                              | 18.9 | 45.6    | 299 | 03.7 | 48.7     |
| 15  | 51                                     | 21.8 | 0                                                 | 22.0 | 49.4                                              | 348 | 51.9                                              | 10.7     | 248                                              | 21.6 | 45.7    | 314 | 06.0 | 48.7     |
| 16  | 66                                     | 24.2 | 15                                                | 21.9 | 50.2                                              | 3   | 52.6                                              | 11.0     | 263                                              | 24.3 | 45.8    | 329 | 08.4 | 48.7     |
| 17  | 81                                     | 26.7 | 30                                                | 21.8 | +21 51.0                                          | 18  | 53.4                                              | +22 11.3 | 278                                              | 27.0 | +8 45.9 | 344 | 10.8 | +22 48.7 |
| 18  | 96                                     | 29.2 | 45                                                | 21.7 | +21 51.8                                          | 33  | 54.2                                              | +22 11.7 | 293                                              | 29.7 | +8 46.0 | 359 | 13.1 | +22 48.7 |
| 19  | 111                                    | 31.6 | 60                                                | 21.7 | 52.6                                              | 48  | 54.9                                              | 12.0     | 308                                              | 32.4 | 46.1    | 14  | 15.5 | 48.7     |
| 20  | 126                                    | 34.1 | 75                                                | 21.6 | 53.3                                              | 63  | 55.7                                              | 12.3     | 323                                              | 35.1 | 46.1    | 29  | 17.8 | 48.7     |
| 21  | 141                                    | 36.6 | 90                                                | 21.5 | 54.1                                              | 78  | 56.5                                              | 12.6     | 338                                              | 37.8 | 46.2    | 44  | 20.2 | 48.7     |
| 22  | 156                                    | 39.0 | 105                                               | 21.5 | 54.9                                              | 93  | 57.2                                              | 12.9     | 353                                              | 40.5 | 46.3    | 59  | 22.5 | 48.7     |
| 23  | 171                                    | 41.5 | 120                                               | 21.4 | 55.7                                              | 108 | 58.0                                              | 13.2     | 8                                                | 43.3 | 46.4    | 74  | 24.9 | 48.7     |
| 24  | 186                                    | 44.0 | 135                                               | 21.3 | +21 56.5                                          | 123 | 58.8                                              | +22 13.5 | 23                                               | 46.0 | +8 46.5 | 89  | 27.3 | +22 48.7 |
| Dif | —                                      |      | -1                                                |      | +8                                                |     | +8                                                | +3       | +27                                              |      | +1      |     | +24  | 0        |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                           |          |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |          |     |     |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|----------|-----|-----|
|     | SD: 16'0<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 7 |      |                                                   | Edad: 8 <sup>d</sup> 1 PHE {<br>SD: 14'8<br>PMG: 18 <sup>h</sup> 52 <sup>m</sup> |          |                                                   |         |                          |                                                   |               |                |                                                   |                |          |     |     |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                             | Dif      | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                              | R°             | Hora     | R°  |     |
| h   | °                                                  | '    | °                                                 | °                                                                                | '        | °                                                 | '       | °                        | h                                                 | m             | h              | m                                                 | h              | m        | h   | m   |
| 0   | 178                                                | 47.8 | +3 25.6                                           | 86                                                                               | 54.3     | +27 31.3                                          | 6       | 60 N                     | 3 59                                              | 4 51          | 5 34           | 8 17                                              | 77             | 4 37     | 30  |     |
| 1   | 193                                                | 47.9 |                                                   | 101                                                                              | 23.1     | 30.7                                              | 8       | 58                       | 4 07                                              | 4 56          | 36             | 8 49                                              | 71             | 4 05     | 35  |     |
| 2   | 208                                                | 48.1 |                                                   | 115                                                                              | 51.9     | 29.9                                              | 9       | 56                       | 14                                                | 5 00          | 38             | 9 13                                              | 68             | 3 41     | 38  |     |
| 3   | 223                                                | 48.3 |                                                   | 130                                                                              | 20.8     | 29.0                                              | 9       | 54                       | 21                                                | 04            | 40             | 32                                                | 66             | 21       | 41  |     |
| 4   | 238                                                | 48.5 |                                                   | 144                                                                              | 49.6     | 28.0                                              | 10      | 52                       | 26                                                | 07            | 41             | 9 48                                              | 65             | 3 05     | 42  |     |
| 5   | 253                                                | 48.7 | +3 30.4                                           | 159                                                                              | 18.4     | +27 26.8                                          | 12      | 50                       | 4 31                                              | 5 10          | 5 43           | 10 02                                             | 63             | 2 51     | 43  |     |
| 6   | 268                                                | 48.9 | +3 31.4                                           | 173                                                                              | 47.2     | +27 25.5                                          | 13      | 45                       | 4 41                                              | 5 16          | 5 46           | 10 31                                             | 60             | 2 22     | 45  |     |
| 7   | 283                                                | 49.1 |                                                   | 188                                                                              | 16.0     | 24.1                                              | 14      | 40                       | 49                                                | 21            | 49             | 10 53                                             | 59             | 2 00     | 46  |     |
| 8   | 298                                                | 49.3 |                                                   | 202                                                                              | 44.8     | 22.5                                              | 16      | 35                       | 4 56                                              | 25            | 51             | 11 12                                             | 57             | 1 41     | 47  |     |
| 9   | 313                                                | 49.5 |                                                   | 217                                                                              | 13.6     | 20.8                                              | 17      | 30                       | 5 01                                              | 29            | 53             | 27 57                                             |                | 1 25     | 48  |     |
| 10  | 328                                                | 49.6 |                                                   | 231                                                                              | 42.5     | 19.0                                              | 18      | 20                       | 08                                                | 34            | 56             | 11 54                                             | 55             | 0 58     | 49  |     |
| 11  | 343                                                | 49.8 | +3 36.3                                           | 246                                                                              | 11.3     | +27 17.0                                          | 20      | 10 N                     | 5 13                                              | 5 38          | 5 59           | 12 18                                             | 53             | 0 34     | 51  |     |
| 12  | 358                                                | 50.0 | +3 37.3                                           | 260                                                                              | 40.1     | +27 14.9                                          | 21      | 0                        | 5 17                                              | 5 41          | 6 01           | 12 39                                             | 52             | 0 12     | 52  |     |
| 13  | 13                                                 | 50.2 |                                                   | 275                                                                              | 08.9     | 12.7                                              | 22      | 10 S                     | 18                                                | 43            | 04             | 13 01                                             | 50             | ***      | *** | *** |
| 14  | 28                                                 | 50.4 |                                                   | 289                                                                              | 37.7     | 10.3                                              | 24      | 20                       | 19                                                | 44            | 06             | 24 48                                             |                | ***      | *** | *** |
| 15  | 43                                                 | 50.6 |                                                   | 304                                                                              | 06.5     | 07.8                                              | 25      | 30                       | 17                                                | 45            | 09             | 13 51                                             | 46             | 23 54    | 58  |     |
| 16  | 58                                                 | 50.8 |                                                   | 318                                                                              | 35.3     | 05.1                                              | 27      | 35                       | 16                                                | 45            | 11             | 14 07                                             | 44             | 39       | 59  |     |
| 17  | 73                                                 | 51.0 | +3 42.1                                           | 333                                                                              | 04.1     | +27 02.3                                          | 28      | 40                       | 5 14                                              | 5 45          | 6 12           | 14 25                                             | 43             | 23 20    | 62  |     |
| 18  | 88                                                 | 51.1 | +3 43.1                                           | 347                                                                              | 33.0     | +26 59.4                                          | 29      | 45                       | 5 11                                              | 5 45          | 6 14           | 14 47                                             | 41             | 22 59    | 64  |     |
| 19  | 103                                                | 51.3 |                                                   | 2                                                                                | 01.8     | 56.3                                              | 31      | 50                       | 07                                                | 44            | 16             | 15 15                                             | 39             | 31       | 67  |     |
| 20  | 118                                                | 51.5 |                                                   | 16                                                                               | 30.7     | 53.1                                              | 32      | 52                       | 05                                                | 44            | 17             | 29                                                | 37             | 17       | 69  |     |
| 21  | 133                                                | 51.7 |                                                   | 30                                                                               | 59.5     | 49.8                                              | 33      | 54                       | 5 02                                              | 43            | 19             | 15 45                                             | 35             | 22 01    | 72  |     |
| 22  | 148                                                | 51.9 |                                                   | 45                                                                               | 28.4     | 46.3                                              | 35      | 56                       | 4 59                                              | 43            | 20             | 16 04                                             | 32             | 21 42    | 75  |     |
| 23  | 163                                                | 52.1 |                                                   | 59                                                                               | 57.3     | 42.8                                              | 35      | 58                       | 56                                                | 42            | 21             | 27 28                                             | 21             | 21 19    | 80  |     |
| 24  | 178                                                | 52.3 | +3 48.9                                           | 74                                                                               | 26.1     | +26 39.0                                          | 38      | 60 S                     | 4 52                                              | 5 41          | 6 23           | 16 58                                             | 20             | 20 49    | 86  |     |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                  |          | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                           |                |          |     |     |
|     | PMG<br>11 <sup>h</sup> 31 <sup>m</sup> 2           |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |                                                                                  |          | Mag: +1.4<br>PMG: 15 <sup>h</sup> 43 <sup>m</sup> |         |                          | Mag: -2.5<br>PMG: 22 <sup>h</sup> 21 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 59 <sup>m</sup> |                |          |     |     |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                              |          | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                              | Dec            |          |     |     |
| h   | °                                                  | '    | °                                                 | °                                                                                | '        | °                                                 | °       | '                        | °                                                 | °             | '              | °                                                 | °              | '        |     |     |
| 0   | 186                                                | 44.0 | 135                                               | 21.3                                                                             | +21 56.5 | 123                                               | 58.8    | +22 13.5                 | 23                                                | 46.0          | +8 46.5        | 89                                                | 27.3           | +22 48.7 |     |     |
| 1   | 201                                                | 46.4 | 150                                               | 21.3                                                                             | 57.3     | 138                                               | 59.5    | 13.8                     | 38                                                | 48.7          | 46.6           | 104                                               | 29.6           | 48.7     |     |     |
| 2   | 216                                                | 48.9 | 165                                               | 21.2                                                                             | 58.1     | 154                                               | 00.3    | 14.1                     | 53                                                | 51.4          | 46.7           | 119                                               | 32.0           | 48.7     |     |     |
| 3   | 231                                                | 51.3 | 180                                               | 21.1                                                                             | 58.9     | 169                                               | 01.1    | 14.4                     | 68                                                | 54.1          | 46.8           | 134                                               | 34.3           | 48.7     |     |     |
| 4   | 246                                                | 53.8 | 195                                               | 21.1                                                                             | +21 59.7 | 184                                               | 01.8    | 14.7                     | 83                                                | 56.8          | 46.9           | 149                                               | 36.7           | 48.7     |     |     |
| 5   | 261                                                | 56.3 | 210                                               | 21.0                                                                             | +22 00.5 | 199                                               | 02.6    | +22 15.0                 | 98                                                | 59.5          | +8 47.0        | 164                                               | 39.1           | +22 48.7 |     |     |
| 6   | 276                                                | 58.7 | 225                                               | 21.0                                                                             | +22 01.2 | 214                                               | 03.4    | +22 15.3                 | 114                                               | 02.2          | +8 47.1        | 179                                               | 41.4           | +22 48.7 |     |     |
| 7   | 292                                                | 01.2 | 240                                               | 20.9                                                                             | 02.0     | 229                                               | 04.1    | 15.6                     | 129                                               | 04.9          | 47.2           | 194                                               | 43.8           | 48.7     |     |     |
| 8   | 307                                                | 03.7 | 255                                               | 20.8                                                                             | 02.8     | 244                                               | 04.9    | 15.9                     | 144                                               | 07.6          | 47.3           | 209                                               | 46.1           | 48.7     |     |     |
| 9   | 322                                                | 06.1 | 270                                               | 20.8                                                                             | 03.6     | 259                                               | 05.7    | 16.2                     | 159                                               | 10.3          | 47.4           | 224                                               | 48.5           | 48.7     |     |     |
| 10  | 337                                                | 08.6 | 285                                               | 20.7                                                                             | 04.4     | 274                                               | 06.4    | 16.5                     | 174                                               | 13.0          | 47.5           | 239                                               | 50.8           | 48.7     |     |     |
| 11  | 352                                                | 11.1 | 300                                               | 20.6                                                                             | +22 05.2 | 289                                               | 07.2    | +22 16.8                 | 189                                               | 15.7          | +8 47.6        | 254                                               | 53.2           | +22 48.7 |     |     |
| 12  | 7                                                  | 13.5 | 315                                               | 20.6                                                                             | +22 05.9 | 304                                               | 08.0    | +22 17.1                 | 204                                               | 18.4          | +8 47.7        | 269                                               | 55.5           | +22 48.7 |     |     |
| 13  | 22                                                 | 16.0 | 330                                               | 20.5                                                                             | 06.7     | 319                                               | 08.7    | 17.4                     | 219                                               | 21.1          | 47.8           | 284                                               | 57.9           | 48.7     |     |     |
| 14  | 37                                                 | 18.5 | 345                                               | 20.5                                                                             | 07.5     | 334                                               | 09.5    | 17.7                     | 234                                               | 23.8          | 47.9           | 300                                               | 00.3           | 48.7     |     |     |
| 15  | 52                                                 | 20.9 | 0                                                 | 20.4                                                                             | 08.3     | 349                                               | 10.3    | 18.0                     | 249                                               | 26.6          | 47.9           | 315                                               | 02.6           | 48.7     |     |     |
| 16  | 67                                                 | 23.4 | 15                                                | 20.3                                                                             | 09.1     | 4                                                 | 11.0    | 18.3                     | 264                                               | 29.3          | 48.0           | 330                                               | 05.0           | 48.7     |     |     |
| 17  | 82                                                 | 25.8 | 30                                                | 20.3                                                                             | +22 09.8 | 19                                                | 11.8    | +22 18.6                 | 279                                               | 32.0          | +8 48.1        | 345                                               | 07.3           | +22 48.7 |     |     |
| 18  | 97                                                 | 28.3 | 45                                                | 20.2                                                                             | +22 10.6 | 34                                                | 12.6    | +22 18.9                 | 294                                               | 34.7          | +8 48.2        | 0                                                 | 09.7           | +22 48.7 |     |     |
| 19  | 112                                                | 30.8 | 60                                                | 20.2                                                                             | 11.4     | 49                                                | 13.3    | 19.2                     | 309                                               | 37.4          | 48.3           | 15                                                | 12.0           | 48.7     |     |     |
| 20  | 127                                                | 33.2 | 75                                                | 20.1                                                                             | 12.2     | 64                                                | 14.1    | 19.5                     | 324                                               | 40.1          | 48.4           | 30                                                | 14.4           | 48.7     |     |     |
| 21  | 142                                                | 35.7 | 90                                                | 20.0                                                                             | 12.9     | 79                                                | 14.9    | 19.8                     | 339                                               | 42.8          | 48.5           | 45                                                | 16.7           | 48.7     |     |     |
| 22  | 157                                                | 38.2 | 105                                               | 20.0                                                                             | 13.7     | 94                                                | 15.6    | 20.1                     | 354                                               | 45.5          | 48.6           | 60                                                | 19.1           | 48.7     |     |     |
| 23  | 172                                                | 40.6 | 120                                               | 19.9                                                                             | 14.5     | 109                                               | 16.4    | 20.4                     | 9                                                 | 48.2          | 48.7           | 75                                                | 21.4           | 48.7     |     |     |
| 24  | 187                                                | 43.1 | 135                                               | 19.9                                                                             | +22 15.2 | 124                                               | 17.2    | +22 20.7                 | 24                                                | 50.9          | +8 48.8        | 90                                                | 23.8           | +22 48.7 |     |     |
| Dif | —                                                  |      | -1                                                |                                                                                  | +8       | +8                                                |         | +3                       | +27                                               |               | +1             | +24                                               |                |          |     |     |

| UT  | SOL                                    |      |                                                   | LUNA                   |                                                                                    |                     | Latitud                                           | Puesta de Sol      | Final del crepúsculo                              |         | Salida de Luna |                | Puesta de Luna |                |
|-----|----------------------------------------|------|---------------------------------------------------|------------------------|------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|--------------------|---------------------------------------------------|---------|----------------|----------------|----------------|----------------|
|     | SD: 16/0                               |      |                                                   | Edad: 9 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54/9<br>12 <sup>h</sup> : 55/1<br>20 <sup>h</sup> : 55/3 |                     |                                                   |                    |                                                   |         |                |                |                |                |
|     | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 4 |      |                                                   |                        |                                                                                    | SD: 14/9            |                                                   |                    | R <sup>o</sup> : 50 <sup>m</sup>                  |         |                |                |                |                |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                   | Dif                                                                                | Dec                 | Dif                                               |                    | Civil                                             | Náutico | Hora           | R <sup>o</sup> | Hora           | R <sup>o</sup> |
| h   | °                                      | '    | °                                                 | °                      | '                                                                                  | °                   | '                                                 | °                  | h m                                               | h m     | h m            | h m m          | h m m          | h m m          |
| 0   | 178                                    | 52.3 | +3                                                | 48.9                   | 74                                                                                 | 26.1                | +26                                               | 39.0               | 18 40                                             | 19 22   | 20 16          | 9 34 91        | 5 07 14        |                |
| 1   | 193                                    | 52.5 |                                                   | 49.9                   | 88                                                                                 | 55.0 <sup>99</sup>  |                                                   | 35.2 <sup>38</sup> | 37                                                | 17      | 20 07          | 10 00 84       | 4 40 21        |                |
| 2   | 208                                    | 52.7 |                                                   | 50.9                   | 103                                                                                | 24.0 <sup>100</sup> |                                                   | 31.2 <sup>40</sup> | 35                                                | 13      | 19 59          | 21 79          | 19 26          |                |
| 3   | 223                                    | 52.8 |                                                   | 51.8                   | 117                                                                                | 52.9 <sup>99</sup>  |                                                   | 27.0 <sup>42</sup> | 33                                                | 09      | 52             | 38 76          | 4 02 29        |                |
| 4   | 238                                    | 53.0 |                                                   | 52.8                   | 132                                                                                | 21.8 <sup>99</sup>  |                                                   | 22.7 <sup>43</sup> | 31                                                | 05      | 46             | 10 53 73       | 3 47 31        |                |
| 5   | 253                                    | 53.2 | +3                                                | 53.8                   | 146                                                                                | 50.8 <sup>100</sup> | +26                                               | 18.3 <sup>44</sup> | 18 29                                             | 19 02   | 19 41          | 11 05 71       | 3 34 33        |                |
| 6   | 268                                    | 53.4 | +3                                                | 54.7                   | 161                                                                                | 19.8 <sup>100</sup> | +26                                               | 13.8 <sup>45</sup> | 18 26                                             | 18 55   | 19 30          | 11 31 67       | 3 07 38        |                |
| 7   | 283                                    | 53.6 |                                                   | 55.7                   | 175                                                                                | 48.8 <sup>100</sup> |                                                   | 09.1 <sup>47</sup> | 22                                                | 50      | 22             | 11 52 64       | 2 46 40        |                |
| 8   | 298                                    | 53.8 |                                                   | 56.7                   | 190                                                                                | 17.8 <sup>100</sup> | +26                                               | 04.3 <sup>48</sup> | 20                                                | 45      | 15             | 12 09 62       | 28 43          |                |
| 9   | 313                                    | 54.0 |                                                   | 57.6                   | 204                                                                                | 46.8 <sup>100</sup> | +25                                               | 59.4 <sup>49</sup> | 18                                                | 42      | 10             | 24 59          | 2 13 44        |                |
| 10  | 328                                    | 54.2 |                                                   | 58.6                   | 219                                                                                | 15.8 <sup>100</sup> |                                                   | 54.3 <sup>51</sup> | 14                                                | 36      | 19 02          | 12 49 56       | 1 47 47        |                |
| 11  | 343                                    | 54.3 | +3                                                | 59.6                   | 233                                                                                | 44.9 <sup>101</sup> | +25                                               | 49.1 <sup>52</sup> | 18 11                                             | 18 32   | 18 56          | 13 11 53       | 1 25 49        |                |
| 12  | 358                                    | 54.5 | +4                                                | 00.6                   | 248                                                                                | 14.0 <sup>101</sup> | +25                                               | 43.8 <sup>53</sup> | 18 08                                             | 18 28   | 18 52          | 13 31 50       | 1 04 51        |                |
| 13  | 13                                     | 54.7 |                                                   | 01.5                   | 262                                                                                | 43.1 <sup>101</sup> |                                                   | 38.4 <sup>54</sup> | 05                                                | 26      | 50             | 13 51 48       | 0 43 53        |                |
| 14  | 28                                     | 54.9 |                                                   | 02.5                   | 277                                                                                | 12.3 <sup>102</sup> |                                                   | 32.8 <sup>56</sup> | 18 02                                             | 24      | 49             | 14 12 45       | 0 20 56        |                |
| 15  | 43                                     | 55.1 |                                                   | 03.5                   | 291                                                                                | 41.4 <sup>101</sup> |                                                   | 27.0 <sup>58</sup> | 17 59                                             | 23      | 50             | 37 42          | ** ** *        |                |
| 16  | 58                                     | 55.3 |                                                   | 04.4                   | 306                                                                                | 10.6 <sup>102</sup> |                                                   | 21.2 <sup>58</sup> | 57                                                | 22      | 51             | 14 51 40       | ** ** *        |                |
| 17  | 73                                     | 55.5 | +4                                                | 05.4                   | 320                                                                                | 39.8 <sup>102</sup> | +25                                               | 15.2 <sup>60</sup> | 17 55                                             | 18 22   | 18 53          | 15 08 37       | ** ** *        |                |
| 18  | 88                                     | 55.7 | +4                                                | 06.4                   | 335                                                                                | 09.0 <sup>102</sup> | +25                                               | 09.1 <sup>61</sup> | 17 53                                             | 18 22   | 18 56          | 15 28 34       | ** ** *        |                |
| 19  | 103                                    | 55.8 |                                                   | 07.3                   | 349                                                                                | 38.3 <sup>103</sup> | +25                                               | 02.9 <sup>62</sup> | 50                                                | 22      | 18 59          | 15 54 29       | 23 38 74       |                |
| 20  | 118                                    | 56.0 |                                                   | 08.3                   | 4                                                                                  | 07.6 <sup>103</sup> | +24                                               | 56.5 <sup>64</sup> | 49                                                | 22      | 19 01          | 16 06 27       | 26 77          |                |
| 21  | 133                                    | 56.2 |                                                   | 09.3                   | 18                                                                                 | 36.9 <sup>103</sup> |                                                   | 50.0 <sup>65</sup> | 47                                                | 22      | 03             | 20 24          | 23 13 79       |                |
| 22  | 148                                    | 56.4 |                                                   | 10.2                   | 33                                                                                 | 06.2 <sup>103</sup> |                                                   | 43.4 <sup>66</sup> | 46                                                | 23      | 06             | 36 20          | 22 57 83       |                |
| 23  | 163                                    | 56.6 |                                                   | 11.2                   | 47                                                                                 | 35.6 <sup>104</sup> |                                                   | 36.6 <sup>68</sup> | 44                                                | 23      | 09             | 16 55 16       | 39 87          |                |
| 24  | 178                                    | 56.8 | +4                                                | 12.2                   | 62                                                                                 | 05.0 <sup>104</sup> | +24                                               | 29.7 <sup>69</sup> | 17 42                                             | 18 24   | 19 12          | 17 18 10       | 22 15 95       |                |
| UT  | ARIES                                  |      | VENUS                                             |                        | MARTE                                                                              |                     | JÚPITER                                           |                    | SATURNO                                           |         |                |                |                |                |
|     | PMG: 11 <sup>h</sup> 27 <sup>m</sup> 2 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |                        | Mag: +1.4<br>PMG: 15 <sup>h</sup> 42 <sup>m</sup>                                  |                     | Mag: -2.4<br>PMG: 22 <sup>h</sup> 17 <sup>m</sup> |                    | Mag: +0.1<br>PMG: 17 <sup>h</sup> 56 <sup>m</sup> |         |                |                |                |                |
|     | hG ♈                                   | hG ♀ | Dec                                               | hG ♂                   | Dec                                                                                | hG ♃                | Dec                                               | hG ♄               | Dec                                               |         |                |                |                |                |
| h   | °                                      | °    | °                                                 | °                      | °                                                                                  | °                   | °                                                 | °                  | °                                                 |         |                |                |                |                |
| 0   | 187                                    | 43.1 | 135                                               | 19.9                   | 124                                                                                | 17.2                | 24                                                | 50.9               | 90                                                | 23.8    |                |                |                |                |
| 1   | 202                                    | 45.6 | 150                                               | 19.8                   | 139                                                                                | 17.9                | 39                                                | 53.6               | 105                                               | 26.2    |                |                |                |                |
| 2   | 217                                    | 48.0 | 165                                               | 19.7                   | 154                                                                                | 18.7                | 54                                                | 56.3               | 120                                               | 28.5    |                |                |                |                |
| 3   | 232                                    | 50.5 | 180                                               | 19.7                   | 169                                                                                | 19.5                | 69                                                | 59.0               | 135                                               | 30.9    |                |                |                |                |
| 4   | 247                                    | 53.0 | 195                                               | 19.6                   | 184                                                                                | 20.2                | 85                                                | 01.7               | 150                                               | 33.2    |                |                |                |                |
| 5   | 262                                    | 55.4 | 210                                               | 19.6                   | 199                                                                                | 21.0                | 100                                               | 04.4               | 165                                               | 35.6    |                |                |                |                |
| 6   | 277                                    | 57.9 | 225                                               | 19.5                   | 214                                                                                | 21.7                | 115                                               | 07.1               | 180                                               | 37.9    |                |                |                |                |
| 7   | 293                                    | 00.3 | 240                                               | 19.5                   | 229                                                                                | 22.5                | 130                                               | 09.8               | 195                                               | 40.3    |                |                |                |                |
| 8   | 308                                    | 02.8 | 255                                               | 19.4                   | 244                                                                                | 23.3                | 145                                               | 12.5               | 210                                               | 42.6    |                |                |                |                |
| 9   | 323                                    | 05.3 | 270                                               | 19.4                   | 259                                                                                | 24.0                | 160                                               | 15.2               | 225                                               | 45.0    |                |                |                |                |
| 10  | 338                                    | 07.7 | 285                                               | 19.3                   | 274                                                                                | 24.8                | 175                                               | 17.9               | 240                                               | 47.3    |                |                |                |                |
| 11  | 353                                    | 10.2 | 300                                               | 19.3                   | 289                                                                                | 25.6                | 190                                               | 20.6               | 255                                               | 49.7    |                |                |                |                |
| 12  | 8                                      | 12.7 | 315                                               | 19.2                   | 304                                                                                | 26.3                | 205                                               | 23.3               | 270                                               | 52.0    |                |                |                |                |
| 13  | 23                                     | 15.1 | 330                                               | 19.1                   | 319                                                                                | 27.1                | 220                                               | 26.0               | 285                                               | 54.4    |                |                |                |                |
| 14  | 38                                     | 17.6 | 345                                               | 19.1                   | 334                                                                                | 27.9                | 235                                               | 28.7               | 300                                               | 56.7    |                |                |                |                |
| 15  | 53                                     | 20.1 | 0                                                 | 19.0                   | 349                                                                                | 28.6                | 250                                               | 31.4               | 315                                               | 59.1    |                |                |                |                |
| 16  | 68                                     | 22.5 | 15                                                | 19.0                   | 4                                                                                  | 29.4                | 265                                               | 34.1               | 331                                               | 01.4    |                |                |                |                |
| 17  | 83                                     | 25.0 | 30                                                | 18.9                   | 19                                                                                 | 30.1                | 280                                               | 36.8               | 346                                               | 03.8    |                |                |                |                |
| 18  | 98                                     | 27.4 | 45                                                | 18.9                   | 34                                                                                 | 30.9                | 295                                               | 39.5               | 1                                                 | 06.1    |                |                |                |                |
| 19  | 113                                    | 29.9 | 60                                                | 18.8                   | 49                                                                                 | 31.7                | 310                                               | 42.2               | 16                                                | 08.5    |                |                |                |                |
| 20  | 128                                    | 32.4 | 75                                                | 18.8                   | 64                                                                                 | 32.4                | 325                                               | 44.9               | 31                                                | 10.8    |                |                |                |                |
| 21  | 143                                    | 34.8 | 90                                                | 18.7                   | 79                                                                                 | 33.2                | 340                                               | 47.6               | 46                                                | 13.2    |                |                |                |                |
| 22  | 158                                    | 37.3 | 105                                               | 18.7                   | 94                                                                                 | 34.0                | 355                                               | 50.3               | 61                                                | 15.5    |                |                |                |                |
| 23  | 173                                    | 39.8 | 120                                               | 18.6                   | 109                                                                                | 34.7                | 10                                                | 53.0               | 76                                                | 17.9    |                |                |                |                |
| 24  | 188                                    | 42.2 | 135                                               | 18.6                   | 124                                                                                | 35.5                | 25                                                | 55.7               | 91                                                | 20.2    |                |                |                |                |
| Dif | —                                      | —    | -1                                                | +8                     | +8                                                                                 | +3                  | +27                                               | +1                 | +24                                               | 0       |                |                |                |                |

| UT | SOL                                                |      |    | LUNA                                                                                                                              |     |      |     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|----|
|    | SD: 16:0<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 1 |      |    | Edad: 10 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 55:5<br>12 <sup>h</sup> : 55:7<br>20 <sup>h</sup> : 55:9<br>Rº: 49 <sup>m</sup> |     |      |     |         |                          |       |               |                |    |                |    |    |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                              | Dif | Dec  | Dif |         | Náutico                  | Civil |               | Hora           | Rº | Hora           | Rº |    |    |
| h  | °                                                  | '    | °  | °                                                                                                                                 | '   | °    | '   | °       | h                        | m     | h             | m              | h  | m              | h  | m  |    |
| 0  | 178                                                | 56.8 | +4 | 12.2                                                                                                                              | 62  | 05.0 | +24 | 29.7    | 60 N                     | 3     | 52            | 4              | 45 | 5              | 28 | 11 | 05 |
| 1  | 193                                                | 57.0 |    |                                                                                                                                   | 76  | 34.4 | 104 | 22.7    | 58                       | 4     | 01            | 50             | 30 |                | 24 | 90 | 5  |
| 2  | 208                                                | 57.2 |    |                                                                                                                                   | 91  | 03.8 | 104 | 15.6    | 56                       |       | 08            | 55             | 33 |                | 40 | 85 | 4  |
| 3  | 223                                                | 57.3 |    |                                                                                                                                   | 105 | 33.3 | 105 | 08.3    | 54                       | 15    | 4             | 59             | 35 |                | 11 | 54 | 81 |
| 4  | 238                                                | 57.5 |    |                                                                                                                                   | 120 | 02.8 | 105 | +24     | 52                       | 21    | 5             | 02             | 37 |                | 12 | 06 | 78 |
| 5  | 253                                                | 57.7 | +4 | 17.0                                                                                                                              | 134 | 32.3 | 105 | +23     | 50                       | 4     | 26            | 5              | 06 | 5              | 38 | 12 | 16 |
| 6  | 268                                                | 57.9 | +4 | 18.0                                                                                                                              | 149 | 01.9 | 106 | +23     | 45                       | 4     | 37            | 5              | 13 | 5              | 42 | 12 | 38 |
| 7  | 283                                                | 58.1 |    |                                                                                                                                   | 163 | 31.5 | 106 |         | 40                       |       | 46            | 18             | 45 |                | 12 | 56 | 67 |
| 8  | 298                                                | 58.3 |    |                                                                                                                                   | 178 | 01.1 | 106 |         | 35                       |       | 53            | 23             | 48 |                | 13 | 11 | 63 |
| 9  | 313                                                | 58.5 |    |                                                                                                                                   | 192 | 30.8 | 107 |         | 30                       | 4     | 58            | 26             | 50 |                | 23 | 61 | 2  |
| 10 | 328                                                | 58.7 |    |                                                                                                                                   | 207 | 00.5 | 107 |         | 20                       |       | 06            | 32             | 54 |                | 13 | 45 | 57 |
| 11 | 343                                                | 58.8 | +4 | 22.8                                                                                                                              | 221 | 30.2 | 107 | +23     | 10 N                     | 5     | 12            | 5              | 37 | 5              | 58 | 14 | 04 |
| 12 | 358                                                | 59.0 | +4 | 23.8                                                                                                                              | 236 | 00.0 | 108 | +22     | 0                        | 5     | 16            | 5              | 40 | 6              | 01 | 14 | 21 |
| 13 | 13                                                 | 59.2 |    |                                                                                                                                   | 250 | 29.8 | 108 |         | 10 S                     |       | 18            | 43             | 04 |                | 39 | 45 | 36 |
| 14 | 28                                                 | 59.4 |    |                                                                                                                                   | 264 | 59.6 | 108 |         | 20                       |       | 19            | 45             | 07 |                | 14 | 57 | 42 |
| 15 | 43                                                 | 59.6 |    |                                                                                                                                   | 279 | 29.4 | 108 |         | 30                       |       | 19            | 46             | 10 |                | 15 | 19 | 37 |
| 16 | 58                                                 | 59.8 |    |                                                                                                                                   | 293 | 59.3 | 109 |         | 35                       |       | 18            | 47             | 12 |                | 31 | 35 | 38 |
| 17 | 74                                                 | 00.0 | +4 | 28.6                                                                                                                              | 308 | 29.3 | 110 | +22     | 40                       | 5     | 16            | 5              | 47 | 6              | 14 | 15 | 45 |
| 18 | 89                                                 | 00.2 | +4 | 29.6                                                                                                                              | 322 | 59.2 | 109 | +22     | 45                       | 5     | 13            | 5              | 47 | 6              | 17 | 16 | 02 |
| 19 | 104                                                | 00.3 |    |                                                                                                                                   | 337 | 29.2 | 110 | +21     | 50                       |       | 10            | 47             | 20 |                | 23 | 23 | ** |
| 20 | 119                                                | 00.5 |    |                                                                                                                                   | 351 | 59.2 | 110 |         | 52                       |       | 08            | 47             | 21 |                | 33 | 20 | ** |
| 21 | 134                                                | 00.7 |    |                                                                                                                                   | 6   | 29.3 | 111 |         | 54                       |       | 06            | 47             | 22 |                | 44 | 17 | ** |
| 22 | 149                                                | 00.9 |    |                                                                                                                                   | 20  | 59.4 | 111 |         | 56                       |       | 03            | 47             | 24 |                | 16 | 56 | 14 |
| 23 | 164                                                | 01.1 |    |                                                                                                                                   | 35  | 29.5 | 111 |         | 58                       | 5     | 01            | 46             | 25 |                | 17 | 11 | 10 |
| 24 | 179                                                | 01.3 | +4 | 35.4                                                                                                                              | 49  | 59.7 | 112 | +21     | 60 S                     | 4     | 57            | 5              | 46 | 6              | 27 | 17 | 28 |

| UT  | ARIES                                  |      | VENUS                                             |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |     |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|-----|------|-----|------|
|     | PMG: 11 <sup>h</sup> 23 <sup>m</sup> 3 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      |     | Mag: +1.4<br>PMG: 15 <sup>h</sup> 41 <sup>m</sup> |     |      | Mag: -2.4<br>PMG: 22 <sup>h</sup> 12 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 17 <sup>h</sup> 52 <sup>m</sup> |     |      |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                              | Dec  |     | hG ♄                                              | Dec |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °   | °                                                 | '   | °    | °                                                 | '    | °   | °                                                 | '   | °    |     |      |     |      |
| 0   | 188                                    | 42.2 | 135                                               | 18.6 | +22 | 33.5                                              | 124 | 35.5 | +22                                               | 27.7 | 25  | 55.7                                              | +8  | 51.0 | 91  | 20.2 | +22 | 48.8 |
| 1   | 203                                    | 44.7 | 150                                               | 18.5 |     | 34.2                                              | 139 | 36.2 |                                                   | 28.0 | 40  | 58.4                                              |     | 51.1 | 106 | 22.6 |     | 48.8 |
| 2   | 218                                    | 47.2 | 165                                               | 18.5 |     | 35.0                                              | 154 | 37.0 |                                                   | 28.3 | 56  | 01.1                                              |     | 51.2 | 121 | 24.9 |     | 48.8 |
| 3   | 233                                    | 49.6 | 180                                               | 18.5 |     | 35.7                                              | 169 | 37.8 |                                                   | 28.5 | 71  | 03.8                                              |     | 51.3 | 136 | 27.3 |     | 48.8 |
| 4   | 248                                    | 52.1 | 195                                               | 18.4 |     | 36.5                                              | 184 | 38.5 |                                                   | 28.8 | 86  | 06.5                                              |     | 51.4 | 151 | 29.6 |     | 48.8 |
| 5   | 263                                    | 54.6 | 210                                               | 18.4 | +22 | 37.2                                              | 199 | 39.3 | +22                                               | 29.1 | 101 | 09.2                                              | +8  | 51.4 | 166 | 32.0 | +22 | 48.8 |
| 6   | 278                                    | 57.0 | 225                                               | 18.3 | +22 | 38.0                                              | 214 | 40.1 | +22                                               | 29.4 | 116 | 11.9                                              | +8  | 51.5 | 181 | 34.3 | +22 | 48.8 |
| 7   | 293                                    | 59.5 | 240                                               | 18.3 |     | 38.7                                              | 229 | 40.8 |                                                   | 29.7 | 131 | 14.6                                              |     | 51.6 | 196 | 36.7 |     | 48.8 |
| 8   | 309                                    | 01.9 | 255                                               | 18.2 |     | 39.5                                              | 244 | 41.6 |                                                   | 30.0 | 146 | 17.3                                              |     | 51.7 | 211 | 39.0 |     | 48.8 |
| 9   | 324                                    | 04.4 | 270                                               | 18.2 |     | 40.2                                              | 259 | 42.3 |                                                   | 30.3 | 161 | 20.0                                              |     | 51.8 | 226 | 41.4 |     | 48.8 |
| 10  | 339                                    | 06.9 | 285                                               | 18.1 |     | 41.0                                              | 274 | 43.1 |                                                   | 30.5 | 176 | 22.7                                              |     | 51.9 | 241 | 43.7 |     | 48.8 |
| 11  | 354                                    | 09.3 | 300                                               | 18.1 | +22 | 41.7                                              | 289 | 43.9 | +22                                               | 30.8 | 191 | 25.4                                              | +8  | 52.0 | 256 | 46.1 | +22 | 48.8 |
| 12  | 9                                      | 11.8 | 315                                               | 18.1 | +22 | 42.4                                              | 304 | 44.6 | +22                                               | 31.1 | 206 | 28.1                                              | +8  | 52.1 | 271 | 48.4 | +22 | 48.8 |
| 13  | 24                                     | 14.3 | 330                                               | 18.0 |     | 43.2                                              | 319 | 45.4 |                                                   | 31.4 | 221 | 30.7                                              |     | 52.2 | 286 | 50.7 |     | 48.8 |
| 14  | 39                                     | 16.7 | 345                                               | 18.0 |     | 43.9                                              | 334 | 46.1 |                                                   | 31.7 | 236 | 33.4                                              |     | 52.3 | 301 | 53.1 |     | 48.8 |
| 15  | 54                                     | 19.2 | 0                                                 | 17.9 |     | 44.7                                              | 349 | 46.9 |                                                   | 32.0 | 251 | 36.1                                              |     | 52.3 | 316 | 55.4 |     | 48.8 |
| 16  | 69                                     | 21.7 | 15                                                | 17.9 |     | 45.4                                              | 4   | 47.7 |                                                   | 32.3 | 266 | 38.8                                              |     | 52.4 | 331 | 57.8 |     | 48.8 |
| 17  | 84                                     | 24.1 | 30                                                | 17.8 | +22 | 46.1                                              | 19  | 48.4 | +22                                               | 32.5 | 281 | 41.5                                              | +8  | 52.5 | 347 | 00.1 | +22 | 48.8 |
| 18  | 99                                     | 26.6 | 45                                                | 17.8 | +22 | 46.9                                              | 34  | 49.2 | +22                                               | 32.8 | 296 | 44.2                                              | +8  | 52.6 | 2   | 02.5 | +22 | 48.8 |
| 19  | 114                                    | 29.1 | 60                                                | 17.8 |     | 47.6                                              | 49  | 49.9 |                                                   | 33.1 | 311 | 46.9                                              |     | 52.7 | 17  | 04.8 |     | 48.8 |
| 20  | 129                                    | 31.5 | 75                                                | 17.7 |     | 48.3                                              | 64  | 50.7 |                                                   | 33.4 | 326 | 49.6                                              |     | 52.8 | 32  | 07.2 |     | 48.8 |
| 21  | 144                                    | 34.0 | 90                                                | 17.7 |     | 49.1                                              | 79  | 51.5 |                                                   | 33.7 | 341 | 52.3                                              |     | 52.9 | 47  | 09.5 |     | 48.8 |
| 22  | 159                                    | 36.4 | 105                                               | 17.6 |     | 49.8                                              | 94  | 52.2 |                                                   | 34.0 | 356 | 55.0                                              |     | 53.0 | 62  | 11.9 |     | 48.8 |
| 23  | 174                                    | 38.9 | 120                                               | 17.6 |     | 50.5                                              | 109 | 53.0 |                                                   | 34.2 | 11  | 57.7                                              |     | 53.1 | 77  | 14.2 |     | 48.8 |
| 24  | 189                                    | 41.4 | 135                                               | 17.6 | +22 | 51.3                                              | 124 | 53.7 | +22                                               | 34.5 | 27  | 00.4                                              | +8  | 53.1 | 92  | 16.5 | +22 | 48.8 |
| Dif | —                                      |      | 0                                                 | +7   |     | +8                                                | +3  |      | +3                                                |      | +27 |                                                   | +1  |      | +23 |      |     |      |

| UT  | SOL                                                |      |                                                   | LUNA                                                                              |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |          |         |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|---------|
|     | SD: 16:0<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 8 |      |                                                   | Edad: 11 <sup>d</sup> 1 PHE {<br>SD: 15:3<br>PMG: 21 <sup>h</sup> 22 <sup>m</sup> |                     |                                                   |         |               |                                                   |       |                |                                                   |                |          |         |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                              | Dif                 | Dec                                               |         |               | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora     | R°      |
| h   | °                                                  | '    | °                                                 | °                                                                                 | '                   | °                                                 | °       | h             | m                                                 | h     | m              | h                                                 | m              | h        | m       |
| 0   | 179                                                | 01.3 | +4 35.4                                           | 49                                                                                | 59.7                | +21 07.6                                          | 60 N    | 18            | 45                                                | 19    | 28             | 20                                                | 22             | 12       | 41 96   |
| 1   | 194                                                | 01.5 |                                                   | 64                                                                                | 29.8 <sup>111</sup> | +20 57.7 <sup>99</sup>                            | 58      | 42            | 22                                                |       | 12             | 12                                                | 54             | 91       | 5 28 4  |
| 2   | 209                                                | 01.6 |                                                   | 79                                                                                | 00.1 <sup>113</sup> | 47.7 <sup>100</sup>                               | 56      | 39            | 17                                                | 20    | 04             | 13                                                | 05             | 88       | 5 02 12 |
| 3   | 224                                                | 01.8 |                                                   | 93                                                                                | 30.3 <sup>112</sup> | 37.6 <sup>101</sup>                               | 54      | 36            | 13                                                | 19    | 57             | 15                                                | 84             |          | 4 51 15 |
| 4   | 239                                                | 02.0 |                                                   | 108                                                                               | 00.6 <sup>113</sup> | 27.4 <sup>102</sup>                               | 52      | 34            | 09                                                | 50    |                | 24                                                | 81             |          | 42 18   |
| 5   | 254                                                | 02.2 | +4 40.2                                           | 122                                                                               | 31.0 <sup>114</sup> | +20 17.0 <sup>104</sup>                           | 50      | 18            | 32                                                | 19    | 05             | 19                                                | 45             | 13       | 32 78   |
| 6   | 269                                                | 02.4 | +4 41.1                                           | 137                                                                               | 01.3 <sup>113</sup> | +20 06.6 <sup>104</sup>                           | 45      | 18            | 28                                                | 18    | 58             | 19                                                | 33             | 13       | 49 73   |
| 7   | 284                                                | 02.6 |                                                   | 151                                                                               | 31.7 <sup>114</sup> | +19 56.0 <sup>106</sup>                           | 40      | 25            | 52                                                | 24    |                | 14                                                | 03             | 68       | 4 15 26 |
| 8   | 299                                                | 02.8 |                                                   | 166                                                                               | 02.1 <sup>114</sup> | 45.3 <sup>107</sup>                               | 35      | 22            | 47                                                | 17    |                | 14                                                | 65             |          | 3 48 32 |
| 9   | 314                                                | 02.9 |                                                   | 180                                                                               | 32.6 <sup>115</sup> | 34.6 <sup>107</sup>                               | 30      | 19            | 43                                                | 11    |                | 24                                                | 62             |          | 37 35   |
| 10  | 329                                                | 03.1 |                                                   | 195                                                                               | 03.1 <sup>115</sup> | 23.7 <sup>109</sup>                               | 20      | 14            | 37                                                | 19    | 02             | 42                                                | 56             |          | 17 41   |
| 11  | 344                                                | 03.3 | +4 46.0                                           | 209                                                                               | 33.6 <sup>115</sup> | +19 12.7 <sup>110</sup>                           | 10 N    | 18            | 11                                                | 18    | 32             | 18                                                | 56             | 14       | 56 53   |
| 12  | 359                                                | 03.5 | +4 46.9                                           | 224                                                                               | 04.2 <sup>116</sup> | +19 01.6 <sup>111</sup>                           | 0       | 18            | 07                                                | 18    | 28             | 18                                                | 52             | 15       | 10 48   |
| 13  | 14                                                 | 03.7 |                                                   | 238                                                                               | 34.8 <sup>116</sup> | +18 50.4 <sup>112</sup>                           | 10 S    | 04            | 25                                                | 49    |                | 24                                                | 44             |          | 29 53   |
| 14  | 29                                                 | 03.9 |                                                   | 253                                                                               | 05.4 <sup>116</sup> | 39.1 <sup>113</sup>                               | 20      | 18            | 00                                                | 22    | 48             | 39                                                | 39             | 2        | 12 57   |
| 15  | 44                                                 | 04.1 |                                                   | 267                                                                               | 36.1 <sup>117</sup> | 27.6 <sup>115</sup>                               | 30      | 17            | 56                                                | 20    | 48             | 15                                                | 56             | 34       | 1 52 62 |
| 16  | 59                                                 | 04.2 |                                                   | 282                                                                               | 06.8 <sup>117</sup> | 16.1 <sup>115</sup>                               | 35      | 54            | 19                                                | 49    |                | 16                                                | 06             | 31       | 41 64   |
| 17  | 74                                                 | 04.4 | +4 51.7                                           | 296                                                                               | 37.5 <sup>117</sup> | +18 04.5 <sup>116</sup>                           | 40      | 17            | 52                                                | 18    | 19             | 18                                                | 50             | 16       | 17 28   |
| 18  | 89                                                 | 04.6 | +4 52.7                                           | 311                                                                               | 08.2 <sup>117</sup> | +17 52.8 <sup>117</sup>                           | 45      | 17            | 49                                                | 18    | 18             | 18                                                | 52             | 16       | 30 24   |
| 19  | 104                                                | 04.8 |                                                   | 325                                                                               | 39.0 <sup>118</sup> | 41.0 <sup>118</sup>                               | 50      | 46            | 18                                                | 55    |                | 46                                                | 18             |          | 0 52 77 |
| 20  | 119                                                | 05.0 |                                                   | 340                                                                               | 09.8 <sup>118</sup> | 29.1 <sup>119</sup>                               | 52      | 44            | 18                                                | 57    |                | 16                                                | 53             | 16       | 43 80   |
| 21  | 134                                                | 05.2 |                                                   | 354                                                                               | 40.7 <sup>119</sup> | 17.0 <sup>121</sup>                               | 54      | 42            | 18                                                | 18    | 59             | 17                                                | 01             | 14       | 32 83   |
| 22  | 149                                                | 05.4 |                                                   | 9                                                                                 | 11.5 <sup>118</sup> | +17 04.9 <sup>121</sup>                           | 56      | 41            | 18                                                | 19    | 01             | 10                                                | 11             |          | 20 87   |
| 23  | 164                                                | 05.5 |                                                   | 23                                                                                | 42.4 <sup>119</sup> | +16 52.7 <sup>122</sup>                           | 58      | 39            | 18                                                | 03    |                | 21                                                | 6              |          | 0 06 91 |
| 24  | 179                                                | 05.7 | +4 58.5                                           | 38                                                                                | 13.4 <sup>120</sup> | +16 40.4 <sup>123</sup>                           | 60 S    | 17            | 36                                                | 18    | 18             | 19                                                | 06             | 17       | 32 3    |
|     |                                                    |      |                                                   |                                                                                   |                     |                                                   |         |               |                                                   |       |                |                                                   |                |          | ** ** * |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                   |                     | MARTE                                             |         |               | JÚPITER                                           |       |                | SATURNO                                           |                |          |         |
|     | PMG: 11 <sup>h</sup> 19 <sup>m</sup> 4             |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |                                                                                   |                     | Mag: +1.4<br>PMG: 15 <sup>h</sup> 40 <sup>m</sup> |         |               | Mag: -2.4<br>PMG: 22 <sup>h</sup> 08 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 48 <sup>m</sup> |                |          |         |
|     | hG ♈                                               | Dec  | hG ♀                                              | Dec                                                                               |                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |          |         |
| h   | °                                                  | '    | °                                                 | °                                                                                 | '                   | °                                                 | °       | '             | °                                                 | °     | '              | °                                                 | °              | '        | °       |
| 0   | 189                                                | 41.4 | 135                                               | 17.6                                                                              | +22 51.3            | 124                                               | 53.7    | +22 34.5      | 27                                                | 00.4  | +8 53.1        | 92                                                | 16.5           | +22 48.8 |         |
| 1   | 204                                                | 43.8 | 150                                               | 17.5                                                                              | 52.0                | 139                                               | 54.5    | 34.8          | 42                                                | 03.1  | 53.2           | 107                                               | 18.9           | 48.8     |         |
| 2   | 219                                                | 46.3 | 165                                               | 17.5                                                                              | 52.7                | 154                                               | 55.3    | 35.1          | 57                                                | 05.8  | 53.3           | 122                                               | 21.2           | 48.8     |         |
| 3   | 234                                                | 48.8 | 180                                               | 17.5                                                                              | 53.4                | 169                                               | 56.0    | 35.4          | 72                                                | 08.5  | 53.4           | 137                                               | 23.6           | 48.8     |         |
| 4   | 249                                                | 51.2 | 195                                               | 17.4                                                                              | 54.2                | 184                                               | 56.8    | 35.6          | 87                                                | 11.1  | 53.5           | 152                                               | 25.9           | 48.8     |         |
| 5   | 264                                                | 53.7 | 210                                               | 17.4                                                                              | +22 54.9            | 199                                               | 57.5    | +22 35.9      | 102                                               | 13.8  | +8 53.6        | 167                                               | 28.3           | +22 48.8 |         |
| 6   | 279                                                | 56.2 | 225                                               | 17.4                                                                              | +22 55.6            | 214                                               | 58.3    | +22 36.2      | 117                                               | 16.5  | +8 53.7        | 182                                               | 30.6           | +22 48.8 |         |
| 7   | 294                                                | 58.6 | 240                                               | 17.3                                                                              | 56.3                | 229                                               | 59.1    | 36.5          | 132                                               | 19.2  | 53.8           | 197                                               | 32.9           | 48.8     |         |
| 8   | 310                                                | 01.1 | 255                                               | 17.3                                                                              | 57.1                | 244                                               | 59.8    | 36.8          | 147                                               | 21.9  | 53.8           | 212                                               | 35.3           | 48.8     |         |
| 9   | 325                                                | 03.5 | 270                                               | 17.3                                                                              | 57.8                | 260                                               | 00.6    | 37.0          | 162                                               | 24.6  | 53.9           | 227                                               | 37.6           | 48.8     |         |
| 10  | 340                                                | 06.0 | 285                                               | 17.2                                                                              | 58.5                | 275                                               | 01.3    | 37.3          | 177                                               | 27.3  | 54.0           | 242                                               | 40.0           | 48.8     |         |
| 11  | 355                                                | 08.5 | 300                                               | 17.2                                                                              | +22 59.2            | 290                                               | 02.1    | +22 37.6      | 192                                               | 30.0  | +8 54.1        | 257                                               | 42.3           | +22 48.8 |         |
| 12  | 10                                                 | 10.9 | 315                                               | 17.2                                                                              | +22 59.9            | 305                                               | 02.9    | +22 37.9      | 207                                               | 32.7  | +8 54.2        | 272                                               | 44.7           | +22 48.8 |         |
| 13  | 25                                                 | 13.4 | 330                                               | 17.1                                                                              | +23 00.7            | 320                                               | 03.6    | 38.2          | 222                                               | 35.4  | 54.3           | 287                                               | 47.0           | 48.8     |         |
| 14  | 40                                                 | 15.9 | 345                                               | 17.1                                                                              | 01.4                | 335                                               | 04.4    | 38.4          | 237                                               | 38.1  | 54.4           | 302                                               | 49.3           | 48.8     |         |
| 15  | 55                                                 | 18.3 | 0                                                 | 17.1                                                                              | 02.1                | 350                                               | 05.1    | 38.7          | 252                                               | 40.7  | 54.5           | 317                                               | 51.7           | 48.8     |         |
| 16  | 70                                                 | 20.8 | 15                                                | 17.0                                                                              | 02.8                | 5                                                 | 05.9    | 39.0          | 267                                               | 43.4  | 54.5           | 332                                               | 54.0           | 48.8     |         |
| 17  | 85                                                 | 23.3 | 30                                                | 17.0                                                                              | +23 03.5            | 20                                                | 06.7    | +22 39.3      | 282                                               | 46.1  | +8 54.6        | 347                                               | 56.4           | +22 48.8 |         |
| 18  | 100                                                | 25.7 | 45                                                | 17.0                                                                              | +23 04.2            | 35                                                | 07.4    | +22 39.5      | 297                                               | 48.8  | +8 54.7        | 2                                                 | 58.7           | +22 48.8 |         |
| 19  | 115                                                | 28.2 | 60                                                | 16.9                                                                              | 05.0                | 50                                                | 08.2    | 39.8          | 312                                               | 51.5  | 54.8           | 18                                                | 01.0           | 48.8     |         |
| 20  | 130                                                | 30.7 | 75                                                | 16.9                                                                              | 05.7                | 65                                                | 08.9    | 40.1          | 327                                               | 54.2  | 54.9           | 33                                                | 03.4           | 48.8     |         |
| 21  | 145                                                | 33.1 | 90                                                | 16.9                                                                              | 06.4                | 80                                                | 09.7    | 40.4          | 342                                               | 56.9  | 55.0           | 48                                                | 05.7           | 48.8     |         |
| 22  | 160                                                | 35.6 | 105                                               | 16.9                                                                              | 07.1                | 95                                                | 10.4    | 40.6          | 357                                               | 59.6  | 55.1           | 63                                                | 08.1           | 48.8     |         |
| 23  | 175                                                | 38.0 | 120                                               | 16.8                                                                              | 07.8                | 110                                               | 11.2    | 40.9          | 13                                                | 02.3  | 55.2           | 78                                                | 10.4           | 48.8     |         |
| 24  | 190                                                | 40.5 | 135                                               | 16.8                                                                              | +23 08.5            | 125                                               | 12.0    | +22 41.2      | 28                                                | 04.9  | +8 55.2        | 93                                                | 12.7           | +22 48.8 |         |
| Dif | —                                                  |      | 0                                                 | +7                                                                                |                     | +8                                                | +3      |               | +27                                               | +1    |                | +23                                               |                |          | 0       |

| UT | SOL                                                |      |         | LUNA                                                                              |                     |                         | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       |    | Puesta de Luna |    |
|----|----------------------------------------------------|------|---------|-----------------------------------------------------------------------------------|---------------------|-------------------------|---------|--------------------------|---------|---------------|----------------|-------|----|----------------|----|
|    | SD: 16'0<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 5 |      |         | Edad: 12 <sup>d</sup> 1 PHE {<br>SD: 15'5<br>PMG: 22 <sup>h</sup> 10 <sup>m</sup> |                     |                         |         |                          |         |               |                |       |    |                |    |
|    |                                                    |      |         | R <sup>o</sup> : 47 <sup>m</sup>                                                  |                     |                         |         |                          |         |               |                |       |    |                |    |
|    | hG ☉                                               | Dec  |         | hG ☾                                                                              | Dif                 | Dec                     | Dif     |                          | Náutico | Civil         |                | Hora  | R° | Hora           | R° |
| h  | °                                                  | '    | °       | °                                                                                 | '                   | °                       | '       | °                        | h       | m             | h              | m     | h  | m              | m  |
| 0  | 179                                                | 05.7 | +4 58.5 | 38                                                                                | 13.4                | +16 40.4                |         | 60 N                     | 3 45    | 4 38          | 5 21           | 14 17 | 96 | 5 32           | 1  |
| 1  | 194                                                | 05.9 | +4 59.4 | 52                                                                                | 44.3 <sup>119</sup> | 28.0 <sup>124</sup>     |         | 58                       | 3 54    | 44            | 25             | 25 92 |    | 22             | 6  |
| 2  | 209                                                | 06.1 | +5 00.4 | 67                                                                                | 15.3 <sup>120</sup> | 15.5 <sup>125</sup>     |         | 56                       | 4 03    | 49            | 27             | 33 88 |    | 14             | 9  |
| 3  | 224                                                | 06.3 | 01.3    | 81                                                                                | 46.3 <sup>120</sup> | +16 02.9 <sup>126</sup> |         | 54                       | 10      | 54            | 30             | 39 85 |    | 06             | 13 |
| 4  | 239                                                | 06.5 | 02.3    | 96                                                                                | 17.4 <sup>121</sup> | +15 50.2 <sup>127</sup> |         | 52                       | 16      | 4 58          | 32             | 45 82 |    | 5 00           | 15 |
| 5  | 254                                                | 06.7 | +5 03.3 | 110                                                                               | 48.4 <sup>120</sup> | +15 37.5 <sup>127</sup> |         | 50                       | 4 22    | 5 01          | 5 34           | 14 50 | 80 | 4 54           | 17 |
| 6  | 269                                                | 06.8 | +5 04.2 | 125                                                                               | 19.5 <sup>121</sup> | +15 24.6 <sup>129</sup> |         | 45                       | 4 33    | 5 09          | 5 38           | 15 02 | 73 | 4 41           | 22 |
| 7  | 284                                                | 07.0 | 05.2    | 139                                                                               | 50.6 <sup>121</sup> | +15 11.7 <sup>129</sup> |         | 40                       | 42      | 15            | 42             | 11 69 |    | 30             | 26 |
| 8  | 299                                                | 07.2 | 06.1    | 154                                                                               | 21.8 <sup>122</sup> | +14 58.6 <sup>131</sup> |         | 35                       | 50      | 20            | 45             | 19 66 |    | 20             | 30 |
| 9  | 314                                                | 07.4 | 07.1    | 168                                                                               | 53.0 <sup>122</sup> | 45.5 <sup>131</sup>     |         | 30                       | 4 56    | 24            | 48             | 26 62 |    | 4 12           | 33 |
| 10 | 329                                                | 07.6 | 08.1    | 183                                                                               | 24.1 <sup>121</sup> | 32.3 <sup>132</sup>     |         | 20                       | 5 05    | 30            | 53             | 38 57 |    | 3 58           | 38 |
| 11 | 344                                                | 07.8 | +5 09.0 | 197                                                                               | 55.4 <sup>123</sup> | +14 19.0 <sup>133</sup> |         | 10 N                     | 5 11    | 5 35          | 5 57           | 15 49 | 51 | 3 45           | 43 |
| 12 | 359                                                | 08.0 | +5 10.0 | 212                                                                               | 26.6 <sup>122</sup> | +14 05.6 <sup>134</sup> |         | 0                        | 5 15    | 5 39          | 6 00           | 15 58 | 48 | 3 33           | 48 |
| 13 | 14                                                 | 08.1 | 10.9    | 226                                                                               | 57.9 <sup>123</sup> | +13 52.1 <sup>135</sup> |         | 10 S                     | 18      | 43            | 04             | 16 08 | 43 | 22             | 51 |
| 14 | 29                                                 | 08.3 | 11.9    | 241                                                                               | 29.1 <sup>122</sup> | 38.5 <sup>136</sup>     |         | 20                       | 20      | 45            | 07             | 18 38 |    | 3 09           | 56 |
| 15 | 44                                                 | 08.5 | 12.8    | 256                                                                               | 00.4 <sup>123</sup> | 24.9 <sup>136</sup>     |         | 30                       | 20      | 47            | 11             | 30 33 |    | 2 54           | 62 |
| 16 | 59                                                 | 08.7 | 13.8    | 270                                                                               | 31.8 <sup>124</sup> | +13 11.2 <sup>137</sup> |         | 35                       | 19      | 48            | 14             | 37 29 |    | 45             | 65 |
| 17 | 74                                                 | 08.9 | +5 14.8 | 285                                                                               | 03.1 <sup>123</sup> | +12 57.4 <sup>138</sup> |         | 40                       | 5 18    | 5 49          | 6 16           | 16 45 | 25 | 2 35           | 69 |
| 18 | 89                                                 | 09.1 | +5 15.7 | 299                                                                               | 34.5 <sup>124</sup> | +12 43.5 <sup>139</sup> |         | 45                       | 5 16    | 5 50          | 6 19           | 16 54 | 21 | 2 24           | 73 |
| 19 | 104                                                | 09.2 | 16.7    | 314                                                                               | 05.8 <sup>123</sup> | 29.6 <sup>139</sup>     |         | 50                       | 13      | 50            | 23             | 17 04 | 17 | 09             | 79 |
| 20 | 119                                                | 09.4 | 17.6    | 328                                                                               | 37.2 <sup>124</sup> | 15.5 <sup>141</sup>     |         | 52                       | 11      | 50            | 24             | 09 14 |    | 2 03           | 81 |
| 21 | 134                                                | 09.6 | 18.6    | 343                                                                               | 08.6 <sup>124</sup> | +12 01.4 <sup>141</sup> |         | 54                       | 10      | 51            | 26             | 15 11 |    | 1 55           | 84 |
| 22 | 149                                                | 09.8 | 19.6    | 357                                                                               | 40.1 <sup>125</sup> | +11 47.2 <sup>142</sup> |         | 56                       | 08      | 51            | 28             | 21 8  |    | 47             | 87 |
| 23 | 164                                                | 10.0 | 20.5    | 12                                                                                | 11.5 <sup>124</sup> | 33.0 <sup>142</sup>     |         | 58                       | 05      | 51            | 30             | 27 5  |    | 37             | 92 |
| 24 | 179                                                | 10.2 | +5 21.5 | 26                                                                                | 42.9 <sup>124</sup> | +11 18.6 <sup>144</sup> |         | 60 S                     | 5 02    | 5 51          | 6 32           | 17 35 | 1  | 1 26           | 96 |

| UT  | ARIES                                 |      | VENUS                                             |          |          | MARTE                                             |          |         | JÚPITER                                           |          |   | SATURNO                                           |     |   |  |
|-----|---------------------------------------|------|---------------------------------------------------|----------|----------|---------------------------------------------------|----------|---------|---------------------------------------------------|----------|---|---------------------------------------------------|-----|---|--|
|     | PMG 11 <sup>h</sup> 15 <sup>m</sup> 5 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |          |          | Mag: +1.4<br>PMG: 15 <sup>h</sup> 38 <sup>m</sup> |          |         | Mag: -2.4<br>PMG: 22 <sup>h</sup> 04 <sup>m</sup> |          |   | Mag: +0.1<br>PMG: 17 <sup>h</sup> 44 <sup>m</sup> |     |   |  |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec      |          | hG ♂                                              | Dec      |         | hG ♃                                              | Dec      |   | hG ♄                                              | Dec |   |  |
| h   | °                                     | '    | °                                                 | '        | °        | '                                                 | °        | '       | °                                                 | '        | ° | '                                                 | °   | ' |  |
| 0   | 190                                   | 40.5 | 135 16.8                                          | +23 08.5 | 125 12.0 | +22 41.2                                          | 28 04.9  | +8 55.2 | 93 12.7                                           | +22 48.8 |   |                                                   |     |   |  |
| 1   | 205                                   | 43.0 | 150 16.8                                          | 09.2     | 140 12.7 | 41.5                                              | 43 07.6  | 55.3    | 108 15.1                                          | 48.8     |   |                                                   |     |   |  |
| 2   | 220                                   | 45.4 | 165 16.8                                          | 09.9     | 155 13.5 | 41.7                                              | 58 10.3  | 55.4    | 123 17.4                                          | 48.8     |   |                                                   |     |   |  |
| 3   | 235                                   | 47.9 | 180 16.7                                          | 10.6     | 170 14.2 | 42.0                                              | 73 13.0  | 55.5    | 138 19.8                                          | 48.8     |   |                                                   |     |   |  |
| 4   | 250                                   | 50.4 | 195 16.7                                          | 11.3     | 185 15.0 | 42.3                                              | 88 15.7  | 55.6    | 153 22.1                                          | 48.8     |   |                                                   |     |   |  |
| 5   | 265                                   | 52.8 | 210 16.7                                          | +23 12.0 | 200 15.7 | +22 42.6                                          | 103 18.4 | +8 55.7 | 168 24.4                                          | +22 48.8 |   |                                                   |     |   |  |
| 6   | 280                                   | 55.3 | 225 16.7                                          | +23 12.7 | 215 16.5 | +22 42.8                                          | 118 21.1 | +8 55.8 | 183 26.8                                          | +22 48.8 |   |                                                   |     |   |  |
| 7   | 295                                   | 57.8 | 240 16.6                                          | 13.5     | 230 17.3 | 43.1                                              | 133 23.7 | 55.8    | 198 29.1                                          | 48.8     |   |                                                   |     |   |  |
| 8   | 311                                   | 00.2 | 255 16.6                                          | 14.2     | 245 18.0 | 43.4                                              | 148 26.4 | 55.9    | 213 31.5                                          | 48.8     |   |                                                   |     |   |  |
| 9   | 326                                   | 02.7 | 270 16.6                                          | 14.9     | 260 18.8 | 43.6                                              | 163 29.1 | 56.0    | 228 33.8                                          | 48.8     |   |                                                   |     |   |  |
| 10  | 341                                   | 05.2 | 285 16.6                                          | 15.6     | 275 19.5 | 43.9                                              | 178 31.8 | 56.1    | 243 36.1                                          | 48.8     |   |                                                   |     |   |  |
| 11  | 356                                   | 07.6 | 300 16.6                                          | +23 16.3 | 290 20.3 | +22 44.2                                          | 193 34.5 | +8 56.2 | 258 38.5                                          | +22 48.8 |   |                                                   |     |   |  |
| 12  | 11                                    | 10.1 | 315 16.5                                          | +23 17.0 | 305 21.0 | +22 44.5                                          | 208 37.2 | +8 56.3 | 273 40.8                                          | +22 48.8 |   |                                                   |     |   |  |
| 13  | 26                                    | 12.5 | 330 16.5                                          | 17.7     | 320 21.8 | 44.7                                              | 223 39.9 | 56.3    | 288 43.1                                          | 48.8     |   |                                                   |     |   |  |
| 14  | 41                                    | 15.0 | 345 16.5                                          | 18.3     | 335 22.6 | 45.0                                              | 238 42.5 | 56.4    | 303 45.5                                          | 48.8     |   |                                                   |     |   |  |
| 15  | 56                                    | 17.5 | 0 16.5                                            | 19.0     | 350 23.3 | 45.3                                              | 253 45.2 | 56.5    | 318 47.8                                          | 48.8     |   |                                                   |     |   |  |
| 16  | 71                                    | 19.9 | 15 16.5                                           | 19.7     | 5 24.1   | 45.5                                              | 268 47.9 | 56.6    | 333 50.2                                          | 48.8     |   |                                                   |     |   |  |
| 17  | 86                                    | 22.4 | 30 16.4                                           | +23 20.4 | 20 24.8  | +22 45.8                                          | 283 50.6 | +8 56.7 | 348 52.5                                          | +22 48.8 |   |                                                   |     |   |  |
| 18  | 101                                   | 24.9 | 45 16.4                                           | +23 21.1 | 35 25.6  | +22 46.1                                          | 298 53.3 | +8 56.8 | 3 54.8                                            | +22 48.8 |   |                                                   |     |   |  |
| 19  | 116                                   | 27.3 | 60 16.4                                           | 21.8     | 50 26.3  | 46.3                                              | 313 56.0 | 56.9    | 18 57.2                                           | 48.8     |   |                                                   |     |   |  |
| 20  | 131                                   | 29.8 | 75 16.4                                           | 22.5     | 65 27.1  | 46.6                                              | 328 58.6 | 56.9    | 33 59.5                                           | 48.8     |   |                                                   |     |   |  |
| 21  | 146                                   | 32.3 | 90 16.4                                           | 23.2     | 80 27.8  | 46.9                                              | 344 01.3 | 57.0    | 49 01.8                                           | 48.8     |   |                                                   |     |   |  |
| 22  | 161                                   | 34.7 | 105 16.4                                          | 23.9     | 95 28.6  | 47.2                                              | 359 04.0 | 57.1    | 64 04.2                                           | 48.8     |   |                                                   |     |   |  |
| 23  | 176                                   | 37.2 | 120 16.3                                          | 24.6     | 110 29.4 | 47.4                                              | 14 06.7  | 57.2    | 79 06.5                                           | 48.8     |   |                                                   |     |   |  |
| 24  | 191                                   | 39.6 | 135 16.3                                          | +23 25.3 | 125 30.1 | +22 47.7                                          | 29 09.4  | +8 57.3 | 94 08.8                                           | +22 48.8 |   |                                                   |     |   |  |
| Dif | —                                     |      | 0                                                 | +7       | +8       | +3                                                | +27      | +1      | +23                                               | 0        |   |                                                   |     |   |  |



| UT  | SOL                                                             |      |     | ☾ LUNA                                                                                         |     |                     | Latitud                                           | Puesta de Sol       | Final del crepúsculo                                                                             |                                                   |         | Salida de Luna |                                                   | Puesta de Luna |     |      |
|-----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------|---------------------------------------------------|---------|----------------|---------------------------------------------------|----------------|-----|------|
|     | SD: 16 <sup>h</sup> 0<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 2 |      |     | Edad: 13 <sup>d</sup> 1 PHE {<br>SD: 15 <sup>h</sup> 7<br>PMG: 22 <sup>h</sup> 57 <sup>m</sup> |     |                     |                                                   |                     | 4 <sup>h</sup> : 57/8<br>12 <sup>h</sup> : 58/0<br>20 <sup>h</sup> : 58/3<br>R°: 47 <sup>m</sup> |                                                   |         |                |                                                   |                |     |      |
|     | hG ☉                                                            | Dec  |     | hG ☾                                                                                           | Dif | Dec                 |                                                   |                     | Dif                                                                                              | Civil                                             | Náutico | Hora           | R°                                                | Hora           | R°  |      |
| h   | °                                                               | '    | °   | '                                                                                              | °   | '                   | °                                                 | h                   | m                                                                                                | h                                                 | m       | h              | m                                                 | h              | m   |      |
| 0   | 179                                                             | 10.2 | +5  | 21.5                                                                                           | 26  | 42.9                | +11                                               | 18.6                | 60 N                                                                                             | 18                                                | 49      | 19             | 33                                                | 20             | 28  |      |
| 1   | 194                                                             | 10.4 |     | 22.4                                                                                           | 41  | 14.4 <sup>125</sup> | +11                                               | 04.2 <sup>144</sup> | 58                                                                                               | 46                                                | 27      | 17             | 15                                                | 57             | 92  |      |
| 2   | 209                                                             | 10.5 |     | 23.4                                                                                           | 55  | 45.9 <sup>125</sup> | +10                                               | 49.8 <sup>144</sup> | 56                                                                                               | 43                                                | 21      | 09             | 16                                                | 01             | 89  |      |
| 3   | 224                                                             | 10.7 |     | 24.3                                                                                           | 70  | 17.4 <sup>125</sup> |                                                   | 35.2 <sup>146</sup> | 54                                                                                               | 40                                                | 17      | 20             | 01                                                | 04             | 86  |      |
| 4   | 239                                                             | 10.9 |     | 25.3                                                                                           | 84  | 48.9 <sup>125</sup> |                                                   | 20.6 <sup>146</sup> | 52                                                                                               | 38                                                | 12      | 19             | 54                                                | 07             | 83  |      |
| 5   | 254                                                             | 11.1 | +5  | 26.2                                                                                           | 99  | 20.4 <sup>125</sup> | +10                                               | 05.9 <sup>147</sup> | 50                                                                                               | 18                                                | 35      | 19             | 09                                                | 19             | 48  |      |
| 6   | 269                                                             | 11.3 | +5  | 27.2                                                                                           | 113 | 51.9 <sup>125</sup> | +9                                                | 51.2 <sup>147</sup> | 45                                                                                               | 18                                                | 31      | 19             | 00                                                | 19             | 36  |      |
| 7   | 284                                                             | 11.5 |     | 28.2                                                                                           | 128 | 23.4 <sup>125</sup> |                                                   | 36.4 <sup>148</sup> | 40                                                                                               | 27                                                | 18      | 54             | 27                                                | 20             | 71  |      |
| 8   | 299                                                             | 11.6 |     | 29.1                                                                                           | 142 | 55.0 <sup>126</sup> |                                                   | 21.5 <sup>149</sup> | 35                                                                                               | 23                                                | 49      | 19             | 25                                                | 66             | 50  |      |
| 9   | 314                                                             | 11.8 |     | 30.1                                                                                           | 157 | 26.5 <sup>125</sup> | +9                                                | 06.6 <sup>149</sup> | 30                                                                                               | 20                                                | 44      | 13             | 28                                                | 63             | 45  |      |
| 10  | 329                                                             | 12.0 |     | 31.0                                                                                           | 171 | 58.1 <sup>126</sup> | +8                                                | 51.6 <sup>150</sup> | 20                                                                                               | 15                                                | 37      | 19             | 03                                                | 35             | 57  |      |
| 11  | 344                                                             | 12.2 | +5  | 32.0                                                                                           | 186 | 29.6 <sup>125</sup> | +8                                                | 36.5 <sup>151</sup> | 10 N                                                                                             | 18                                                | 10      | 18             | 32                                                | 18             | 56  |      |
| 12  | 359                                                             | 12.4 | +5  | 32.9                                                                                           | 201 | 01.2 <sup>126</sup> | +8                                                | 21.4 <sup>151</sup> | 0                                                                                                | 18                                                | 06      | 18             | 27                                                | 18             | 51  |      |
| 13  | 14                                                              | 12.6 |     | 33.9                                                                                           | 215 | 32.8 <sup>126</sup> | +8                                                | 06.2 <sup>152</sup> | 10 S                                                                                             | 18                                                | 03      | 24             | 48                                                | 51             | 42  |      |
| 14  | 29                                                              | 12.7 |     | 34.8                                                                                           | 230 | 04.3 <sup>125</sup> | +7                                                | 51.0 <sup>152</sup> | 20                                                                                               | 17                                                | 58      | 20             | 46                                                | 16             | 56  |      |
| 15  | 44                                                              | 12.9 |     | 35.8                                                                                           | 244 | 35.9 <sup>126</sup> |                                                   | 35.7 <sup>153</sup> | 30                                                                                               | 54                                                | 18      | 46             | 17                                                | 03             | 31  |      |
| 16  | 59                                                              | 13.1 |     | 36.8                                                                                           | 259 | 07.4 <sup>125</sup> |                                                   | 20.3 <sup>154</sup> | 35                                                                                               | 51                                                | 17      | 46             | 06                                                | 28             | 50  |      |
| 17  | 74                                                              | 13.3 | +5  | 37.7                                                                                           | 273 | 39.0 <sup>126</sup> | +7                                                | 04.9 <sup>154</sup> | 40                                                                                               | 17                                                | 48      | 18             | 16                                                | 17             | 10  |      |
| 18  | 89                                                              | 13.5 | +5  | 38.7                                                                                           | 288 | 10.6 <sup>126</sup> | +6                                                | 49.5 <sup>154</sup> | 45                                                                                               | 17                                                | 45      | 18             | 14                                                | 17             | 15  |      |
| 19  | 104                                                             | 13.7 |     | 39.6                                                                                           | 302 | 42.1 <sup>125</sup> |                                                   | 34.0 <sup>155</sup> | 50                                                                                               | 41                                                | 14      | 51             | 21                                                | 15             | 28  |      |
| 20  | 119                                                             | 13.8 |     | 40.6                                                                                           | 317 | 13.7 <sup>126</sup> |                                                   | 18.4 <sup>156</sup> | 52                                                                                               | 40                                                | 13      | 52             | 23                                                | 13             | 24  |      |
| 21  | 134                                                             | 14.0 |     | 41.5                                                                                           | 331 | 45.2 <sup>125</sup> | +6                                                | 02.8 <sup>156</sup> | 54                                                                                               | 38                                                | 13      | 54             | 26                                                | 10             | 19  |      |
| 22  | 149                                                             | 14.2 |     | 42.5                                                                                           | 346 | 16.8 <sup>126</sup> | +5                                                | 47.2 <sup>156</sup> | 56                                                                                               | 35                                                | 13      | 56             | 29                                                | 8              | 14  |      |
| 23  | 164                                                             | 14.4 |     | 43.4                                                                                           | 0   | 48.3 <sup>125</sup> |                                                   | 31.5 <sup>157</sup> | 58                                                                                               | 33                                                | 12      | 18             | 58                                                | 32             | 5   |      |
| 24  | 179                                                             | 14.6 | +5  | 44.4                                                                                           | 15  | 19.8 <sup>125</sup> | +5                                                | 15.7 <sup>158</sup> | 60 S                                                                                             | 17                                                | 31      | 18             | 12                                                | 19             | 00  |      |
| UT  | ARIES                                                           |      |     | VENUS                                                                                          |     |                     | MARTE                                             |                     |                                                                                                  | JÚPITER                                           |         |                | SATURNO                                           |                |     |      |
|     | PMG: 11 <sup>h</sup> 11 <sup>m</sup> 5                          |      |     | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup>                                              |     |                     | Mag: +1.4<br>PMG: 15 <sup>h</sup> 37 <sup>m</sup> |                     |                                                                                                  | Mag: -2.4<br>PMG: 21 <sup>h</sup> 59 <sup>m</sup> |         |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 41 <sup>m</sup> |                |     |      |
|     | hG ♈                                                            |      | Dec | hG ♀                                                                                           |     | Dec                 | hG ♂                                              |                     | Dec                                                                                              | hG ♃                                              |         | Dec            | hG ♄                                              |                | Dec |      |
| h   | °                                                               | '    | °   | '                                                                                              | °   | '                   | °                                                 | '                   | °                                                                                                | '                                                 | °       | '              | °                                                 | '              | °   |      |
| 0   | 191                                                             | 39.6 | 135 | 16.3                                                                                           | +23 | 25.3                | 125                                               | 30.1                | +22                                                                                              | 47.7                                              | 29      | 09.4           | +8                                                | 57.3           | 94  | 08.8 |
| 1   | 206                                                             | 42.1 | 150 | 16.3                                                                                           |     | 26.0                | 140                                               | 30.9                |                                                                                                  | 48.0                                              | 44      | 12.1           |                                                   | 57.4           | 109 | 11.2 |
| 2   | 221                                                             | 44.6 | 165 | 16.3                                                                                           |     | 26.6                | 155                                               | 31.6                |                                                                                                  | 48.2                                              | 59      | 14.7           |                                                   | 57.4           | 124 | 13.5 |
| 3   | 236                                                             | 47.0 | 180 | 16.3                                                                                           |     | 27.3                | 170                                               | 32.4                |                                                                                                  | 48.5                                              | 74      | 17.4           |                                                   | 57.5           | 139 | 15.8 |
| 4   | 251                                                             | 49.5 | 195 | 16.3                                                                                           |     | 28.0                | 185                                               | 33.1                |                                                                                                  | 48.8                                              | 89      | 20.1           |                                                   | 57.6           | 154 | 18.2 |
| 5   | 266                                                             | 52.0 | 210 | 16.3                                                                                           | +23 | 28.7                | 200                                               | 33.9                | +22                                                                                              | 49.0                                              | 104     | 22.8           | +8                                                | 57.7           | 169 | 20.5 |
| 6   | 281                                                             | 54.4 | 225 | 16.3                                                                                           | +23 | 29.4                | 215                                               | 34.6                | +22                                                                                              | 49.3                                              | 119     | 25.5           | +8                                                | 57.8           | 184 | 22.9 |
| 7   | 296                                                             | 56.9 | 240 | 16.2                                                                                           |     | 30.1                | 230                                               | 35.4                |                                                                                                  | 49.5                                              | 134     | 28.1           |                                                   | 57.9           | 199 | 25.2 |
| 8   | 311                                                             | 59.4 | 255 | 16.2                                                                                           |     | 30.7                | 245                                               | 36.2                |                                                                                                  | 49.8                                              | 149     | 30.8           |                                                   | 57.9           | 214 | 27.5 |
| 9   | 327                                                             | 01.8 | 270 | 16.2                                                                                           |     | 31.4                | 260                                               | 36.9                |                                                                                                  | 50.1                                              | 164     | 33.5           |                                                   | 58.0           | 229 | 29.9 |
| 10  | 342                                                             | 04.3 | 285 | 16.2                                                                                           |     | 32.1                | 275                                               | 37.7                |                                                                                                  | 50.3                                              | 179     | 36.2           |                                                   | 58.1           | 244 | 32.2 |
| 11  | 357                                                             | 06.8 | 300 | 16.2                                                                                           | +23 | 32.8                | 290                                               | 38.4                | +22                                                                                              | 50.6                                              | 194     | 38.9           | +8                                                | 58.2           | 259 | 34.5 |
| 12  | 12                                                              | 09.2 | 315 | 16.2                                                                                           | +23 | 33.5                | 305                                               | 39.2                | +22                                                                                              | 50.9                                              | 209     | 41.5           | +8                                                | 58.3           | 274 | 36.9 |
| 13  | 27                                                              | 11.7 | 330 | 16.2                                                                                           |     | 34.1                | 320                                               | 39.9                |                                                                                                  | 51.1                                              | 224     | 44.2           |                                                   | 58.3           | 289 | 39.2 |
| 14  | 42                                                              | 14.1 | 345 | 16.2                                                                                           |     | 34.8                | 335                                               | 40.7                |                                                                                                  | 51.4                                              | 239     | 46.9           |                                                   | 58.4           | 304 | 41.5 |
| 15  | 57                                                              | 16.6 | 0   | 16.2                                                                                           |     | 35.5                | 350                                               | 41.4                |                                                                                                  | 51.7                                              | 254     | 49.6           |                                                   | 58.5           | 319 | 43.8 |
| 16  | 72                                                              | 19.1 | 15  | 16.2                                                                                           |     | 36.2                | 5                                                 | 42.2                |                                                                                                  | 51.9                                              | 269     | 52.3           |                                                   | 58.6           | 334 | 46.2 |
| 17  | 87                                                              | 21.5 | 30  | 16.2                                                                                           | +23 | 36.8                | 20                                                | 42.9                | +22                                                                                              | 52.2                                              | 284     | 54.9           | +8                                                | 58.7           | 349 | 48.5 |
| 18  | 102                                                             | 24.0 | 45  | 16.2                                                                                           | +23 | 37.5                | 35                                                | 43.7                | +22                                                                                              | 52.4                                              | 299     | 57.6           | +8                                                | 58.8           | 4   | 50.8 |
| 19  | 117                                                             | 26.5 | 60  | 16.2                                                                                           |     | 38.2                | 50                                                | 44.4                |                                                                                                  | 52.7                                              | 315     | 00.3           |                                                   | 58.8           | 19  | 53.2 |
| 20  | 132                                                             | 28.9 | 75  | 16.2                                                                                           |     | 38.8                | 65                                                | 45.2                |                                                                                                  | 53.0                                              | 330     | 03.0           |                                                   | 58.9           | 34  | 55.5 |
| 21  | 147                                                             | 31.4 | 90  | 16.2                                                                                           |     | 39.5                | 80                                                | 46.0                |                                                                                                  | 53.2                                              | 345     | 05.7           |                                                   | 59.0           | 49  | 57.8 |
| 22  | 162                                                             | 33.9 | 105 | 16.2                                                                                           |     | 40.2                | 95                                                | 46.7                |                                                                                                  | 53.5                                              | 0       | 08.3           |                                                   | 59.1           | 65  | 00.2 |
| 23  | 177                                                             | 36.3 | 120 | 16.2                                                                                           |     | 40.9                | 110                                               | 47.5                |                                                                                                  | 53.7                                              | 15      | 11.0           |                                                   | 59.2           | 80  | 02.5 |
| 24  | 192                                                             | 38.8 | 135 | 16.2                                                                                           | +23 | 41.5                | 125                                               | 48.2                | +22                                                                                              | 54.0                                              | 30      | 13.7           | +8                                                | 59.2           | 95  | 04.8 |
| Dif | —                                                               |      |     | 0                                                                                              | +7  |                     | +8                                                | +3                  |                                                                                                  | +27                                               |         | +1             |                                                   | +23            |     | 0    |

| UT | SOL                                                             |      |    | LUNA                                                                                           |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |                                                                                                                                         |
|----|-----------------------------------------------------------------|------|----|------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|-----------------------------------------------------------------------------------------------------------------------------------------|
|    | SD: 16 <sup>h</sup> 0<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 9 |      |    | Edad: 14 <sup>d</sup> 1 PHE {<br>SD: 15 <sup>h</sup> 9<br>PMG: 23 <sup>h</sup> 44 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      | 4 <sup>h</sup> : 58 <sup>m</sup> 5<br>12 <sup>h</sup> : 58 <sup>m</sup> 8<br>20 <sup>h</sup> : 59 <sup>m</sup> 0<br>R°: 49 <sup>m</sup> |
|    | hG ☉                                                            | Dec  |    | hG ☾                                                                                           | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°                                                                                                                                      |
| h  | °                                                               | '    | °  | '                                                                                              | °   | '                   | °       | h                        | m       | h             | m              | h    | m              | h    | m                                                                                                                                       |
| 0  | 179                                                             | 14.6 | +5 | 44.4                                                                                           | 15  | 19.8                | +5      | 15.7                     | 60 N    | 3 37          | 4 32           | 5 15 | 17 29          | 99   | 5 34 1                                                                                                                                  |
| 1  | 194                                                             | 14.7 |    | 45.3                                                                                           | 29  | 51.4 <sup>126</sup> | +4      | 59.9 <sup>158</sup>      | 58      | 48            | 38             | 19   | 29             | 96   | 32 5                                                                                                                                    |
| 2  | 209                                                             | 14.9 |    | 46.3                                                                                           | 44  | 22.9 <sup>125</sup> |         | 44.1 <sup>158</sup>      | 56      | 3 56          | 44             | 22   | 30             | 91   | 31 7                                                                                                                                    |
| 3  | 224                                                             | 15.1 |    | 47.2                                                                                           | 58  | 54.4 <sup>125</sup> |         | 28.3 <sup>158</sup>      | 54      | 4 04          | 49             | 25   | 30             | 88   | 29 10                                                                                                                                   |
| 4  | 239                                                             | 15.3 |    | 48.2                                                                                           | 73  | 25.9 <sup>125</sup> | +4      | 12.3 <sup>160</sup>      | 52      | 11            | 53             | 27   | 30             | 86   | 28 12                                                                                                                                   |
| 5  | 254                                                             | 15.5 | +5 | 49.1                                                                                           | 87  | 57.4 <sup>125</sup> | +3      | 56.4 <sup>159</sup>      | 50      | 4 17          | 4 57           | 5 30 | 17 30          | 83   | 5 26 15                                                                                                                                 |
| 6  | 269                                                             | 15.7 | +5 | 50.1                                                                                           | 102 | 28.8 <sup>124</sup> | +3      | 40.4 <sup>160</sup>      | 45      | 4 29          | 5 05           | 5 35 | 17 31          | 77   | 5 23 21                                                                                                                                 |
| 7  | 284                                                             | 15.8 |    | 51.0                                                                                           | 117 | 00.3 <sup>125</sup> |         | 24.4 <sup>160</sup>      | 40      | 39            | 11             | 39   | 31             | 72   | 21 25                                                                                                                                   |
| 8  | 299                                                             | 16.0 |    | 52.0                                                                                           | 131 | 31.7 <sup>124</sup> | +3      | 08.4 <sup>160</sup>      | 35      | 47            | 17             | 42   | 31             | 69   | 19 28                                                                                                                                   |
| 9  | 314                                                             | 16.2 |    | 52.9                                                                                           | 146 | 03.1 <sup>124</sup> | +2      | 52.3 <sup>161</sup>      | 30      | 4 53          | 21             | 46   | 31             | 65   | 17 32                                                                                                                                   |
| 10 | 329                                                             | 16.4 |    | 53.9                                                                                           | 160 | 34.5 <sup>124</sup> |         | 36.2 <sup>161</sup>      | 20      | 5 03          | 29             | 51   | 32             | 59   | 14 37                                                                                                                                   |
| 11 | 344                                                             | 16.6 | +5 | 54.8                                                                                           | 175 | 05.9 <sup>124</sup> | +2      | 20.0 <sup>162</sup>      | 10 N    | 5 10          | 5 34           | 5 55 | 17 32          | 54   | 5 11 42                                                                                                                                 |
| 12 | 359                                                             | 16.7 | +5 | 55.8                                                                                           | 189 | 37.2 <sup>123</sup> | +2      | 03.8 <sup>162</sup>      | 0       | 5 15          | 5 39           | 6 00 | 17 33          | 48   | 5 08 47                                                                                                                                 |
| 13 | 14                                                              | 16.9 |    | 56.7                                                                                           | 204 | 08.6 <sup>124</sup> | +1      | 47.6 <sup>162</sup>      | 10 S    | 18            | 43             | 04   | 33             | 44   | 05 53                                                                                                                                   |
| 14 | 29                                                              | 17.1 |    | 57.7                                                                                           | 218 | 39.9 <sup>123</sup> |         | 31.4 <sup>162</sup>      | 20      | 20            | 46             | 08   | 34             | 38   | 5 02 58                                                                                                                                 |
| 15 | 44                                                              | 17.3 |    | 58.6                                                                                           | 233 | 11.2 <sup>123</sup> | +1      | 15.2 <sup>162</sup>      | 30      | 21            | 49             | 13   | 34             | 32   | 4 58 64                                                                                                                                 |
| 16 | 59                                                              | 17.5 | +5 | 59.6                                                                                           | 247 | 42.4 <sup>122</sup> | +0      | 58.9 <sup>163</sup>      | 35      | 21            | 50             | 15   | 34             | 29   | 56 68                                                                                                                                   |
| 17 | 74                                                              | 17.7 | +6 | 00.5                                                                                           | 262 | 13.7 <sup>123</sup> | +0      | 42.6 <sup>163</sup>      | 40      | 5 20          | 5 51           | 6 18 | 17 35          | 25   | 4 54 71                                                                                                                                 |
| 18 | 89                                                              | 17.8 | +6 | 01.5                                                                                           | 276 | 44.9 <sup>122</sup> | +0      | 26.3 <sup>163</sup>      | 45      | 5 18          | 5 52           | 6 22 | 17 35          | 21   | 4 51 76                                                                                                                                 |
| 19 | 104                                                             | 18.0 |    | 02.4                                                                                           | 291 | 16.1 <sup>122</sup> | +0      | 10.0 <sup>163</sup>      | 50      | 16            | 53             | 26   | 36             | 15   | 48 81                                                                                                                                   |
| 20 | 119                                                             | 18.2 |    | 03.4                                                                                           | 305 | 47.2 <sup>121</sup> | -0      | 06.4 <sup>164</sup>      | 52      | 15            | 54             | 28   | 36             | 13   | 46 84                                                                                                                                   |
| 21 | 134                                                             | 18.4 |    | 04.3                                                                                           | 320 | 18.4 <sup>122</sup> |         | 22.7 <sup>163</sup>      | 54      | 13            | 54             | 30   | 36             | 11   | 45 86                                                                                                                                   |
| 22 | 149                                                             | 18.6 |    | 05.3                                                                                           | 334 | 49.5 <sup>121</sup> |         | 39.1 <sup>164</sup>      | 56      | 12            | 55             | 32   | 37             | 7    | 43 90                                                                                                                                   |
| 23 | 164                                                             | 18.7 |    | 06.2                                                                                           | 349 | 20.5 <sup>120</sup> | -0      | 55.5 <sup>164</sup>      | 58      | 09            | 55             | 34   | 37             | 4    | 41 93                                                                                                                                   |
| 24 | 179                                                             | 18.9 | +6 | 07.2                                                                                           | 3   | 51.6 <sup>121</sup> | -1      | 11.9 <sup>164</sup>      | 60 S    | 5 07          | 5 55           | 6 37 | 17 37          | 1    | 4 38 98                                                                                                                                 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 11 <sup>h</sup> 07 <sup>m</sup> 6 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.4<br>PMG: 15 <sup>h</sup> 36 <sup>m</sup> |      | Mag: -2.4<br>PMG: 21 <sup>h</sup> 55 <sup>m</sup> |      | Mag: +0.1<br>PMG: 17 <sup>h</sup> 37 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 192                                    | 38.8 | 135                                               | 16.2 | +23                                               | 41.5 | 125                                               | 48.2 | +22                                               | 54.0 | 30  | 13.7 | +8 | 59.2 | 95  | 04.8 | +22 | 48.8 |
| 1   | 207                                    | 41.2 | 150                                               | 16.2 |                                                   | 42.2 | 140                                               | 49.0 |                                                   | 54.3 | 45  | 16.4 |    | 59.3 | 110 | 07.2 |     | 48.8 |
| 2   | 222                                    | 43.7 | 165                                               | 16.2 |                                                   | 42.9 | 155                                               | 49.7 |                                                   | 54.5 | 60  | 19.0 |    | 59.4 | 125 | 09.5 |     | 48.8 |
| 3   | 237                                    | 46.2 | 180                                               | 16.2 |                                                   | 43.5 | 170                                               | 50.5 |                                                   | 54.8 | 75  | 21.7 |    | 59.5 | 140 | 11.8 |     | 48.8 |
| 4   | 252                                    | 48.6 | 195                                               | 16.2 |                                                   | 44.2 | 185                                               | 51.2 |                                                   | 55.0 | 90  | 24.4 |    | 59.6 | 155 | 14.2 |     | 48.8 |
| 5   | 267                                    | 51.1 | 210                                               | 16.2 | +23                                               | 44.8 | 200                                               | 52.0 | +22                                               | 55.3 | 105 | 27.1 | +8 | 59.7 | 170 | 16.5 | +22 | 48.8 |
| 6   | 282                                    | 53.6 | 225                                               | 16.2 | +23                                               | 45.5 | 215                                               | 52.7 | +22                                               | 55.6 | 120 | 29.7 | +8 | 59.7 | 185 | 18.8 | +22 | 48.8 |
| 7   | 297                                    | 56.0 | 240                                               | 16.2 |                                                   | 46.2 | 230                                               | 53.5 |                                                   | 55.8 | 135 | 32.4 |    | 59.8 | 200 | 21.1 |     | 48.8 |
| 8   | 312                                    | 58.5 | 255                                               | 16.2 |                                                   | 46.8 | 245                                               | 54.2 |                                                   | 56.1 | 150 | 35.1 | +8 | 59.9 | 215 | 23.5 |     | 48.8 |
| 9   | 328                                    | 01.0 | 270                                               | 16.2 |                                                   | 47.5 | 260                                               | 55.0 |                                                   | 56.3 | 165 | 37.8 | +9 | 00.0 | 230 | 25.8 |     | 48.8 |
| 10  | 343                                    | 03.4 | 285                                               | 16.2 |                                                   | 48.1 | 275                                               | 55.7 |                                                   | 56.6 | 180 | 40.4 | +9 | 00.1 | 245 | 28.1 |     | 48.8 |
| 11  | 358                                    | 05.9 | 300                                               | 16.2 | +23                                               | 48.8 | 290                                               | 56.5 | +22                                               | 56.8 | 195 | 43.1 | +9 | 00.1 | 260 | 30.5 | +22 | 48.8 |
| 12  | 13                                     | 08.4 | 315                                               | 16.2 | +23                                               | 49.5 | 305                                               | 57.2 | +22                                               | 57.1 | 210 | 45.8 | +9 | 00.2 | 275 | 32.8 | +22 | 48.8 |
| 13  | 28                                     | 10.8 | 330                                               | 16.2 |                                                   | 50.1 | 320                                               | 58.0 |                                                   | 57.4 | 225 | 48.5 |    | 00.3 | 290 | 35.1 |     | 48.8 |
| 14  | 43                                     | 13.3 | 345                                               | 16.2 |                                                   | 50.8 | 335                                               | 58.7 |                                                   | 57.6 | 240 | 51.1 |    | 00.4 | 305 | 37.4 |     | 48.8 |
| 15  | 58                                     | 15.7 | 0                                                 | 16.2 |                                                   | 51.4 | 350                                               | 59.5 |                                                   | 57.9 | 255 | 53.8 |    | 00.5 | 320 | 39.8 |     | 48.8 |
| 16  | 73                                     | 18.2 | 15                                                | 16.2 |                                                   | 52.1 | 6                                                 | 00.3 |                                                   | 58.1 | 270 | 56.5 |    | 00.5 | 335 | 42.1 |     | 48.8 |
| 17  | 88                                     | 20.7 | 30                                                | 16.2 | +23                                               | 52.7 | 21                                                | 01.0 | +22                                               | 58.4 | 285 | 59.2 | +9 | 00.6 | 350 | 44.4 | +22 | 48.8 |
| 18  | 103                                    | 23.1 | 45                                                | 16.3 | +23                                               | 53.4 | 36                                                | 01.8 | +22                                               | 58.6 | 301 | 01.8 | +9 | 00.7 | 5   | 46.8 | +22 | 48.7 |
| 19  | 118                                    | 25.6 | 60                                                | 16.3 |                                                   | 54.0 | 51                                                | 02.5 |                                                   | 58.9 | 316 | 04.5 |    | 00.8 | 20  | 49.1 |     | 48.7 |
| 20  | 133                                    | 28.1 | 75                                                | 16.3 |                                                   | 54.7 | 66                                                | 03.3 |                                                   | 59.1 | 331 | 07.2 |    | 00.8 | 35  | 51.4 |     | 48.7 |
| 21  | 148                                    | 30.5 | 90                                                | 16.3 |                                                   | 55.3 | 81                                                | 04.0 |                                                   | 59.4 | 346 | 09.8 |    | 00.9 | 50  | 53.7 |     | 48.7 |
| 22  | 163                                    | 33.0 | 105                                               | 16.3 |                                                   | 56.0 | 96                                                | 04.8 |                                                   | 59.7 | 1   | 12.5 |    | 01.0 | 65  | 56.1 |     | 48.7 |
| 23  | 178                                    | 35.5 | 120                                               | 16.3 |                                                   | 56.6 | 111                                               | 05.5 | +22                                               | 59.9 | 16  | 15.2 |    | 01.1 | 80  | 58.4 |     | 48.7 |
| 24  | 193                                    | 37.9 | 135                                               | 16.3 | +23                                               | 57.3 | 126                                               | 06.3 | +23                                               | 00.2 | 31  | 17.9 | +9 | 01.2 | 96  | 00.7 | +22 | 48.7 |
| Dif | —                                      |      | 0                                                 | +7   |                                                   | +8   | +3                                                |      |                                                   | +27  | +1  |      |    |      | +23 |      |     | 0    |

| UT  | SOL                                                |      |                                                   | ☉ LUNA                                                   |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |          |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|----------|
|     | SD: 16:0<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 6 |      |                                                   | Edad: 15 <sup>d</sup> 1 PHE<br>SD: 16:1<br>PMG: **h ***m |                     |                                                   |         |               |                                                   |       |                |                                                   |                |          |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                     | Dif                 | Dec                                               |         |               | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora     | R°       |
| h   | °                                                  | '    | °                                                 | °                                                        | '                   | °                                                 | '       | °             | h                                                 | m     | h              | m                                                 | h              | m        | m        |
| 0   | 179                                                | 18.9 | +6 07.2                                           | 3                                                        | 51.6                | -1 11.9                                           |         | 60 N          | 18 54                                             | 19 38 | 20 34          | 19 08                                             | 104            | 5 35     | 1        |
| 1   | 194                                                | 19.1 | 08.1                                              | 18                                                       | 22.5 <sup>119</sup> | 28.3 <sup>164</sup>                               |         | 58            | 50                                                | 32    | 23             | 05                                                | 99             | 37       | 5        |
| 2   | 209                                                | 19.3 | 09.1                                              | 32                                                       | 53.5 <sup>120</sup> | -1 44.7 <sup>164</sup>                            |         | 56            | 47                                                | 26    | 14             | 19                                                | 01             | 95       | 38 8     |
| 3   | 224                                                | 19.5 | 10.0                                              | 47                                                       | 24.4 <sup>119</sup> | -2 01.1 <sup>164</sup>                            |         | 54            | 44                                                | 21    | 20 05          | 18                                                | 58             | 92       | 39 11    |
| 4   | 239                                                | 19.6 | 11.0                                              | 61                                                       | 55.3 <sup>119</sup> | 17.6 <sup>165</sup>                               |         | 52            | 41                                                | 16    | 19 58          | 56                                                | 88             | 40       | 14       |
| 5   | 254                                                | 19.8 | +6 11.9                                           | 76                                                       | 26.1 <sup>118</sup> | -2 34.0 <sup>164</sup>                            |         | 50            | 18 39                                             | 19 12 | 19 52          | 18                                                | 53             | 86       | 5 41 17  |
| 6   | 269                                                | 20.0 | +6 12.9                                           | 90                                                       | 56.9 <sup>118</sup> | -2 50.4 <sup>164</sup>                            |         | 45            | 18 33                                             | 19 03 | 19 39          | 18                                                | 48             | 80       | 5 44 21  |
| 7   | 284                                                | 20.2 | 13.8                                              | 105                                                      | 27.7 <sup>118</sup> | -3 06.9 <sup>165</sup>                            |         | 40            | 29                                                | 18 56 | 29             | 43                                                | 75             | 46       | 26       |
| 8   | 299                                                | 20.4 | 14.8                                              | 119                                                      | 58.4 <sup>117</sup> | 23.3 <sup>164</sup>                               |         | 35            | 25                                                | 50    | 21             | 40                                                | 70             | 47       | 30       |
| 9   | 314                                                | 20.5 | 15.7                                              | 134                                                      | 29.1 <sup>117</sup> | 39.7 <sup>164</sup>                               |         | 30            | 21                                                | 45    | 14             | 36                                                | 68             | 49       | 33       |
| 10  | 329                                                | 20.7 | 16.7                                              | 148                                                      | 59.7 <sup>116</sup> | -3 56.1 <sup>164</sup>                            |         | 20            | 15                                                | 38    | 19 04          | 31                                                | 61             | 51       | 39       |
| 11  | 344                                                | 20.9 | +6 17.6                                           | 163                                                      | 30.3 <sup>116</sup> | -4 12.5 <sup>164</sup>                            |         | 10 N          | 18 10                                             | 18 32 | 18 56          | 18                                                | 26             | 55       | 5 53 45  |
| 12  | 359                                                | 21.1 | +6 18.6                                           | 178                                                      | 00.8 <sup>115</sup> | -4 28.9 <sup>164</sup>                            |         | 0             | 18 06                                             | 18 27 | 18 51          | 18                                                | 21             | 51       | 5 55 50  |
| 13  | 14                                                 | 21.3 | 19.5                                              | 192                                                      | 31.3 <sup>115</sup> | -4 45.3 <sup>164</sup>                            |         | 10 S          | 18 01                                             | 22    | 47             | 17                                                | 45             | 5        | 58 54    |
| 14  | 29                                                 | 21.4 | 20.4                                              | 207                                                      | 01.8 <sup>115</sup> | -5 01.7 <sup>164</sup>                            |         | 20            | 17 57                                             | 19    | 44             | 12                                                | 40             | 6        | 00 59    |
| 15  | 44                                                 | 21.6 | 21.4                                              | 221                                                      | 32.2 <sup>114</sup> | 18.1 <sup>164</sup>                               |         | 30            | 52                                                | 16    | 43             | 06                                                | 35             | 02       | 66       |
| 16  | 59                                                 | 21.8 | 22.3                                              | 236                                                      | 02.5 <sup>113</sup> | 34.4 <sup>163</sup>                               |         | 35            | 49                                                | 14    | 43             | 03                                                | 32             | 04       | 69       |
| 17  | 74                                                 | 22.0 | +6 23.3                                           | 250                                                      | 32.8 <sup>113</sup> | -5 50.8 <sup>164</sup>                            |         | 40            | 17 45                                             | 18 12 | 18 44          | 18                                                | 00             | 27       | 6 05 74  |
| 18  | 89                                                 | 22.2 | +6 24.2                                           | 265                                                      | 03.0 <sup>112</sup> | -6 07.1 <sup>163</sup>                            |         | 45            | 17 42                                             | 18 11 | 18 45          | 17                                                | 56             | 23       | 6 07 78  |
| 19  | 104                                                | 22.3 | 25.2                                              | 279                                                      | 33.2 <sup>112</sup> | 23.4 <sup>163</sup>                               |         | 50            | 37                                                | 09    | 47             | 51                                                | 18             | 09       | 84       |
| 20  | 119                                                | 22.5 | 26.1                                              | 294                                                      | 03.3 <sup>111</sup> | 39.6 <sup>162</sup>                               |         | 52            | 35                                                | 09    | 48             | 49                                                | 15             | 10       | 87       |
| 21  | 134                                                | 22.7 | 27.1                                              | 308                                                      | 33.4 <sup>111</sup> | -6 55.9 <sup>163</sup>                            |         | 54            | 33                                                | 08    | 49             | 47                                                | 12             | 11       | 90       |
| 22  | 149                                                | 22.9 | 28.0                                              | 323                                                      | 03.4 <sup>110</sup> | -7 12.1 <sup>162</sup>                            |         | 56            | 30                                                | 07    | 50             | 44                                                | 9              | 13       | 93       |
| 23  | 164                                                | 23.1 | 28.9                                              | 337                                                      | 33.3 <sup>109</sup> | 28.3 <sup>162</sup>                               |         | 58            | 28                                                | 07    | 52             | 41                                                | 6              | 14       | 97       |
| 24  | 179                                                | 23.2 | +6 29.9                                           | 352                                                      | 03.2 <sup>109</sup> | -7 44.5 <sup>162</sup>                            |         | 60 S          | 17 25                                             | 18 06 | 18 54          | 17                                                | 38             | 2        | 6 16 101 |
| UT  | ARIES                                              |      | VENUS                                             |                                                          |                     | MARTE                                             |         |               | JÚPITER                                           |       |                | SATURNO                                           |                |          |          |
|     | PMG<br>11 <sup>h</sup> 03 <sup>m</sup> 7           |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |                                                          |                     | Mag: +1.4<br>PMG: 15 <sup>h</sup> 35 <sup>m</sup> |         |               | Mag: -2.4<br>PMG: 21 <sup>h</sup> 51 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 33 <sup>m</sup> |                |          |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                      |                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |          |          |
| h   | °                                                  | '    | °                                                 | '                                                        | °                   | °                                                 | '       | °             | °                                                 | '     | °              | °                                                 | '              | °        | '        |
| 0   | 193                                                | 37.9 | 135                                               | 16.3                                                     | +23 57.3            | 126                                               | 06.3    | +23 00.2      | 31                                                | 17.9  | +9 01.2        | 96                                                | 00.7           | +22 48.7 |          |
| 1   | 208                                                | 40.4 | 150                                               | 16.3                                                     | 57.9                | 141                                               | 07.0    | 00.4          | 46                                                | 20.5  | 01.2           | 111                                               | 03.0           | 48.7     |          |
| 2   | 223                                                | 42.8 | 165                                               | 16.4                                                     | 58.5                | 156                                               | 07.8    | 00.7          | 61                                                | 23.2  | 01.3           | 126                                               | 05.4           | 48.7     |          |
| 3   | 238                                                | 45.3 | 180                                               | 16.4                                                     | 59.2                | 171                                               | 08.5    | 00.9          | 76                                                | 25.9  | 01.4           | 141                                               | 07.7           | 48.7     |          |
| 4   | 253                                                | 47.8 | 195                                               | 16.4                                                     | +23 59.8            | 186                                               | 09.3    | 01.2          | 91                                                | 28.5  | 01.5           | 156                                               | 10.0           | 48.7     |          |
| 5   | 268                                                | 50.2 | 210                                               | 16.4                                                     | +24 00.5            | 201                                               | 10.0    | +23 01.4      | 106                                               | 31.2  | +9 01.6        | 171                                               | 12.3           | +22 48.7 |          |
| 6   | 283                                                | 52.7 | 225                                               | 16.4                                                     | +24 01.1            | 216                                               | 10.8    | +23 01.7      | 121                                               | 33.9  | +9 01.6        | 186                                               | 14.7           | +22 48.7 |          |
| 7   | 298                                                | 55.2 | 240                                               | 16.4                                                     | 01.8                | 231                                               | 11.5    | 01.9          | 136                                               | 36.5  | 01.7           | 201                                               | 17.0           | 48.7     |          |
| 8   | 313                                                | 57.6 | 255                                               | 16.5                                                     | 02.4                | 246                                               | 12.3    | 02.2          | 151                                               | 39.2  | 01.8           | 216                                               | 19.3           | 48.7     |          |
| 9   | 329                                                | 00.1 | 270                                               | 16.5                                                     | 03.0                | 261                                               | 13.0    | 02.4          | 166                                               | 41.9  | 01.9           | 231                                               | 21.6           | 48.7     |          |
| 10  | 344                                                | 02.6 | 285                                               | 16.5                                                     | 03.7                | 276                                               | 13.8    | 02.7          | 181                                               | 44.6  | 01.9           | 246                                               | 24.0           | 48.7     |          |
| 11  | 359                                                | 05.0 | 300                                               | 16.5                                                     | +24 04.3            | 291                                               | 14.5    | +23 02.9      | 196                                               | 47.2  | +9 02.0        | 261                                               | 26.3           | +22 48.7 |          |
| 12  | 14                                                 | 07.5 | 315                                               | 16.5                                                     | +24 04.9            | 306                                               | 15.3    | +23 03.2      | 211                                               | 49.9  | +9 02.1        | 276                                               | 28.6           | +22 48.7 |          |
| 13  | 29                                                 | 10.0 | 330                                               | 16.6                                                     | 05.6                | 321                                               | 16.0    | 03.4          | 226                                               | 52.6  | 02.2           | 291                                               | 30.9           | 48.7     |          |
| 14  | 44                                                 | 12.4 | 345                                               | 16.6                                                     | 06.2                | 336                                               | 16.8    | 03.7          | 241                                               | 55.2  | 02.3           | 306                                               | 33.3           | 48.7     |          |
| 15  | 59                                                 | 14.9 | 0                                                 | 16.6                                                     | 06.8                | 351                                               | 17.5    | 03.9          | 256                                               | 57.9  | 02.3           | 321                                               | 35.6           | 48.7     |          |
| 16  | 74                                                 | 17.3 | 15                                                | 16.6                                                     | 07.5                | 6                                                 | 18.3    | 04.2          | 272                                               | 00.6  | 02.4           | 336                                               | 37.9           | 48.7     |          |
| 17  | 89                                                 | 19.8 | 30                                                | 16.7                                                     | +24 08.1            | 21                                                | 19.0    | +23 04.4      | 287                                               | 03.2  | +9 02.5        | 351                                               | 40.2           | +22 48.7 |          |
| 18  | 104                                                | 22.3 | 45                                                | 16.7                                                     | +24 08.7            | 36                                                | 19.8    | +23 04.7      | 302                                               | 05.9  | +9 02.6        | 6                                                 | 42.6           | +22 48.7 |          |
| 19  | 119                                                | 24.7 | 60                                                | 16.7                                                     | 09.4                | 51                                                | 20.5    | 04.9          | 317                                               | 08.6  | 02.6           | 21                                                | 44.9           | 48.7     |          |
| 20  | 134                                                | 27.2 | 75                                                | 16.7                                                     | 10.0                | 66                                                | 21.3    | 05.1          | 332                                               | 11.2  | 02.7           | 36                                                | 47.2           | 48.7     |          |
| 21  | 149                                                | 29.7 | 90                                                | 16.8                                                     | 10.6                | 81                                                | 22.0    | 05.4          | 347                                               | 13.9  | 02.8           | 51                                                | 49.5           | 48.7     |          |
| 22  | 164                                                | 32.1 | 105                                               | 16.8                                                     | 11.2                | 96                                                | 22.8    | 05.6          | 2                                                 | 16.6  | 02.9           | 66                                                | 51.8           | 48.7     |          |
| 23  | 179                                                | 34.6 | 120                                               | 16.8                                                     | 11.9                | 111                                               | 23.5    | 05.9          | 17                                                | 19.2  | 02.9           | 81                                                | 54.2           | 48.7     |          |
| 24  | 194                                                | 37.1 | 135                                               | 16.9                                                     | +24 12.5            | 126                                               | 24.3    | +23 06.1      | 32                                                | 21.9  | +9 03.0        | 96                                                | 56.5           | +22 48.7 |          |
| Dif | —                                                  |      | 0                                                 | +6                                                       |                     | +8                                                | +2      |               | +27                                               |       | +1             | +23                                               |                | 0        |          |

| UT | SOL                                    |      |     | LUNA                                                                                                                                           |     |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    |      | Puesta de Luna |    |     |
|----|----------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|-------|---------------|----------------|----|------|----------------|----|-----|
|    | SD: 16 <sup>h</sup> 0                  |      |     | Edad: 16 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> 7<br>12 <sup>h</sup> : 59 <sup>m</sup> 9<br>20 <sup>h</sup> : 60 <sup>m</sup> 0 |     |      |     |      |         | Principio del crepúsculo |       |               | Salida de Luna |    |      | Puesta de Luna |    |     |
|    | PMG: 12 <sup>h</sup> 02 <sup>m</sup> 3 |      |     | SD: 16 <sup>d</sup> 3 PMG: 0 <sup>h</sup> 33 <sup>m</sup> R°: 51 <sup>m</sup>                                                                  |     |      |     |      |         | Principio del crepúsculo |       |               | Salida de Luna |    |      | Puesta de Luna |    |     |
|    | hG ☉                                   |      | Dec | hG ☾                                                                                                                                           |     | Dif  | Dec | Dif  |         | Náutico                  | Civil |               | Hora           | R° | Hora | R°             |    |     |
| h  | °                                      | '    | °   | °                                                                                                                                              | '   | °    | °   | '    | °       | h                        | m     | h             | m              | h  | m    | h              | m  | m   |
| 0  | 179                                    | 23.2 | +6  | 29.9                                                                                                                                           | 352 | 03.2 | -7  | 44.5 | 60 N    | 3                        | 30    | 4             | 26             | 5  | 09   | 20             | 52 | 109 |
| 1  | 194                                    | 23.4 |     | 30.8                                                                                                                                           | 6   | 33.0 | -8  | 00.6 | 58      | 41                       | 32    |               | 13             |    | 44   | 103            | 42 | 6   |
| 2  | 209                                    | 23.6 |     | 31.8                                                                                                                                           | 21  | 02.8 |     | 16.7 | 56      | 50                       | 38    |               | 17             |    | 36   | 99             | 46 | 10  |
| 3  | 224                                    | 23.8 |     | 32.7                                                                                                                                           | 35  | 32.4 |     | 32.8 | 54      | 3                        | 59    | 43            | 20             |    | 30   | 95             | 50 | 14  |
| 4  | 239                                    | 23.9 |     | 33.7                                                                                                                                           | 50  | 02.1 | -8  | 48.8 | 52      | 4                        | 06    | 48            | 23             |    | 24   | 92             | 54 | 16  |
| 5  | 254                                    | 24.1 | +6  | 34.6                                                                                                                                           | 64  | 31.6 | -9  | 04.8 | 50      | 4                        | 12    | 4             | 52             | 5  | 25   | 20             | 19 | 88  |
| 6  | 269                                    | 24.3 | +6  | 35.6                                                                                                                                           | 79  | 01.1 | -9  | 20.7 | 45      | 4                        | 25    | 5             | 01             | 5  | 31   | 20             | 08 | 82  |
| 7  | 284                                    | 24.5 |     | 36.5                                                                                                                                           | 93  | 30.6 |     | 36.6 | 40      | 36                       | 08    |               | 36             |    | 19   | 58             | 78 | 12  |
| 8  | 299                                    | 24.7 |     | 37.4                                                                                                                                           | 107 | 59.9 | -9  | 52.5 | 35      | 44                       | 14    |               | 40             |    | 50   | 74             | 17 | 33  |
| 9  | 314                                    | 24.8 |     | 38.4                                                                                                                                           | 122 | 29.2 | -10 | 08.3 | 30      | 4                        | 51    | 19            | 43             |    | 44   | 69             | 22 | 36  |
| 10 | 329                                    | 25.0 |     | 39.3                                                                                                                                           | 136 | 58.4 |     | 24.1 | 20      | 5                        | 01    | 27            | 49             |    | 32   | 64             | 30 | 43  |
| 11 | 344                                    | 25.2 | +6  | 40.3                                                                                                                                           | 151 | 27.6 | -10 | 39.8 | 10 N    | 5                        | 09    | 5             | 33             | 5  | 54   | 19             | 21 | 59  |
| 12 | 359                                    | 25.4 | +6  | 41.2                                                                                                                                           | 165 | 56.6 | -10 | 55.5 | 0       | 5                        | 14    | 5             | 38             | 5  | 59   | 19             | 12 | 54  |
| 13 | 14                                     | 25.6 |     | 42.1                                                                                                                                           | 180 | 25.6 | -11 | 11.1 | 10 S    | 18                       | 43    | 6             | 04             |    | 19   | 02             | 50 | 52  |
| 14 | 29                                     | 25.7 |     | 43.1                                                                                                                                           | 194 | 54.6 |     | 26.7 | 20      | 21                       | 46    | 08            |                |    | 18   | 52             | 45 | 6   |
| 15 | 44                                     | 25.9 |     | 44.0                                                                                                                                           | 209 | 23.4 |     | 42.2 | 30      | 22                       | 50    | 14            |                |    | 41   | 39             | 7  | 08  |
| 16 | 59                                     | 26.1 |     | 45.0                                                                                                                                           | 223 | 52.2 | -11 | 57.6 | 35      | 22                       | 51    | 17            |                |    | 35   | 35             | 13 | 72  |
| 17 | 74                                     | 26.3 | +6  | 45.9                                                                                                                                           | 238 | 20.9 | -12 | 13.0 | 40      | 5                        | 22    | 5             | 53             | 6  | 20   | 18             | 27 | 32  |
| 18 | 89                                     | 26.4 | +6  | 46.8                                                                                                                                           | 252 | 49.5 | -12 | 28.3 | 45      | 5                        | 21    | 5             | 55             | 6  | 24   | 18             | 19 | 27  |
| 19 | 104                                    | 26.6 |     | 47.8                                                                                                                                           | 267 | 18.0 |     | 43.6 | 50      | 19                       | 56    | 29            |                |    | 09   | 21             | 33 | 87  |
| 20 | 119                                    | 26.8 |     | 48.7                                                                                                                                           | 281 | 46.5 | -12 | 58.8 | 52      | 18                       | 57    | 31            |                |    | 18   | 04             | 19 | 37  |
| 21 | 134                                    | 27.0 |     | 49.7                                                                                                                                           | 296 | 14.9 | -13 | 13.9 | 54      | 17                       | 58    | 33            |                |    | 17   | 59             | 15 | 41  |
| 22 | 149                                    | 27.1 |     | 50.6                                                                                                                                           | 310 | 43.2 |     | 29.0 | 56      | 15                       | 59    | 36            |                |    | 53   | 12             | 46 | 97  |
| 23 | 164                                    | 27.3 |     | 51.5                                                                                                                                           | 325 | 11.4 |     | 43.9 | 58      | 14                       | 5     | 59            | 39             |    | 47   | 8              | 51 | 101 |
| 24 | 179                                    | 27.5 | +6  | 52.5                                                                                                                                           | 339 | 39.5 | -13 | 58.8 | 60 S    | 5                        | 12    | 6             | 00             | 6  | 42   | 17             | 40 | 3   |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |     | SATURNO                                           |      |    |     |      |     |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|-----|---------------------------------------------------|------|----|-----|------|-----|
|     | PMG: 10 <sup>h</sup> 59 <sup>m</sup> 7 |      | Mag: -4.5<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.5<br>PMG: 15 <sup>h</sup> 34 <sup>m</sup> |     | Mag: -2.4<br>PMG: 21 <sup>h</sup> 47 <sup>m</sup> |     | Mag: +0.1<br>PMG: 17 <sup>h</sup> 30 <sup>m</sup> |      |    |     |      |     |
|     | hG ♈                                   |      | hG ♀                                              |      | hG ♂                                              |     | hG ♃                                              |     | hG ♄                                              |      |    |     |      |     |
| h   | °                                      | '    | °                                                 | °    | '                                                 | °   | °                                                 | '   | °                                                 | °    | '  |     |      |     |
| 0   | 194                                    | 37.1 | 135                                               | 16.9 | +24                                               | 126 | 24.3                                              | +23 | 32                                                | 21.9 | +9 | 96  | 56.5 | +22 |
| 1   | 209                                    | 39.5 | 150                                               | 16.9 |                                                   | 141 | 25.0                                              |     | 47                                                | 24.6 |    | 111 | 58.8 |     |
| 2   | 224                                    | 42.0 | 165                                               | 16.9 |                                                   | 156 | 25.8                                              |     | 62                                                | 27.2 |    | 127 | 01.1 |     |
| 3   | 239                                    | 44.4 | 180                                               | 17.0 |                                                   | 171 | 26.5                                              |     | 77                                                | 29.9 |    | 142 | 03.4 |     |
| 4   | 254                                    | 46.9 | 195                                               | 17.0 |                                                   | 186 | 27.3                                              |     | 92                                                | 32.5 |    | 157 | 05.8 |     |
| 5   | 269                                    | 49.4 | 210                                               | 17.0 | +24                                               | 201 | 28.0                                              | +23 | 107                                               | 35.2 | +9 | 172 | 08.1 | +22 |
| 6   | 284                                    | 51.8 | 225                                               | 17.1 | +24                                               | 216 | 28.8                                              | +23 | 122                                               | 37.9 | +9 | 187 | 10.4 | +22 |
| 7   | 299                                    | 54.3 | 240                                               | 17.1 |                                                   | 231 | 29.5                                              |     | 137                                               | 40.5 |    | 202 | 12.7 |     |
| 8   | 314                                    | 56.8 | 255                                               | 17.1 |                                                   | 246 | 30.3                                              |     | 152                                               | 43.2 |    | 217 | 15.1 |     |
| 9   | 329                                    | 59.2 | 270                                               | 17.2 |                                                   | 261 | 31.0                                              |     | 167                                               | 45.9 |    | 232 | 17.4 |     |
| 10  | 345                                    | 01.7 | 285                                               | 17.2 |                                                   | 276 | 31.8                                              |     | 182                                               | 48.5 |    | 247 | 19.7 |     |
| 11  | 0                                      | 04.2 | 300                                               | 17.2 | +24                                               | 291 | 32.5                                              | +23 | 197                                               | 51.2 | +9 | 262 | 22.0 | +22 |
| 12  | 15                                     | 06.6 | 315                                               | 17.3 | +24                                               | 306 | 33.2                                              | +23 | 212                                               | 53.9 | +9 | 277 | 24.3 | +22 |
| 13  | 30                                     | 09.1 | 330                                               | 17.3 |                                                   | 321 | 34.0                                              |     | 227                                               | 56.5 |    | 292 | 26.7 |     |
| 14  | 45                                     | 11.6 | 345                                               | 17.3 |                                                   | 336 | 34.7                                              |     | 242                                               | 59.2 |    | 307 | 29.0 |     |
| 15  | 60                                     | 14.0 | 0                                                 | 17.4 |                                                   | 351 | 35.5                                              |     | 258                                               | 01.8 |    | 322 | 31.3 |     |
| 16  | 75                                     | 16.5 | 15                                                | 17.4 |                                                   | 6   | 36.2                                              |     | 273                                               | 04.5 |    | 337 | 33.6 |     |
| 17  | 90                                     | 18.9 | 30                                                | 17.5 | +24                                               | 21  | 37.0                                              | +23 | 288                                               | 07.2 | +9 | 352 | 35.9 | +22 |
| 18  | 105                                    | 21.4 | 45                                                | 17.5 | +24                                               | 36  | 37.7                                              | +23 | 303                                               | 09.8 | +9 | 7   | 38.2 | +22 |
| 19  | 120                                    | 23.9 | 60                                                | 17.6 |                                                   | 51  | 38.5                                              |     | 318                                               | 12.5 |    | 22  | 40.6 |     |
| 20  | 135                                    | 26.3 | 75                                                | 17.6 |                                                   | 66  | 39.2                                              |     | 333                                               | 15.1 |    | 37  | 42.9 |     |
| 21  | 150                                    | 28.8 | 90                                                | 17.6 |                                                   | 81  | 40.0                                              |     | 348                                               | 17.8 |    | 52  | 45.2 |     |
| 22  | 165                                    | 31.3 | 105                                               | 17.7 |                                                   | 96  | 40.7                                              |     | 3                                                 | 20.5 |    | 67  | 47.5 |     |
| 23  | 180                                    | 33.7 | 120                                               | 17.7 |                                                   | 111 | 41.5                                              |     | 18                                                | 23.1 |    | 82  | 49.8 |     |
| 24  | 195                                    | 36.2 | 135                                               | 17.8 | +24                                               | 126 | 42.2                                              | +23 | 33                                                | 25.8 | +9 | 97  | 52.2 | +22 |
| Dif | —                                      |      | 0                                                 |      | +6                                                | +7  |                                                   | +2  | +27                                               |      | +1 | +23 |      | 0   |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                                                             |          |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna |                                                   | Puesta de Luna |      |      |     |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|----------------|---------------------------------------------------|----------------|------|------|-----|
|     | SD: 16'0<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 0 |      |                                                   | Edad: 17 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 60'1<br>12 <sup>h</sup> : 60'1<br>20 <sup>h</sup> : 60'1<br>PMG: 1 <sup>h</sup> 24 <sup>m</sup> R°: 55 <sup>m</sup> |          |                                                   |          |               |                                                   |          |                |                                                   |                |      |      |     |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                               | Dif      | Dec                                               |          |               | Dif                                               | Civil    | Náutico        | Hora                                              | R°             | Hora | R°   |     |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                  | '        | °                                                 | '        | °             | h                                                 | m        | h              | m                                                 | h              | m    | m    |     |
| 0   | 179                                                | 27.5 | +6 52.5                                           | 339                                                                                                                                                                | 39.5     | -13 58.8                                          | 91       | 60 N          | 18 59                                             | 19 44    | 20 40          | 22 41                                             | 114            | 5 38 | 4    |     |
| 1   | 194                                                | 27.7 | 53.4                                              | 354                                                                                                                                                                | 07.6     | -14 13.7                                          | 149      | 58            | 55                                                | 36       | 29             | 27                                                | 106            | 48   | 9    |     |
| 2   | 209                                                | 27.8 | 54.4                                              | 8                                                                                                                                                                  | 35.5     | 89                                                | 28.4     | 56            | 51                                                | 30       | 19             | 15                                                | 100            | 5 56 | 14   |     |
| 3   | 224                                                | 28.0 | 55.3                                              | 23                                                                                                                                                                 | 03.4     | 89                                                | 43.1     | 54            | 48                                                | 25       | 10             | 22                                                | 05             | 95   | 6 04 | 17  |
| 4   | 239                                                | 28.2 | 56.2                                              | 37                                                                                                                                                                 | 31.2     | 88                                                | -14 57.7 | 52            | 45                                                | 20       | 20 02          | 21 56                                             | 91             | 10   | 21   |     |
| 5   | 254                                                | 28.4 | +6 57.2                                           | 51                                                                                                                                                                 | 58.9     | 87                                                | -15 12.2 | 50            | 18 42                                             | 19 15    | 19 56          | 21 47                                             | 89             | 6 16 | 24   |     |
| 6   | 269                                                | 28.6 | +6 58.1                                           | 66                                                                                                                                                                 | 26.5     | 86                                                | -15 26.6 | 45            | 18 36                                             | 19 06    | 19 42          | 21 30                                             | 83             | 6 30 | 29   |     |
| 7   | 284                                                | 28.7 | +6 59.1                                           | 80                                                                                                                                                                 | 54.0     | 85                                                | 40.9     | 40            | 31                                                | 18 58    | 31             | 16                                                | 78             | 41   | 34   |     |
| 8   | 299                                                | 28.9 | +7 00.0                                           | 95                                                                                                                                                                 | 21.5     | 85                                                | -15 55.2 | 35            | 26                                                | 52       | 22             | 21                                                | 04             | 74   | 50   | 38  |
| 9   | 314                                                | 29.1 | +7 00.9                                           | 109                                                                                                                                                                | 48.8     | 83                                                | -16 09.3 | 30            | 22                                                | 47       | 15             | 20                                                | 53             | 72   | 6 58 | 42  |
| 10  | 329                                                | 29.3 | 01.9                                              | 124                                                                                                                                                                | 16.1     | 83                                                | 23.4     | 20            | 16                                                | 38       | 19 04          | 36                                                | 66             | 7 13 | 46   |     |
| 11  | 344                                                | 29.4 | +7 02.8                                           | 138                                                                                                                                                                | 43.3     | 82                                                | -16 37.4 | 10 N          | 18 10                                             | 18 32    | 18 56          | 20 20                                             | 62             | 7 25 | 52   |     |
| 12  | 359                                                | 29.6 | +7 03.7                                           | 153                                                                                                                                                                | 10.3     | 80                                                | -16 51.2 | 0             | 18 05                                             | 18 26    | 18 50          | 20 06                                             | 58             | 7 37 | 56   |     |
| 13  | 14                                                 | 29.8 | 04.7                                              | 167                                                                                                                                                                | 37.3     | 80                                                | -17 05.0 | 10 S          | 18 00                                             | 21       | 46             | 19                                                | 52             | 54   | 7 49 | 60  |
| 14  | 29                                                 | 30.0 | 05.6                                              | 182                                                                                                                                                                | 04.2     | 79                                                | 18.6     | 20            | 17 55                                             | 17       | 43             | 37                                                | 50             | 8 02 | 65   |     |
| 15  | 44                                                 | 30.1 | 06.5                                              | 196                                                                                                                                                                | 31.1     | 79                                                | 32.2     | 30            | 49                                                | 13       | 41             | 20                                                | 44             | 16   | 71   |     |
| 16  | 59                                                 | 30.3 | 07.5                                              | 210                                                                                                                                                                | 57.8     | 77                                                | 45.7     | 35            | 46                                                | 11       | 41             | 19                                                | 10             | 42   | 25   | 74  |
| 17  | 74                                                 | 30.5 | +7 08.4                                           | 225                                                                                                                                                                | 24.4     | 76                                                | -17 59.0 | 40            | 17 42                                             | 18 09    | 18 41          | 18 59                                             | 38             | 8 35 | 78   |     |
| 18  | 89                                                 | 30.7 | +7 09.4                                           | 239                                                                                                                                                                | 50.9     | 75                                                | -18 12.2 | 45            | 17 38                                             | 18 07    | 18 41          | 18 46                                             | 33             | 8 46 | 83   |     |
| 19  | 104                                                | 30.8 | 10.3                                              | 254                                                                                                                                                                | 17.4     | 75                                                | 25.4     | 50            | 33                                                | 05       | 43             | 30                                                | 28             | 9 00 | 89   |     |
| 20  | 119                                                | 31.0 | 11.2                                              | 268                                                                                                                                                                | 43.7     | 73                                                | 38.4     | 52            | 31                                                | 04       | 43             | 23                                                | 25             | 07   | 92   |     |
| 21  | 134                                                | 31.2 | 12.2                                              | 283                                                                                                                                                                | 10.0     | 73                                                | -18 51.3 | 54            | 28                                                | 03       | 44             | 14                                                | 22             | 14   | 96   |     |
| 22  | 149                                                | 31.4 | 13.1                                              | 297                                                                                                                                                                | 36.2     | 72                                                | -19 04.1 | 56            | 25                                                | 02       | 45             | 18                                                | 05             | 18   | 23   | 99  |
| 23  | 164                                                | 31.5 | 14.0                                              | 312                                                                                                                                                                | 02.2     | 70                                                | 16.7     | 58            | 22                                                | 01       | 47             | 17                                                | 55             | 13   | 32   | 105 |
| 24  | 179                                                | 31.7 | +7 15.0                                           | 326                                                                                                                                                                | 28.2     | 70                                                | -19 29.3 | 60 S          | 17 19                                             | 18 00    | 18 48          | 17 43                                             | 7              | 9 43 | 111  |     |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                    |          | MARTE                                             |          |               | JÚPITER                                           |          |                | SATURNO                                           |                |      |      |     |
|     | PMG: 10 <sup>h</sup> 55 <sup>m</sup> 8             |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |                                                                                                                                                                    |          | Mag: +1.5<br>PMG: 15 <sup>h</sup> 32 <sup>m</sup> |          |               | Mag: -2.4<br>PMG: 21 <sup>h</sup> 42 <sup>m</sup> |          |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 26 <sup>m</sup> |                |      |      |     |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                |          | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      |                | hG ♄                                              | Dec            |      |      |     |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                  | '        | °                                                 | °        | '             | °                                                 | °        | '              | °                                                 | °              | '    |      |     |
| 0   | 195                                                | 36.2 | 135 17.8                                          | +24 27.2                                                                                                                                                           | 126 42.2 | +23 11.9                                          | 33 25.8  | +9 04.8       | 97 52.2                                           | +22 48.7 |                |                                                   |                |      |      |     |
| 1   | 210                                                | 38.7 | 150 17.8                                          | 27.8                                                                                                                                                               | 141 43.0 | 12.2                                              | 48 28.4  | 04.9          | 112 54.5                                          | 48.7     |                |                                                   |                |      |      |     |
| 2   | 225                                                | 41.1 | 165 17.9                                          | 28.4                                                                                                                                                               | 156 43.7 | 12.4                                              | 63 31.1  | 05.0          | 127 56.8                                          | 48.7     |                |                                                   |                |      |      |     |
| 3   | 240                                                | 43.6 | 180 17.9                                          | 29.0                                                                                                                                                               | 171 44.5 | 12.6                                              | 78 33.8  | 05.0          | 142 59.1                                          | 48.7     |                |                                                   |                |      |      |     |
| 4   | 255                                                | 46.1 | 195 18.0                                          | 29.6                                                                                                                                                               | 186 45.2 | 12.9                                              | 93 36.4  | 05.1          | 158 01.4                                          | 48.7     |                |                                                   |                |      |      |     |
| 5   | 270                                                | 48.5 | 210 18.0                                          | +24 30.2                                                                                                                                                           | 201 45.9 | +23 13.1                                          | 108 39.1 | +9 05.2       | 173 03.7                                          | +22 48.7 |                |                                                   |                |      |      |     |
| 6   | 285                                                | 51.0 | 225 18.1                                          | +24 30.8                                                                                                                                                           | 216 46.7 | +23 13.3                                          | 123 41.7 | +9 05.2       | 188 06.1                                          | +22 48.7 |                |                                                   |                |      |      |     |
| 7   | 300                                                | 53.4 | 240 18.1                                          | 31.4                                                                                                                                                               | 231 47.4 | 13.6                                              | 138 44.4 | 05.3          | 203 08.4                                          | 48.7     |                |                                                   |                |      |      |     |
| 8   | 315                                                | 55.9 | 255 18.2                                          | 32.0                                                                                                                                                               | 246 48.2 | 13.8                                              | 153 47.1 | 05.4          | 218 10.7                                          | 48.7     |                |                                                   |                |      |      |     |
| 9   | 330                                                | 58.4 | 270 18.2                                          | 32.6                                                                                                                                                               | 261 48.9 | 14.0                                              | 168 49.7 | 05.5          | 233 13.0                                          | 48.7     |                |                                                   |                |      |      |     |
| 10  | 346                                                | 00.8 | 285 18.3                                          | 33.2                                                                                                                                                               | 276 49.7 | 14.3                                              | 183 52.4 | 05.5          | 248 15.3                                          | 48.7     |                |                                                   |                |      |      |     |
| 11  | 1                                                  | 03.3 | 300 18.3                                          | +24 33.8                                                                                                                                                           | 291 50.4 | +23 14.5                                          | 198 55.0 | +9 05.6       | 263 17.6                                          | +22 48.7 |                |                                                   |                |      |      |     |
| 12  | 16                                                 | 05.8 | 315 18.4                                          | +24 34.4                                                                                                                                                           | 306 51.2 | +23 14.8                                          | 213 57.7 | +9 05.7       | 278 19.9                                          | +22 48.7 |                |                                                   |                |      |      |     |
| 13  | 31                                                 | 08.2 | 330 18.4                                          | 34.9                                                                                                                                                               | 321 51.9 | 15.0                                              | 229 00.3 | 05.8          | 293 22.3                                          | 48.7     |                |                                                   |                |      |      |     |
| 14  | 46                                                 | 10.7 | 345 18.5                                          | 35.5                                                                                                                                                               | 336 52.7 | 15.2                                              | 244 03.0 | 05.8          | 308 24.6                                          | 48.7     |                |                                                   |                |      |      |     |
| 15  | 61                                                 | 13.2 | 0 18.6                                            | 36.1                                                                                                                                                               | 351 53.4 | 15.5                                              | 259 05.6 | 05.9          | 323 26.9                                          | 48.7     |                |                                                   |                |      |      |     |
| 16  | 76                                                 | 15.6 | 15 18.6                                           | 36.7                                                                                                                                                               | 6 54.2   | 15.7                                              | 274 08.3 | 06.0          | 338 29.2                                          | 48.7     |                |                                                   |                |      |      |     |
| 17  | 91                                                 | 18.1 | 30 18.7                                           | +24 37.3                                                                                                                                                           | 21 54.9  | +23 15.9                                          | 289 11.0 | +9 06.0       | 353 31.5                                          | +22 48.7 |                |                                                   |                |      |      |     |
| 18  | 106                                                | 20.5 | 45 18.7                                           | +24 37.9                                                                                                                                                           | 36 55.6  | +23 16.2                                          | 304 13.6 | +9 06.1       | 8 33.8                                            | +22 48.7 |                |                                                   |                |      |      |     |
| 19  | 121                                                | 23.0 | 60 18.8                                           | 38.5                                                                                                                                                               | 51 56.4  | 16.4                                              | 319 16.3 | 06.2          | 23 36.1                                           | 48.7     |                |                                                   |                |      |      |     |
| 20  | 136                                                | 25.5 | 75 18.9                                           | 39.1                                                                                                                                                               | 66 57.1  | 16.6                                              | 334 18.9 | 06.3          | 38 38.5                                           | 48.7     |                |                                                   |                |      |      |     |
| 21  | 151                                                | 27.9 | 90 18.9                                           | 39.6                                                                                                                                                               | 81 57.9  | 16.8                                              | 349 21.6 | 06.3          | 53 40.8                                           | 48.7     |                |                                                   |                |      |      |     |
| 22  | 166                                                | 30.4 | 105 19.0                                          | 40.2                                                                                                                                                               | 96 58.6  | 17.1                                              | 4 24.2   | 06.4          | 68 43.1                                           | 48.7     |                |                                                   |                |      |      |     |
| 23  | 181                                                | 32.9 | 120 19.0                                          | 40.8                                                                                                                                                               | 111 59.4 | 17.3                                              | 19 26.9  | 06.5          | 83 45.4                                           | 48.7     |                |                                                   |                |      |      |     |
| 24  | 196                                                | 35.3 | 135 19.1                                          | +24 41.4                                                                                                                                                           | 127 00.1 | +23 17.5                                          | 34 29.5  | +9 06.5       | 98 47.7                                           | +22 48.7 |                |                                                   |                |      |      |     |
| Dif | —                                                  |      | +1                                                | +6                                                                                                                                                                 | +7       | +2                                                | +27      | +1            | +23                                               | 0        |                |                                                   |                |      |      |     |

| UT | SOL                                    |      |    | LUNA                    |     |                                    |     |                                     | Latitud | Principio del crepúsculo            |    | Salida de Sol | Salida de Luna      |      |    | Puesta de Luna |  |
|----|----------------------------------------|------|----|-------------------------|-----|------------------------------------|-----|-------------------------------------|---------|-------------------------------------|----|---------------|---------------------|------|----|----------------|--|
|    | SD: 16 <sup>h</sup> 0                  |      |    | Edad: 18 <sup>d</sup> 1 | PHE | 4 <sup>h</sup> : 60 <sup>h</sup> 1 |     | 12 <sup>h</sup> : 60 <sup>h</sup> 1 |         | 20 <sup>h</sup> : 60 <sup>h</sup> 1 |    |               | R°: 59 <sup>m</sup> |      |    |                |  |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 7 |      |    |                         |     | SD: 16 <sup>h</sup> 4              |     | PMG: 2 <sup>h</sup> 19 <sup>m</sup> |         |                                     |    |               |                     |      |    |                |  |
|    | hG ☉                                   | Dec  |    | hG ☾                    | Dif | Dec                                | Dif |                                     | Náutico | Civil                               |    | Hora          | R°                  | Hora | R° |                |  |
| h  | °                                      | '    | °  | °                       | '   | °                                  | '   | °                                   | h       | m                                   | h  | m             | h                   | m    | h  | m              |  |
| 0  | 179                                    | 31.7 | +7 | 15.0                    | 326 | 28.2                               | 69  | -19                                 | 29.3    | 60 N                                | 3  | 22            | 4                   | 19   | 5  | 03             |  |
| 1  | 194                                    | 31.9 |    | 15.9                    | 340 | 54.1                               | 124 |                                     | 41.7    | 58                                  | 34 | 26            |                     | 08   | ** | **             |  |
| 2  | 209                                    | 32.0 |    | 16.8                    | 355 | 19.9                               | 68  | -19                                 | 54.0    | 56                                  | 44 | 33            |                     | 12   | 23 | 55             |  |
| 3  | 224                                    | 32.2 |    | 17.8                    | 9   | 45.6                               | 67  | -20                                 | 06.2    | 54                                  | 3  | 53            | 38                  | 15   | 40 | 89             |  |
| 4  | 239                                    | 32.4 |    | 18.7                    | 24  | 11.2                               | 66  |                                     | 18.2    | 52                                  | 4  | 01            | 43                  | 18   | 27 | 86             |  |
| 5  | 254                                    | 32.6 | +7 | 19.6                    | 38  | 36.7                               | 65  | -20                                 | 30.1    | 50                                  | 4  | 07            | 4                   | 48   | 5  | 21             |  |
| 6  | 269                                    | 32.7 | +7 | 20.6                    | 53  | 02.2                               | 65  | -20                                 | 41.9    | 45                                  | 4  | 21            | 4                   | 57   | 5  | 27             |  |
| 7  | 284                                    | 32.9 |    | 21.5                    | 67  | 27.5                               | 63  | -20                                 | 53.6    | 40                                  | 32 | 5             | 05                  | 33   | 34 | 75             |  |
| 8  | 299                                    | 33.1 |    | 22.4                    | 81  | 52.7                               | 62  | -21                                 | 05.1    | 35                                  | 41 | 11            | 37                  |      | 18 | 73             |  |
| 9  | 314                                    | 33.3 |    | 23.4                    | 96  | 17.9                               | 62  |                                     | 16.4    | 30                                  | 48 | 17            | 41                  |      | 22 | 05             |  |
| 10 | 329                                    | 33.4 |    | 24.3                    | 110 | 43.0                               | 61  |                                     | 27.7    | 20                                  | 4  | 59            | 25                  | 47   | 21 | 42             |  |
| 11 | 344                                    | 33.6 | +7 | 25.2                    | 125 | 07.9                               | 59  | -21                                 | 38.8    | 10 N                                | 5  | 07            | 5                   | 32   | 5  | 53             |  |
| 12 | 359                                    | 33.8 | +7 | 26.2                    | 139 | 32.8                               | 59  | -21                                 | 49.7    | 0                                   | 5  | 13            | 5                   | 38   | 5  | 58             |  |
| 13 | 14                                     | 34.0 |    | 27.1                    | 153 | 57.6                               | 58  | -22                                 | 00.5    | 10 S                                | 18 | 42            | 6                   | 04   | 20 | 46             |  |
| 14 | 29                                     | 34.1 |    | 28.0                    | 168 | 22.3                               | 57  |                                     | 11.2    | 20                                  | 21 | 47            | 09                  |      | 27 | 55             |  |
| 15 | 44                                     | 34.3 |    | 29.0                    | 182 | 47.0                               | 57  |                                     | 21.7    | 30                                  | 23 | 51            | 15                  |      | 20 | 04             |  |
| 16 | 59                                     | 34.5 |    | 29.9                    | 197 | 11.5                               | 55  |                                     | 32.1    | 35                                  | 24 | 53            | 18                  |      | 19 | 52             |  |
| 17 | 74                                     | 34.6 | +7 | 30.8                    | 211 | 36.0                               | 55  | -22                                 | 42.3    | 40                                  | 5  | 24            | 5                   | 55   | 6  | 22             |  |
| 18 | 89                                     | 34.8 | +7 | 31.7                    | 226 | 00.3                               | 53  | -22                                 | 52.4    | 45                                  | 5  | 23            | 5                   | 57   | 6  | 27             |  |
| 19 | 104                                    | 35.0 |    | 32.7                    | 240 | 24.6                               | 53  | -23                                 | 02.3    | 50                                  | 22 | 5             | 59                  | 32   | 18 | 58             |  |
| 20 | 119                                    | 35.2 |    | 33.6                    | 254 | 48.8                               | 52  |                                     | 12.0    | 52                                  | 21 | 6             | 00                  | 34   | 48 | 35             |  |
| 21 | 134                                    | 35.3 |    | 34.5                    | 269 | 12.9                               | 51  |                                     | 21.6    | 54                                  | 20 | 01            | 37                  |      | 36 | 33             |  |
| 22 | 149                                    | 35.5 |    | 35.5                    | 283 | 37.0                               | 51  |                                     | 31.1    | 56                                  | 19 | 02            | 40                  |      | 23 | 29             |  |
| 23 | 164                                    | 35.7 |    | 36.4                    | 298 | 00.9                               | 49  |                                     | 40.4    | 58                                  | 18 | 04            | 43                  |      | 18 | 08             |  |
| 24 | 179                                    | 35.8 | +7 | 37.3                    | 312 | 24.8                               | 49  | -23                                 | 49.5    | 60 S                                | 5  | 17            | 6                   | 05   | 6  | 47             |  |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 10 <sup>h</sup> 51 <sup>m</sup> 9 |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.5<br>PMG: 15 <sup>h</sup> 31 <sup>m</sup> |      | Mag: -2.4<br>PMG: 21 <sup>h</sup> 38 <sup>m</sup> |      | Mag: +0.1<br>PMG: 17 <sup>h</sup> 22 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 196                                    | 35.3 | 135                                               | 19.1 | +24                                               | 41.4 | 127                                               | 00.1 | +23                                               | 17.5 |
| 1   | 211                                    | 37.8 | 150                                               | 19.2 |                                                   | 42.0 | 142                                               | 00.9 |                                                   | 17.8 |
| 2   | 226                                    | 40.3 | 165                                               | 19.2 |                                                   | 42.5 | 157                                               | 01.6 |                                                   | 18.0 |
| 3   | 241                                    | 42.7 | 180                                               | 19.3 |                                                   | 43.1 | 172                                               | 02.4 |                                                   | 18.2 |
| 4   | 256                                    | 45.2 | 195                                               | 19.4 |                                                   | 43.7 | 187                                               | 03.1 |                                                   | 18.5 |
| 5   | 271                                    | 47.7 | 210                                               | 19.4 | +24                                               | 44.3 | 202                                               | 03.8 | +23                                               | 18.7 |
| 6   | 286                                    | 50.1 | 225                                               | 19.5 | +24                                               | 44.9 | 217                                               | 04.6 | +23                                               | 18.9 |
| 7   | 301                                    | 52.6 | 240                                               | 19.6 |                                                   | 45.4 | 232                                               | 05.3 |                                                   | 19.1 |
| 8   | 316                                    | 55.0 | 255                                               | 19.6 |                                                   | 46.0 | 247                                               | 06.1 |                                                   | 19.4 |
| 9   | 331                                    | 57.5 | 270                                               | 19.7 |                                                   | 46.6 | 262                                               | 06.8 |                                                   | 19.6 |
| 10  | 347                                    | 00.0 | 285                                               | 19.8 |                                                   | 47.1 | 277                                               | 07.6 |                                                   | 19.8 |
| 11  | 2                                      | 02.4 | 300                                               | 19.9 | +24                                               | 47.7 | 292                                               | 08.3 | +23                                               | 20.1 |
| 12  | 17                                     | 04.9 | 315                                               | 19.9 | +24                                               | 48.3 | 307                                               | 09.1 | +23                                               | 20.3 |
| 13  | 32                                     | 07.4 | 330                                               | 20.0 |                                                   | 48.9 | 322                                               | 09.8 |                                                   | 20.5 |
| 14  | 47                                     | 09.8 | 345                                               | 20.1 |                                                   | 49.4 | 337                                               | 10.5 |                                                   | 20.7 |
| 15  | 62                                     | 12.3 | 0                                                 | 20.2 |                                                   | 50.0 | 352                                               | 11.3 |                                                   | 21.0 |
| 16  | 77                                     | 14.8 | 15                                                | 20.2 |                                                   | 50.6 | 7                                                 | 12.0 |                                                   | 21.2 |
| 17  | 92                                     | 17.2 | 30                                                | 20.3 | +24                                               | 51.1 | 22                                                | 12.8 | +23                                               | 21.4 |
| 18  | 107                                    | 19.7 | 45                                                | 20.4 | +24                                               | 51.7 | 37                                                | 13.5 | +23                                               | 21.6 |
| 19  | 122                                    | 22.2 | 60                                                | 20.5 |                                                   | 52.2 | 52                                                | 14.3 |                                                   | 21.9 |
| 20  | 137                                    | 24.6 | 75                                                | 20.6 |                                                   | 52.8 | 67                                                | 15.0 |                                                   | 22.1 |
| 21  | 152                                    | 27.1 | 90                                                | 20.6 |                                                   | 53.4 | 82                                                | 15.7 |                                                   | 22.3 |
| 22  | 167                                    | 29.5 | 105                                               | 20.7 |                                                   | 53.9 | 97                                                | 16.5 |                                                   | 22.5 |
| 23  | 182                                    | 32.0 | 120                                               | 20.8 |                                                   | 54.5 | 112                                               | 17.2 |                                                   | 22.8 |
| 24  | 197                                    | 34.5 | 135                                               | 20.9 | +24                                               | 55.1 | 127                                               | 18.0 | +23                                               | 23.0 |
| Dif | —                                      |      | +1                                                | +6   |                                                   |      | +7                                                | +2   |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      |                                                   |      |

| UT | SOL                                                |      |    | LUNA                                                                                                                                                                  |     |      | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |          | Puesta de Luna |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|---------------|----------------------|-------|---------|----------------|----------|----------------|----|
|    | SD: 16'0<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> 5 |      |    | Edad: 19 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 60'0<br>12 <sup>h</sup> : 60'0<br>20 <sup>h</sup> : 59'9<br>PMG: 3 <sup>h</sup> 18 <sup>m</sup> R°: 62 <sup>m</sup> |     |      |         |               |                      |       |         |                |          |                |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                  | Dif | Dec  |         |               | Dif                  | Civil | Náutico | Hora           | R°       | Hora           | R° |
| h  | °                                                  | '    | °  | '                                                                                                                                                                     | °   | '    | °       | '             | h m                  | h m   | h m     | h m m          | h m m    | h m m          |    |
| 0  | 179                                                | 35.8 | +7 | 37.3                                                                                                                                                                  | 312 | 24.8 | -23     | 49.5          | 60 N                 | 19 04 | 19 49   | 20 47          | 0 35 107 | 5 51 22        |    |
| 1  | 194                                                | 36.0 |    | 38.2                                                                                                                                                                  | 326 | 48.6 | 48      | -23           | 58.4                 | 58    | 18 59   | 41 34          | 0 13 98  | 6 14 31        |    |
| 2  | 209                                                | 36.2 |    | 39.2                                                                                                                                                                  | 341 | 12.3 | 47      | -24           | 07.2                 | 56    | 55      | 34 24          | ** ** *  | 32 36          |    |
| 3  | 224                                                | 36.4 |    | 40.1                                                                                                                                                                  | 355 | 36.0 | 47      |               | 15.9                 | 54    | 51      | 29 15          | ** ** *  | 6 47 40        |    |
| 4  | 239                                                | 36.5 |    | 41.0                                                                                                                                                                  | 9   | 59.6 | 46      |               | 24.3                 | 52    | 48      | 23 20 07       | ** ** *  | 7 01 42        |    |
| 5  | 254                                                | 36.7 | +7 | 42.0                                                                                                                                                                  | 24  | 23.1 | 45      | -24           | 32.6                 | 50    | 18 45   | 19 18 19 59    | ** ** *  | 7 13 44        |    |
| 6  | 269                                                | 36.9 | +7 | 42.9                                                                                                                                                                  | 38  | 46.5 | 44      | -24           | 40.7                 | 45    | 18 38   | 19 08 19 45    | ** ** *  | 7 37 49        |    |
| 7  | 284                                                | 37.0 |    | 43.8                                                                                                                                                                  | 53  | 09.9 | 44      |               | 48.7                 | 40    | 33      | 19 00 33       | 23 49 68 | 7 57 51        |    |
| 8  | 299                                                | 37.2 |    | 44.7                                                                                                                                                                  | 67  | 33.2 | 43      | -24           | 56.4                 | 35    | 28      | 18 54 24       | 31 67    | 8 13 54        |    |
| 9  | 314                                                | 37.4 |    | 45.7                                                                                                                                                                  | 81  | 56.4 | 42      | -25           | 04.0                 | 30    | 24      | 48 17          | 23 16 66 | 28 55          |    |
| 10 | 329                                                | 37.5 |    | 46.6                                                                                                                                                                  | 96  | 19.6 | 42      |               | 11.5                 | 20    | 17      | 39 19 05       | 22 49 65 | 8 52 58        |    |
| 11 | 344                                                | 37.7 | +7 | 47.5                                                                                                                                                                  | 110 | 42.7 | 41      | -25           | 18.7                 | 10 N  | 18 10   | 18 32 18 56    | 22 26 64 | 9 13 61        |    |
| 12 | 359                                                | 37.9 | +7 | 48.5                                                                                                                                                                  | 125 | 05.7 | 40      | -25           | 25.8                 | 0     | 18 05   | 18 26 18 50    | 22 05 63 | 9 33 62        |    |
| 13 | 14                                                 | 38.1 |    | 49.4                                                                                                                                                                  | 139 | 28.7 | 40      |               | 32.7                 | 10 S  | 17 59   | 20 45          | 21 44 62 | 9 53 64        |    |
| 14 | 29                                                 | 38.2 |    | 50.3                                                                                                                                                                  | 153 | 51.6 | 39      |               | 39.4                 | 20    | 53      | 16 41          | 21 22 61 | 10 14 67       |    |
| 15 | 44                                                 | 38.4 |    | 51.2                                                                                                                                                                  | 168 | 14.5 | 39      |               | 45.9                 | 30    | 47      | 11 39          | 20 56 59 | 39 69          |    |
| 16 | 59                                                 | 38.6 |    | 52.2                                                                                                                                                                  | 182 | 37.3 | 38      |               | 52.3                 | 35    | 43      | 09 38          | 41 58    | 10 53 71       |    |
| 17 | 74                                                 | 38.7 | +7 | 53.1                                                                                                                                                                  | 197 | 00.1 | 38      | -25           | 58.5                 | 40    | 17 39   | 18 06 18 38    | 20 23 57 | 11 10 72       |    |
| 18 | 89                                                 | 38.9 | +7 | 54.0                                                                                                                                                                  | 211 | 22.8 | 37      | -26           | 04.4                 | 45    | 17 34   | 18 04 18 38    | 20 02 55 | 11 30 75       |    |
| 19 | 104                                                | 39.1 |    | 54.9                                                                                                                                                                  | 225 | 45.5 | 37      |               | 10.2                 | 50    | 29      | 01 38          | 19 36 52 | 11 56 78       |    |
| 20 | 119                                                | 39.2 |    | 55.9                                                                                                                                                                  | 240 | 08.1 | 36      |               | 15.9                 | 52    | 26      | 18 00 39       | 23 51    | 12 09 79       |    |
| 21 | 134                                                | 39.4 |    | 56.8                                                                                                                                                                  | 254 | 30.7 | 36      |               | 21.3                 | 54    | 23      | 17 59 40       | 19 09 49 | 23 81          |    |
| 22 | 149                                                | 39.6 |    | 57.7                                                                                                                                                                  | 268 | 53.2 | 35      |               | 26.5                 | 56    | 20      | 58 40          | 18 52 46 | 12 40 84       |    |
| 23 | 164                                                | 39.7 |    | 58.6                                                                                                                                                                  | 283 | 15.7 | 35      |               | 31.6                 | 58    | 17      | 56 41          | 31 43    | 13 00 88       |    |
| 24 | 179                                                | 39.9 | +7 | 59.5                                                                                                                                                                  | 297 | 38.2 | 35      | -26           | 36.5                 | 60 S  | 17 13   | 17 55 18 43    | 18 05 36 | 13 25 95       |    |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 10 <sup>h</sup> 47 <sup>m</sup> 9 |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.5<br>PMG: 15 <sup>h</sup> 30 <sup>m</sup> |      | Mag: -2.4<br>PMG: 21 <sup>h</sup> 34 <sup>m</sup> |      | Mag: +0.1<br>PMG: 17 <sup>h</sup> 18 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 197                                    | 34.5 | 135                                               | 20.9 | +24                                               | 55.1 | 127                                               | 18.0 | +23                                               | 23.0 |
| 1   | 212                                    | 36.9 | 150                                               | 21.0 |                                                   | 55.6 | 142                                               | 18.7 |                                                   | 23.2 |
| 2   | 227                                    | 39.4 | 165                                               | 21.1 |                                                   | 56.2 | 157                                               | 19.5 |                                                   | 23.4 |
| 3   | 242                                    | 41.9 | 180                                               | 21.1 |                                                   | 56.7 | 172                                               | 20.2 |                                                   | 23.6 |
| 4   | 257                                    | 44.3 | 195                                               | 21.2 |                                                   | 57.3 | 187                                               | 20.9 |                                                   | 23.9 |
| 5   | 272                                    | 46.8 | 210                                               | 21.3 | +24                                               | 57.8 | 202                                               | 21.7 | +23                                               | 24.1 |
| 6   | 287                                    | 49.3 | 225                                               | 21.4 | +24                                               | 58.4 | 217                                               | 22.4 | +23                                               | 24.3 |
| 7   | 302                                    | 51.7 | 240                                               | 21.5 |                                                   | 58.9 | 232                                               | 23.2 |                                                   | 24.5 |
| 8   | 317                                    | 54.2 | 255                                               | 21.6 | +24                                               | 59.5 | 247                                               | 23.9 |                                                   | 24.8 |
| 9   | 332                                    | 56.7 | 270                                               | 21.7 | +25                                               | 00.0 | 262                                               | 24.7 |                                                   | 25.0 |
| 10  | 347                                    | 59.1 | 285                                               | 21.8 | +25                                               | 00.6 | 277                                               | 25.4 |                                                   | 25.2 |
| 11  | 3                                      | 01.6 | 300                                               | 21.9 | +25                                               | 01.1 | 292                                               | 26.1 | +23                                               | 25.4 |
| 12  | 18                                     | 04.0 | 315                                               | 21.9 | +25                                               | 01.7 | 307                                               | 26.9 | +23                                               | 25.6 |
| 13  | 33                                     | 06.5 | 330                                               | 22.0 |                                                   | 02.2 | 322                                               | 27.6 |                                                   | 25.8 |
| 14  | 48                                     | 09.0 | 345                                               | 22.1 |                                                   | 02.8 | 337                                               | 28.4 |                                                   | 26.1 |
| 15  | 63                                     | 11.4 | 0                                                 | 22.2 |                                                   | 03.3 | 352                                               | 29.1 |                                                   | 26.3 |
| 16  | 78                                     | 13.9 | 15                                                | 22.3 |                                                   | 03.9 | 7                                                 | 29.9 |                                                   | 26.5 |
| 17  | 93                                     | 16.4 | 30                                                | 22.4 | +25                                               | 04.4 | 22                                                | 30.6 | +23                                               | 26.7 |
| 18  | 108                                    | 18.8 | 45                                                | 22.5 | +25                                               | 05.0 | 37                                                | 31.3 | +23                                               | 26.9 |
| 19  | 123                                    | 21.3 | 60                                                | 22.6 |                                                   | 05.5 | 52                                                | 32.1 |                                                   | 27.2 |
| 20  | 138                                    | 23.8 | 75                                                | 22.7 |                                                   | 06.0 | 67                                                | 32.8 |                                                   | 27.4 |
| 21  | 153                                    | 26.2 | 90                                                | 22.8 |                                                   | 06.6 | 82                                                | 33.6 |                                                   | 27.6 |
| 22  | 168                                    | 28.7 | 105                                               | 22.9 |                                                   | 07.1 | 97                                                | 34.3 |                                                   | 27.8 |
| 23  | 183                                    | 31.1 | 120                                               | 23.0 |                                                   | 07.7 | 112                                               | 35.0 |                                                   | 28.0 |
| 24  | 198                                    | 33.6 | 135                                               | 23.1 | +25                                               | 08.2 | 127                                               | 35.8 | +23                                               | 28.2 |
| Dif | —                                      |      | +1                                                |      | +5                                                |      | +7                                                |      | +2                                                |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   | +26  | +1                                                |      |
|     |                                        |      |                                                   |      |                                                   |      |                                                   |      | +23                                               | 0    |

| UT  | SOL                                                |      |         | LUNA                                                                                                                                                                           |          |          |                                                   |      |          | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                     | Salida de Luna |          | Puesta de Luna |     |   |   |
|-----|----------------------------------------------------|------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------|------|----------|---------------------------------------------------|--------------------------|---------|---------------------------------------------------|----------------|----------|----------------|-----|---|---|
|     | SD: 16'0<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> 2 |      |         | Edad: 20 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59'8<br>12 <sup>h</sup> : 59'6<br>20 <sup>h</sup> : 59'5<br>SD: 16'3<br>PMG: 4 <sup>h</sup> 20 <sup>m</sup> R°: 63 <sup>m</sup> |          |          |                                                   |      |          |                                                   |                          |         |                                                   |                |          |                |     |   |   |
|     | hG ☉                                               | Dec  |         | hG ☾                                                                                                                                                                           | Dif      | Dec      | Dif                                               |      | Náutico  |                                                   | Civil                    | Hora    |                                                   | R°             | Hora     | R°             |     |   |   |
| h   | °                                                  | '    | °       | °                                                                                                                                                                              | '        | °        | '                                                 | °    | '        | h                                                 | m                        | h       | m                                                 | h              | m        | h              | m   | m |   |
| 0   | 179                                                | 39.9 | +7 59.5 | 297                                                                                                                                                                            | 38.2     | -26 36.5 |                                                   | 60 N | 3 15     | 4 13                                              | 4 57                     | 2 22    | 80                                                | 6 13           | 53       |                |     |   |   |
| 1   | 194                                                | 40.1 | +8 00.5 | 312                                                                                                                                                                            | 00.6     | 41.1     | 46                                                | 58   | 27       | 20                                                | 5 02                     | 1 51    | 76                                                | 6 45           | 56       |                |     |   |   |
| 2   | 209                                                | 40.3 | 01.4    | 326                                                                                                                                                                            | 23.0     | 45.6     | 45                                                | 56   | 38       | 27                                                | 07                       | 28      | 74                                                | 7 08           | 58       |                |     |   |   |
| 3   | 224                                                | 40.4 | 02.3    | 340                                                                                                                                                                            | 45.4     | 49.9     | 43                                                | 54   | 47       | 33                                                | 10                       | 1 09    | 72                                                | 27             | 59       |                |     |   |   |
| 4   | 239                                                | 40.6 | 03.2    | 355                                                                                                                                                                            | 07.7     | 54.0     | 41                                                | 52   | 3 55     | 39                                                | 14                       | 0 53    | 72                                                | 43             | 60       |                |     |   |   |
| 5   | 254                                                | 40.8 | +8 04.2 | 9                                                                                                                                                                              | 30.0     | -26 58.0 | 40                                                | 50   | 4 03     | 4 43                                              | 5 17                     | 0 39    | 71                                                | 7 57           | 61       |                |     |   |   |
| 6   | 269                                                | 40.9 | +8 05.1 | 23                                                                                                                                                                             | 52.3     | -27 01.7 | 37                                                | 45   | 4 17     | 4 54                                              | 5 24                     | 0 11    | 69                                                | 8 26           | 61       |                |     |   |   |
| 7   | 284                                                | 41.1 | 06.0    | 38                                                                                                                                                                             | 14.6     | 05.2     | 35                                                | 40   | 29       | 5 02                                              | 29                       | ** ** * | **                                                | 8 48           | 62       |                |     |   |   |
| 8   | 299                                                | 41.3 | 06.9    | 52                                                                                                                                                                             | 36.8     | 08.6     | 34                                                | 35   | 38       | 09                                                | 34                       | ** ** * | **                                                | 9 07           | 62       |                |     |   |   |
| 9   | 314                                                | 41.4 | 07.9    | 66                                                                                                                                                                             | 59.1     | 11.7     | 31                                                | 30   | 46       | 14                                                | 39                       | ** ** * | **                                                | 23             | 62       |                |     |   |   |
| 10  | 329                                                | 41.6 | 08.8    | 81                                                                                                                                                                             | 21.3     | 14.7     | 30                                                | 20   | 4 57     | 24                                                | 46                       | 23 54   | 60                                                | 9 50           | 63       |                |     |   |   |
| 11  | 344                                                | 41.8 | +8 09.7 | 95                                                                                                                                                                             | 43.5     | -27 17.4 | 27                                                | 10 N | 5 06     | 5 31                                              | 5 52                     | 23 30   | 62                                                | 10 14          | 62       |                |     |   |   |
| 12  | 359                                                | 41.9 | +8 10.6 | 110                                                                                                                                                                            | 05.7     | -27 20.0 | 26                                                | 0    | 5 13     | 5 37                                              | 5 58                     | 23 08   | 62                                                | 10 35          | 63       |                |     |   |   |
| 13  | 14                                                 | 42.1 | 11.5    | 124                                                                                                                                                                            | 27.9     | 22.4     | 24                                                | 10 S | 18       | 42                                                | 6 04                     | 22 46   | 63                                                | 10 57          | 63       |                |     |   |   |
| 14  | 29                                                 | 42.3 | 12.5    | 138                                                                                                                                                                            | 50.1     | 24.5     | 21                                                | 20   | 22       | 47                                                | 10                       | 22 23   | 63                                                | 11 21          | 63       |                |     |   |   |
| 15  | 44                                                 | 42.4 | 13.4    | 153                                                                                                                                                                            | 12.3     | 26.5     | 20                                                | 30   | 24       | 52                                                | 16                       | 21 55   | 65                                                | 11 48          | 63       |                |     |   |   |
| 16  | 59                                                 | 42.6 | 14.3    | 167                                                                                                                                                                            | 34.5     | 28.3     | 18                                                | 35   | 25       | 55                                                | 20                       | 39      | 65                                                | 12 04          | 63       |                |     |   |   |
| 17  | 74                                                 | 42.8 | +8 15.2 | 181                                                                                                                                                                            | 56.7     | -27 29.9 | 16                                                | 40   | 5 26     | 5 57                                              | 6 24                     | 21 20   | 66                                                | 12 22          | 63       |                |     |   |   |
| 18  | 89                                                 | 42.9 | +8 16.1 | 196                                                                                                                                                                            | 18.9     | -27 31.3 | 14                                                | 45   | 5 26     | 6 00                                              | 6 29                     | 20 57   | 67                                                | 12 45          | 63       |                |     |   |   |
| 19  | 104                                                | 43.1 | 17.1    | 210                                                                                                                                                                            | 41.1     | 32.5     | 12                                                | 50   | 25       | 02                                                | 35                       | 28      | 68                                                | 13 14          | 62       |                |     |   |   |
| 20  | 119                                                | 43.3 | 18.0    | 225                                                                                                                                                                            | 03.3     | 33.5     | 10                                                | 52   | 25       | 04                                                | 38                       | 20 14   | 68                                                | 28             | 62       |                |     |   |   |
| 21  | 134                                                | 43.4 | 18.9    | 239                                                                                                                                                                            | 25.6     | 34.4     | 9                                                 | 54   | 24       | 05                                                | 41                       | 19 58   | 68                                                | 13 44          | 62       |                |     |   |   |
| 22  | 149                                                | 43.6 | 19.8    | 253                                                                                                                                                                            | 47.8     | 35.0     | 6                                                 | 56   | 23       | 06                                                | 44                       | 38      | 69                                                | 14 04          | 61       |                |     |   |   |
| 23  | 164                                                | 43.7 | 20.7    | 268                                                                                                                                                                            | 10.1     | 35.4     | 4                                                 | 58   | 22       | 08                                                | 47                       | 19 14   | 70                                                | 14 28          | 60       |                |     |   |   |
| 24  | 179                                                | 43.9 | +8 21.6 | 282                                                                                                                                                                            | 32.4     | -27 35.7 | 3                                                 | 60 S | 5 21     | 6 09                                              | 6 51                     | 18 41   | 73                                                | 15 00          | 59       |                |     |   |   |
| UT  | ARIES                                              |      |         | VENUS                                                                                                                                                                          |          |          | MARTE                                             |      |          | JÚPITER                                           |                          |         | SATURNO                                           |                |          |                |     |   |   |
|     | PMG 10 <sup>h</sup> 44 <sup>m</sup> 0              |      |         | Mag: -4.6<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup>                                                                                                                              |          |          | Mag: +1.5<br>PMG: 15 <sup>h</sup> 29 <sup>m</sup> |      |          | Mag: -2.4<br>PMG: 21 <sup>h</sup> 30 <sup>m</sup> |                          |         | Mag: +0.1<br>PMG: 17 <sup>h</sup> 15 <sup>m</sup> |                |          |                |     |   |   |
|     | hG ♈                                               | Dec  |         | hG ♀                                                                                                                                                                           | Dec      |          | hG ♂                                              | Dec  |          | hG ♃                                              | Dec                      |         | hG ♄                                              | Dec            |          | hG ♅           | Dec |   |   |
| h   | °                                                  | '    | °       | °                                                                                                                                                                              | '        | °        | °                                                 | '    | °        | °                                                 | '                        | °       | °                                                 | '              | °        | °              | '   | ° | ' |
| 0   | 198                                                | 33.6 |         | 135                                                                                                                                                                            | 23.1     | +25 08.2 | 127                                               | 35.8 | +23 28.2 | 36                                                | 36.6                     | +9 09.8 | 100                                               | 38.5           | +22 48.6 |                |     |   |   |
| 1   | 213                                                | 36.1 |         | 150                                                                                                                                                                            | 23.2     | 08.7     | 142                                               | 36.5 | 28.5     | 51                                                | 39.3                     | 09.9    | 115                                               | 40.8           | 48.6     |                |     |   |   |
| 2   | 228                                                | 38.5 |         | 165                                                                                                                                                                            | 23.3     | 09.3     | 157                                               | 37.3 | 28.7     | 66                                                | 41.9                     | 09.9    | 130                                               | 43.1           | 48.6     |                |     |   |   |
| 3   | 243                                                | 41.0 |         | 180                                                                                                                                                                            | 23.4     | 09.8     | 172                                               | 38.0 | 28.9     | 81                                                | 44.5                     | 10.0    | 145                                               | 45.4           | 48.5     |                |     |   |   |
| 4   | 258                                                | 43.5 |         | 195                                                                                                                                                                            | 23.6     | 10.3     | 187                                               | 38.7 | 29.1     | 96                                                | 47.2                     | 10.1    | 160                                               | 47.7           | 48.5     |                |     |   |   |
| 5   | 273                                                | 45.9 |         | 210                                                                                                                                                                            | 23.7     | +25 10.9 | 202                                               | 39.5 | +23 29.3 | 111                                               | 49.8                     | +9 10.1 | 175                                               | 50.1           | +22 48.5 |                |     |   |   |
| 6   | 288                                                | 48.4 |         | 225                                                                                                                                                                            | 23.8     | +25 11.4 | 217                                               | 40.2 | +23 29.5 | 126                                               | 52.5                     | +9 10.2 | 190                                               | 52.4           | +22 48.5 |                |     |   |   |
| 7   | 303                                                | 50.9 |         | 240                                                                                                                                                                            | 23.9     | 11.9     | 232                                               | 41.0 | 29.7     | 141                                               | 55.1                     | 10.3    | 205                                               | 54.7           | 48.5     |                |     |   |   |
| 8   | 318                                                | 53.3 |         | 255                                                                                                                                                                            | 24.0     | 12.5     | 247                                               | 41.7 | 30.0     | 156                                               | 57.7                     | 10.3    | 220                                               | 57.0           | 48.5     |                |     |   |   |
| 9   | 333                                                | 55.8 |         | 270                                                                                                                                                                            | 24.1     | 13.0     | 262                                               | 42.5 | 30.2     | 172                                               | 00.4                     | 10.4    | 235                                               | 59.3           | 48.5     |                |     |   |   |
| 10  | 348                                                | 58.3 |         | 285                                                                                                                                                                            | 24.2     | 13.5     | 277                                               | 43.2 | 30.4     | 187                                               | 03.0                     | 10.5    | 251                                               | 01.6           | 48.5     |                |     |   |   |
| 11  | 4 00.7                                             |      |         | 300                                                                                                                                                                            | 24.3     | +25 14.1 | 292                                               | 43.9 | +23 30.6 | 202                                               | 05.7                     | +9 10.5 | 266                                               | 03.9           | +22 48.5 |                |     |   |   |
| 12  | 19                                                 | 03.2 |         | 315                                                                                                                                                                            | 24.4     | +25 14.6 | 307                                               | 44.7 | +23 30.8 | 217                                               | 08.3                     | +9 10.6 | 281                                               | 06.2           | +22 48.5 |                |     |   |   |
| 13  | 34                                                 | 05.6 |         | 330                                                                                                                                                                            | 24.6     | 15.1     | 322                                               | 45.4 | 31.0     | 232                                               | 10.9                     | 10.7    | 296                                               | 08.5           | 48.5     |                |     |   |   |
| 14  | 49                                                 | 08.1 |         | 345                                                                                                                                                                            | 24.7     | 15.6     | 337                                               | 46.2 | 31.2     | 247                                               | 13.6                     | 10.7    | 311                                               | 10.8           | 48.5     |                |     |   |   |
| 15  | 64                                                 | 10.6 |         | 0 24.8                                                                                                                                                                         |          | 16.2     | 352                                               | 46.9 | 31.4     | 262                                               | 16.2                     | 10.8    | 326                                               | 13.1           | 48.5     |                |     |   |   |
| 16  | 79                                                 | 13.0 |         | 15 24.9                                                                                                                                                                        |          | 16.7     | 7 47.6                                            |      | 31.6     | 277                                               | 18.9                     | 10.8    | 341                                               | 15.4           | 48.5     |                |     |   |   |
| 17  | 94                                                 | 15.5 |         | 30 25.0                                                                                                                                                                        | +25 17.2 | 22 48.4  | +23 31.9                                          |      |          | 292                                               | 21.5                     | +9 10.9 | 356                                               | 17.7           | +22 48.5 |                |     |   |   |
| 18  | 109                                                | 18.0 |         | 45 25.1                                                                                                                                                                        | +25 17.7 | 37 49.1  | +23 32.1                                          |      |          | 307                                               | 24.1                     | +9 11.0 | 11 20.0                                           | +22 48.5       |          |                |     |   |   |
| 19  | 124                                                | 20.4 |         | 60 25.3                                                                                                                                                                        | 18.2     | 52 49.9  | 32.3                                              |      |          | 322                                               | 26.8                     | 11.0    | 26 22.3                                           | 48.5           |          |                |     |   |   |
| 20  | 139                                                | 22.9 |         | 75 25.4                                                                                                                                                                        | 18.8     | 67 50.6  | 32.5                                              |      |          | 337                                               | 29.4                     | 11.1    | 41 24.6                                           | 48.5           |          |                |     |   |   |
| 21  | 154                                                | 25.4 |         | 90 25.5                                                                                                                                                                        | 19.3     | 82 51.3  | 32.7                                              |      |          | 352                                               | 32.0                     | 11.2    | 56 26.9                                           | 48.5           |          |                |     |   |   |
| 22  | 169                                                | 27.8 |         | 105 25.6                                                                                                                                                                       | 19.8     | 97 52.1  | 32.9                                              |      |          | 7 34.7                                            |                          | 11.2    | 71 29.2                                           | 48.5           |          |                |     |   |   |
| 23  | 184                                                | 30.3 |         | 120 25.8                                                                                                                                                                       | 20.3     | 112 52.8 | 33.1                                              |      |          | 22 37.3                                           |                          | 11.3    | 86 31.5                                           | 48.5           |          |                |     |   |   |
| 24  | 199                                                | 32.8 |         | 135 25.9                                                                                                                                                                       | +25 20.8 | 127 53.6 | +23 33.3                                          |      |          | 37 39.9                                           | +9 11.3                  |         | 101 33.8                                          | +22 48.5       |          |                |     |   |   |
| Dif | —                                                  |      |         | +1 +5                                                                                                                                                                          |          |          | +7 +2                                             |      |          | +26 +1                                            |                          |         | +23 0                                             |                |          |                |     |   |   |



| UT | SOL                                                |      | ☾ LUNA                                                                                                                                                                         |          |          |     |       | Latitud | Puesta de Sol | Final del crepúsculo |          |          | Salida de Luna |    | Puesta de Luna |  |
|----|----------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|-----|-------|---------|---------------|----------------------|----------|----------|----------------|----|----------------|--|
|    | SD: 16:0<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 9 |      | Edad: 21 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59/3<br>12 <sup>h</sup> : 59/2<br>20 <sup>h</sup> : 59/0<br>SD: 16:2<br>PMG: 5 <sup>h</sup> 23 <sup>m</sup> R°: 62 <sup>m</sup> |          |          |     |       |         |               |                      |          |          |                |    |                |  |
|    | hG ☉                                               | Dec  | hG ☾                                                                                                                                                                           | Dif      | Dec      | Dif | Civil |         |               | Náutico              | Hora     | R°       | Hora           | R° |                |  |
| h  | °                                                  | '    | °                                                                                                                                                                              | '        | °        | '   | °     | h m     | h m           | h m                  | h m m    | h m m    | h m m          |    |                |  |
| 0  | 179                                                | 43.9 | +8 21.6                                                                                                                                                                        | 282 32.4 | -27 35.7 | 0   | 60 N  | 19 09   | 19 54         | 20 54                | 3 42 38  | 7 06 91  |                |    |                |  |
| 1  | 194                                                | 44.1 | 22.6                                                                                                                                                                           | 296 54.7 | 35.7     | 33  | 58    | 19 04   | 46            | 40                   | 3 07 45  | 7 41 83  |                |    |                |  |
| 2  | 209                                                | 44.2 | 23.5                                                                                                                                                                           | 311 17.1 | 35.6     | 1   | 56    | 18 59   | 39            | 29                   | 2 42 48  | 8 06 80  |                |    |                |  |
| 3  | 224                                                | 44.4 | 24.4                                                                                                                                                                           | 325 39.5 | 35.3     | 3   | 54    | 55      | 33            | 19                   | 21 51    | 26 77    |                |    |                |  |
| 4  | 239                                                | 44.6 | 25.3                                                                                                                                                                           | 340 01.9 | 34.7     | 6   | 52    | 51      | 27            | 11                   | 2 05 52  | 43 75    |                |    |                |  |
| 5  | 254                                                | 44.7 | +8 26.2                                                                                                                                                                        | 354 24.3 | 34.0     | 7   | 50    | 18 48   | 19 22         | 20 03                | 1 50 53  | 8 58 73  |                |    |                |  |
| 6  | 269                                                | 44.9 | +8 27.2                                                                                                                                                                        | 8 46.8   | 33.1     | 9   | 45    | 18 41   | 19 11         | 19 48                | 1 20 56  | 9 27 71  |                |    |                |  |
| 7  | 284                                                | 45.1 | 28.1                                                                                                                                                                           | 23 09.4  | 32.0     | 11  | 40    | 35      | 19 02         | 36                   | 0 57 57  | 9 50 69  |                |    |                |  |
| 8  | 299                                                | 45.2 | 29.0                                                                                                                                                                           | 37 31.9  | 30.7     | 13  | 35    | 29      | 18 55         | 26                   | 38 58    | 10 09 67 |                |    |                |  |
| 9  | 314                                                | 45.4 | 29.9                                                                                                                                                                           | 51 54.5  | 29.3     | 14  | 30    | 25      | 49            | 18                   | 0 22 59  | 25 67    |                |    |                |  |
| 10 | 329                                                | 45.6 | 30.8                                                                                                                                                                           | 66 17.2  | 27.6     | 17  | 20    | 17      | 40            | 19 06                | ** ** *  | 10 53 64 |                |    |                |  |
| 11 | 344                                                | 45.7 | +8 31.7                                                                                                                                                                        | 80 39.9  | 25.7     | 19  | 10 N  | 18 10   | 18 32         | 18 57                | ** ** *  | 11 16 63 |                |    |                |  |
| 12 | 359                                                | 45.9 | +8 32.6                                                                                                                                                                        | 95 02.6  | 23.7     | 20  | 0     | 18 04   | 18 25         | 18 49                | ** ** *  | 11 38 61 |                |    |                |  |
| 13 | 14                                                 | 46.1 | 33.6                                                                                                                                                                           | 109 25.5 | 21.5     | 22  | 10 S  | 17 58   | 19            | 44                   | 23 49 61 | 12 00 59 |                |    |                |  |
| 14 | 29                                                 | 46.2 | 34.5                                                                                                                                                                           | 123 48.3 | 19.1     | 24  | 20    | 52      | 14            | 40                   | 26 64    | 24 57    |                |    |                |  |
| 15 | 44                                                 | 46.4 | 35.4                                                                                                                                                                           | 138 11.2 | 16.5     | 26  | 30    | 45      | 09            | 37                   | 23 00 67 | 12 51 54 |                |    |                |  |
| 16 | 59                                                 | 46.5 | 36.3                                                                                                                                                                           | 152 34.2 | 13.7     | 28  | 35    | 41      | 06            | 35                   | 22 44 69 | 13 07 53 |                |    |                |  |
| 17 | 74                                                 | 46.7 | +8 37.2                                                                                                                                                                        | 166 57.3 | 10.8     | 29  | 40    | 17 36   | 18 03         | 18 35                | 22 26 71 | 13 25 52 |                |    |                |  |
| 18 | 89                                                 | 46.9 | +8 38.1                                                                                                                                                                        | 181 20.4 | 07.6     | 32  | 45    | 17 31   | 18 00         | 18 34                | 22 04 74 | 13 48 49 |                |    |                |  |
| 19 | 104                                                | 47.0 | 39.0                                                                                                                                                                           | 195 43.6 | 04.3     | 33  | 50    | 25      | 17 57         | 34                   | 21 36 78 | 14 16 46 |                |    |                |  |
| 20 | 119                                                | 47.2 | 40.0                                                                                                                                                                           | 210 06.8 | 00.8     | 35  | 52    | 22      | 56            | 35                   | 22 80    | 30 44    |                |    |                |  |
| 21 | 134                                                | 47.4 | 40.9                                                                                                                                                                           | 224 30.1 | 57.2     | 36  | 54    | 19      | 54            | 35                   | 21 06 83 | 14 46 41 |                |    |                |  |
| 22 | 149                                                | 47.5 | 41.8                                                                                                                                                                           | 238 53.5 | 53.3     | 39  | 56    | 15      | 53            | 36                   | 20 47 86 | 15 05 38 |                |    |                |  |
| 23 | 164                                                | 47.7 | 42.7                                                                                                                                                                           | 253 16.9 | 49.3     | 40  | 58    | 11      | 51            | 36                   | 20 24 91 | 28 34    |                |    |                |  |
| 24 | 179                                                | 47.8 | +8 43.6                                                                                                                                                                        | 267 40.5 | 45.1     | 42  | 60 S  | 17 07   | 17 49         | 18 37                | 19 54 99 | 15 59 26 |                |    |                |  |

| UT  | ARIES                                  |          | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                           |  |
|-----|----------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|--|
|     | PMG: 10 <sup>h</sup> 40 <sup>m</sup> 1 |          | Mag: -4.6<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |          | Mag: +1.5<br>PMG: 15 <sup>h</sup> 28 <sup>m</sup> |          | Mag: -2.4<br>PMG: 21 <sup>h</sup> 26 <sup>m</sup> |          | Mag: +0.1<br>PMG: 17 <sup>h</sup> 11 <sup>m</sup> |  |
|     | hG ♈                                   | hG ♀     | Dec                                               | hG ♂     | Dec                                               | hG ♃     | Dec                                               | hG ♄     | Dec                                               |  |
| h   | °                                      | °        | °                                                 | °        | °                                                 | °        | °                                                 | °        | °                                                 |  |
| 0   | 199 32.8                               | 135 25.9 | +25 20.8                                          | 127 53.6 | +23 33.3                                          | 37 39.9  | +9 11.3                                           | 101 33.8 | +22 48.5                                          |  |
| 1   | 214 35.2                               | 150 26.0 | 21.3                                              | 142 54.3 | 33.5                                              | 52 42.6  | 11.4                                              | 116 36.1 | 48.5                                              |  |
| 2   | 229 37.7                               | 165 26.1 | 21.9                                              | 157 55.0 | 33.7                                              | 67 45.2  | 11.5                                              | 131 38.4 | 48.5                                              |  |
| 3   | 244 40.1                               | 180 26.3 | 22.4                                              | 172 55.8 | 33.9                                              | 82 47.8  | 11.5                                              | 146 40.7 | 48.5                                              |  |
| 4   | 259 42.6                               | 195 26.4 | 22.9                                              | 187 56.5 | 34.1                                              | 97 50.5  | 11.6                                              | 161 43.0 | 48.5                                              |  |
| 5   | 274 45.1                               | 210 26.5 | +25 23.4                                          | 202 57.2 | +23 34.4                                          | 112 53.1 | +9 11.7                                           | 176 45.3 | +22 48.5                                          |  |
| 6   | 289 47.5                               | 225 26.7 | +25 23.9                                          | 217 58.0 | +23 34.6                                          | 127 55.7 | +9 11.7                                           | 191 47.6 | +22 48.5                                          |  |
| 7   | 304 50.0                               | 240 26.8 | 24.4                                              | 232 58.7 | 34.8                                              | 142 58.4 | 11.8                                              | 206 49.9 | 48.5                                              |  |
| 8   | 319 52.5                               | 255 26.9 | 24.9                                              | 247 59.5 | 35.0                                              | 158 01.0 | 11.8                                              | 221 52.2 | 48.5                                              |  |
| 9   | 334 54.9                               | 270 27.1 | 25.4                                              | 263 00.2 | 35.2                                              | 173 03.6 | 11.9                                              | 236 54.5 | 48.5                                              |  |
| 10  | 349 57.4                               | 285 27.2 | 25.9                                              | 278 00.9 | 35.4                                              | 188 06.3 | 12.0                                              | 251 56.8 | 48.5                                              |  |
| 11  | 4 59.9                                 | 300 27.3 | +25 26.4                                          | 293 01.7 | +23 35.6                                          | 203 08.9 | +9 12.0                                           | 266 59.1 | +22 48.5                                          |  |
| 12  | 20 02.3                                | 315 27.5 | +25 26.9                                          | 308 02.4 | +23 35.8                                          | 218 11.5 | +9 12.1                                           | 282 01.4 | +22 48.5                                          |  |
| 13  | 35 04.8                                | 330 27.6 | 27.4                                              | 323 03.2 | 36.0                                              | 233 14.2 | 12.2                                              | 297 03.7 | 48.5                                              |  |
| 14  | 50 07.3                                | 345 27.7 | 28.0                                              | 338 03.9 | 36.2                                              | 248 16.8 | 12.2                                              | 312 06.0 | 48.5                                              |  |
| 15  | 65 09.7                                | 0 27.9   | 28.5                                              | 353 04.6 | 36.4                                              | 263 19.4 | 12.3                                              | 327 08.3 | 48.5                                              |  |
| 16  | 80 12.2                                | 15 28.0  | 29.0                                              | 8 05.4   | 36.6                                              | 278 22.1 | 12.3                                              | 342 10.6 | 48.5                                              |  |
| 17  | 95 14.6                                | 30 28.2  | +25 29.5                                          | 23 06.1  | +23 36.8                                          | 293 24.7 | +9 12.4                                           | 357 12.9 | +22 48.5                                          |  |
| 18  | 110 17.1                               | 45 28.3  | +25 30.0                                          | 38 06.8  | +23 37.0                                          | 308 27.3 | +9 12.5                                           | 12 15.2  | +22 48.4                                          |  |
| 19  | 125 19.6                               | 60 28.4  | 30.5                                              | 53 07.6  | 37.2                                              | 323 30.0 | 12.5                                              | 27 17.5  | 48.4                                              |  |
| 20  | 140 22.0                               | 75 28.6  | 30.9                                              | 68 08.3  | 37.4                                              | 338 32.6 | 12.6                                              | 42 19.8  | 48.4                                              |  |
| 21  | 155 24.5                               | 90 28.7  | 31.4                                              | 83 09.1  | 37.6                                              | 353 35.2 | 12.6                                              | 57 22.0  | 48.4                                              |  |
| 22  | 170 27.0                               | 105 28.9 | 31.9                                              | 98 09.8  | 37.8                                              | 8 37.8   | 12.7                                              | 72 24.3  | 48.4                                              |  |
| 23  | 185 29.4                               | 120 29.0 | 32.4                                              | 113 10.5 | 38.0                                              | 23 40.5  | 12.8                                              | 87 26.6  | 48.4                                              |  |
| 24  | 200 31.9                               | 135 29.2 | +25 32.9                                          | 128 11.3 | +23 38.2                                          | 38 43.1  | +9 12.8                                           | 102 28.9 | +22 48.4                                          |  |
| Dif | —                                      | +1       | +5                                                | +7       | +2                                                | +26      | +1                                                | +23      | 0                                                 |  |

| UT | SOL                                                |      |    | ☾ LUNA                                                                           |     |     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |          |
|----|----------------------------------------------------|------|----|----------------------------------------------------------------------------------|-----|-----|---------|--------------------------|---------|---------------|----------------|------|----------------|----------|
|    | SD: 16'0<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 7 |      |    | Edad: 22 <sup>d</sup> 1 PHE {<br>SD: 16'1<br>PMG: 6 <sup>h</sup> 25 <sup>m</sup> |     |     |         |                          |         |               |                |      |                |          |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                             | Dif | Dec |         | Dif                      | Náutico |               | Civil          | Hora | Rº             | Hora     |
| h  | °                                                  | '    | °  | °                                                                                | '   | °   | °       | h                        | m       | h             | m              | h    | m              | m        |
| 0  | 179                                                | 47.8 | +8 | 43.6                                                                             |     | 267 | 40.5    | 3                        | 07      | 4             | 06             | 4    | 20             | 15       |
| 1  | 194                                                | 48.0 |    | 44.5                                                                             | 46  | 282 | 04.1    | 20                       | 15      | 4             | 57             | 3    | 52             | 23       |
| 2  | 209                                                | 48.2 |    | 45.4                                                                             | 47  | 296 | 27.8    | 32                       | 22      | 5             | 01             | 30   | 29             | 26       |
| 3  | 224                                                | 48.3 |    | 46.3                                                                             | 47  | 310 | 51.5    | 42                       | 28      | 06            |                | 3    | 12             | 33       |
| 4  | 239                                                | 48.5 |    | 47.3                                                                             | 49  | 325 | 15.4    | 50                       | 34      | 09            |                | 2    | 57             | 35       |
| 5  | 254                                                | 48.6 | +8 | 48.2                                                                             | 49  | 339 | 39.3    | 3                        | 58      | 4             | 39             | 5    | 13             | 81       |
| 6  | 269                                                | 48.8 | +8 | 49.1                                                                             | 50  | 354 | 03.3    | 4                        | 13      | 4             | 50             | 5    | 20             | 76       |
| 7  | 284                                                | 49.0 |    | 50.0                                                                             | 51  | 8   | 27.4    | 25                       | 4       | 59            | 26             | 1    | 54             | 46       |
| 8  | 299                                                | 49.1 |    | 50.9                                                                             | 52  | 22  | 51.6    | 35                       | 5       | 06            | 32             | 36   | 49             | 72       |
| 9  | 314                                                | 49.3 |    | 51.8                                                                             | 53  | 37  | 15.9    | 43                       | 12      | 36            |                | 1    | 21             | 50       |
| 10 | 329                                                | 49.4 |    | 52.7                                                                             | 54  | 51  | 40.3    | 4                        | 56      | 22            | 44             | 0    | 54             | 54       |
| 11 | 344                                                | 49.6 | +8 | 53.6                                                                             | 54  | 66  | 04.7    | 5                        | 05      | 5             | 30             | 5    | 51             | 63       |
| 12 | 359                                                | 49.8 | +8 | 54.5                                                                             | 56  | 80  | 29.3    | 5                        | 12      | 5             | 36             | 5    | 57             | 59       |
| 13 | 14                                                 | 49.9 |    | 55.4                                                                             | 56  | 94  | 53.9    | 18                       | 42      | 6             | 04             | 0    | 10             | 59       |
| 14 | 29                                                 | 50.1 |    | 56.4                                                                             | 58  | 109 | 18.7    | 22                       | 48      | 10            |                | ***  | ***            | 12 59 54 |
| 15 | 44                                                 | 50.2 |    | 57.3                                                                             | 58  | 123 | 43.5    | 25                       | 53      | 17            |                | ***  | ***            | 13 21 50 |
| 16 | 59                                                 | 50.4 |    | 58.2                                                                             | 60  | 138 | 08.5    | 27                       | 56      | 22            |                | ***  | ***            | 13 45 47 |
| 17 | 74                                                 | 50.6 | +8 | 59.1                                                                             | 60  | 152 | 33.5    | 5                        | 27      | 5             | 59             | 6    | 26             | 44       |
| 18 | 89                                                 | 50.7 | +9 | 00.0                                                                             | 62  | 166 | 58.7    | 5                        | 28      | 6             | 02             | 6    | 32             | 41       |
| 19 | 104                                                | 50.9 | +9 | 00.9                                                                             | 62  | 181 | 23.9    | 28                       | 05      | 38            |                | 23   | 18             | 76       |
| 20 | 119                                                | 51.0 |    | 01.8                                                                             | 63  | 195 | 49.2    | 28                       | 07      | 41            |                | 22   | 54             | 81       |
| 21 | 134                                                | 51.2 |    | 02.7                                                                             | 65  | 210 | 14.7    | 27                       | 08      | 44            |                | 42   | 84             | 14       |
| 22 | 149                                                | 51.4 |    | 03.6                                                                             | 65  | 224 | 40.2    | 27                       | 10      | 48            |                | 29   | 87             | 27       |
| 23 | 164                                                | 51.5 |    | 04.5                                                                             | 67  | 239 | 05.9    | 27                       | 12      | 52            |                | 22   | 13             | 92       |
| 24 | 179                                                | 51.7 | +9 | 05.4                                                                             | 67  | 253 | 31.6    | 26                       | 12      | 52            |                | 21   | 55             | 97       |
|    |                                                    |      |    |                                                                                  | 80  | -24 | 15.1    | 5                        | 26      | 6             | 14             | 6    | 56             | 16 02 18 |
|    |                                                    |      |    |                                                                                  |     |     |         |                          |         |               |                | 21   | 33             | 104      |
|    |                                                    |      |    |                                                                                  |     |     |         |                          |         |               |                | 16   | 25             | 11       |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |     | SATURNO                                           |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|-----|---------------------------------------------------|------|
|     | PMG: 10 <sup>h</sup> 36 <sup>m</sup> 1 |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup> |      | Mag: +1.5<br>PMG: 15 <sup>h</sup> 26 <sup>m</sup> |     | Mag: -2.4<br>PMG: 21 <sup>h</sup> 21 <sup>m</sup> |     | Mag: +0.1<br>PMG: 17 <sup>h</sup> 07 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec | hG ♄                                              | Dec  |
| h   | °                                      | '    | °                                                 | °    | °                                                 | '   | °                                                 | °   | °                                                 | '    |
| 0   | 200                                    | 31.9 | 135                                               | 29.2 | +25                                               | 128 | 11.3                                              | +9  | 38                                                | 43.1 |
| 1   | 215                                    | 34.4 | 150                                               | 29.3 |                                                   | 143 | 12.0                                              |     | 53                                                | 45.7 |
| 2   | 230                                    | 36.8 | 165                                               | 29.5 |                                                   | 158 | 12.7                                              |     | 68                                                | 48.4 |
| 3   | 245                                    | 39.3 | 180                                               | 29.6 |                                                   | 173 | 13.5                                              |     | 83                                                | 51.0 |
| 4   | 260                                    | 41.8 | 195                                               | 29.8 |                                                   | 188 | 14.2                                              |     | 98                                                | 53.6 |
| 5   | 275                                    | 44.2 | 210                                               | 29.9 | +25                                               | 203 | 15.0                                              | +9  | 113                                               | 56.2 |
| 6   | 290                                    | 46.7 | 225                                               | 30.1 | +25                                               | 218 | 15.7                                              | +9  | 128                                               | 58.9 |
| 7   | 305                                    | 49.1 | 240                                               | 30.2 |                                                   | 233 | 16.4                                              |     | 144                                               | 01.5 |
| 8   | 320                                    | 51.6 | 255                                               | 30.4 |                                                   | 248 | 17.2                                              |     | 159                                               | 04.1 |
| 9   | 335                                    | 54.1 | 270                                               | 30.6 |                                                   | 263 | 17.9                                              |     | 174                                               | 06.8 |
| 10  | 350                                    | 56.5 | 285                                               | 30.7 |                                                   | 278 | 18.6                                              |     | 189                                               | 09.4 |
| 11  | 5                                      | 59.0 | 300                                               | 30.9 | +25                                               | 293 | 19.4                                              | +9  | 204                                               | 12.0 |
| 12  | 21                                     | 01.5 | 315                                               | 31.0 | +25                                               | 308 | 20.1                                              | +9  | 219                                               | 14.6 |
| 13  | 36                                     | 03.9 | 330                                               | 31.2 |                                                   | 323 | 20.9                                              |     | 234                                               | 17.3 |
| 14  | 51                                     | 06.4 | 345                                               | 31.4 |                                                   | 338 | 21.6                                              |     | 249                                               | 19.9 |
| 15  | 66                                     | 08.9 | 0                                                 | 31.5 |                                                   | 353 | 22.3                                              |     | 264                                               | 22.5 |
| 16  | 81                                     | 11.3 | 15                                                | 31.7 |                                                   | 8   | 23.1                                              |     | 279                                               | 25.1 |
| 17  | 96                                     | 13.8 | 30                                                | 31.9 | +25                                               | 23  | 23.8                                              | +9  | 294                                               | 27.8 |
| 18  | 111                                    | 16.3 | 45                                                | 32.0 | +25                                               | 38  | 24.5                                              | +9  | 309                                               | 30.4 |
| 19  | 126                                    | 18.7 | 60                                                | 32.2 |                                                   | 53  | 25.3                                              |     | 324                                               | 33.0 |
| 20  | 141                                    | 21.2 | 75                                                | 32.4 |                                                   | 68  | 26.0                                              |     | 339                                               | 35.6 |
| 21  | 156                                    | 23.6 | 90                                                | 32.5 |                                                   | 83  | 26.7                                              |     | 354                                               | 38.3 |
| 22  | 171                                    | 26.1 | 105                                               | 32.7 |                                                   | 98  | 27.5                                              |     | 9                                                 | 40.9 |
| 23  | 186                                    | 28.6 | 120                                               | 32.9 |                                                   | 113 | 28.2                                              |     | 24                                                | 43.5 |
| 24  | 201                                    | 31.0 | 135                                               | 33.0 | +25                                               | 128 | 29.0                                              | +9  | 39                                                | 46.1 |
| Dif | —                                      |      | +2                                                | +5   |                                                   | +7  | +2                                                |     | +26                                               | +1   |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |
|     |                                        |      |                                                   |      |                                                   |     |                                                   |     |                                                   |      |

| UT  | SOL                                                |      |          | ☾ LUNA                                                                                                                                                                         |          |          | Latitud                                           | Puesta de Sol | Final del crepúsculo |                                                   |          | Salida de Luna |                                                   | Puesta de Luna |    |
|-----|----------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|----------|---------------------------------------------------|---------------|----------------------|---------------------------------------------------|----------|----------------|---------------------------------------------------|----------------|----|
|     | SD: 15°9<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 4 |      |          | Edad: 23 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'2<br>20 <sup>h</sup> : 58'0<br>SD: 15°9<br>PMG: 7 <sup>h</sup> 23 <sup>m</sup> R°: 53 <sup>m</sup> |          |          |                                                   |               |                      |                                                   |          |                |                                                   |                |    |
|     | hG ☉                                               | Dec  |          | hG ☾                                                                                                                                                                           | Dif      | Dec      |                                                   |               | Dif                  | Civil                                             | Náutico  | Hora           | R°                                                | Hora           | R° |
| h   | °                                                  | '    | °        | °                                                                                                                                                                              | '        | °        | '                                                 | °             | h m                  | h m                                               | h m      | h m m          | h m m                                             | h m m          |    |
| 0   | 179                                                | 51.7 | +9 05.4  | 253                                                                                                                                                                            | 31.6     | -24 15.1 | 82                                                | 60 N          | 19 14                | 20 00                                             | 21 01    | 4 35 6         | 10 21 103                                         |                |    |
| 1   | 194                                                | 51.8 | 06.3     | 267                                                                                                                                                                            | 57.5     | -24 06.9 | 82                                                | 58            | 08                   | 19 51                                             | 20 46    | 4 15 13        | 40 97                                             |                |    |
| 2   | 209                                                | 52.0 | 07.2     | 282                                                                                                                                                                            | 23.4     | -23 58.6 | 83                                                | 56            | 19 03                | 43                                                | 34       | 3 59 17        | 10 56 92                                          |                |    |
| 3   | 224                                                | 52.2 | 08.1     | 296                                                                                                                                                                            | 49.5     | 50.2     | 84                                                | 54            | 18 59                | 37                                                | 24       | 45 21          | 11 10 88                                          |                |    |
| 4   | 239                                                | 52.3 | 09.0     | 311                                                                                                                                                                            | 15.7     | 41.6     | 86                                                | 52            | 55                   | 31                                                | 15       | 32 25          | 22 84                                             |                |    |
| 5   | 254                                                | 52.5 | +9 10.0  | 325                                                                                                                                                                            | 41.9     | -23 33.0 | 86                                                | 50            | 18 51                | 19 25                                             | 20 07    | 3 21 28        | 11 32 82                                          |                |    |
| 6   | 269                                                | 52.6 | +9 10.9  | 340                                                                                                                                                                            | 08.3     | -23 24.1 | 89                                                | 45            | 18 43                | 19 14                                             | 19 51    | 2 59 32        | 11 54 76                                          |                |    |
| 7   | 284                                                | 52.8 | 11.8     | 354                                                                                                                                                                            | 34.8     | 15.2     | 89                                                | 40            | 37                   | 19 05                                             | 38       | 40 37          | 12 11 72                                          |                |    |
| 8   | 299                                                | 52.9 | 12.7     | 9                                                                                                                                                                              | 01.4     | -23 06.1 | 91                                                | 35            | 31                   | 18 57                                             | 28       | 25 39          | 26 68                                             |                |    |
| 9   | 314                                                | 53.1 | 13.6     | 23                                                                                                                                                                             | 28.1     | -22 56.9 | 92                                                | 30            | 26                   | 51                                                | 20       | 2 11 42        | 12 38 66                                          |                |    |
| 10  | 329                                                | 53.3 | 14.5     | 37                                                                                                                                                                             | 54.9     | 47.5     | 94                                                | 20            | 18                   | 40                                                | 19 06    | 1 48 47        | 13 00 60                                          |                |    |
| 11  | 344                                                | 53.4 | +9 15.4  | 52                                                                                                                                                                             | 21.9     | -22 38.1 | 94                                                | 10 N          | 18 10                | 18 32                                             | 18 57    | 1 28 51        | 13 18 56                                          |                |    |
| 12  | 359                                                | 53.6 | +9 16.3  | 66                                                                                                                                                                             | 48.9     | -22 28.5 | 96                                                | 0             | 18 04                | 18 25                                             | 18 49    | 1 09 54        | 13 36 52                                          |                |    |
| 13  | 14                                                 | 53.7 | 17.2     | 81                                                                                                                                                                             | 16.0     | 18.7     | 98                                                | 10 S          | 17 57                | 18                                                | 43       | 0 50 58        | 13 53 48                                          |                |    |
| 14  | 29                                                 | 53.9 | 18.1     | 95                                                                                                                                                                             | 43.3     | -22 08.9 | 98                                                | 20            | 50                   | 12                                                | 38       | 30 62          | 14 11 44                                          |                |    |
| 15  | 44                                                 | 54.0 | 19.0     | 110                                                                                                                                                                            | 10.6     | -21 59.0 | 99                                                | 30            | 42                   | 07                                                | 34       | 0 07 66        | 32 39                                             |                |    |
| 16  | 59                                                 | 54.2 | 19.9     | 124                                                                                                                                                                            | 38.1     | 48.9     | 101                                               | 35            | 38                   | 04                                                | 33       | ** ** *        | 44 36                                             |                |    |
| 17  | 74                                                 | 54.4 | +9 20.8  | 139                                                                                                                                                                            | 05.7     | -21 38.7 | 102                                               | 40            | 17 33                | 18 00                                             | 18 32    | ** ** *        | 14 58 33                                          |                |    |
| 18  | 89                                                 | 54.5 | +9 21.7  | 153                                                                                                                                                                            | 33.3     | -21 28.4 | 103                                               | 45            | 17 27                | 17 57                                             | 18 31    | ** ** *        | 15 14 29                                          |                |    |
| 19  | 104                                                | 54.7 | 22.6     | 168                                                                                                                                                                            | 01.1     | 18.0     | 104                                               | 50            | 20                   | 53                                                | 31       | ** ** *        | 34 23                                             |                |    |
| 20  | 119                                                | 54.8 | 23.5     | 182                                                                                                                                                                            | 29.0     | -21 07.5 | 105                                               | 52            | 17                   | 51                                                | 30       | ** ** *        | 43 21                                             |                |    |
| 21  | 134                                                | 55.0 | 24.4     | 196                                                                                                                                                                            | 57.0     | -20 56.9 | 106                                               | 54            | 14                   | 50                                                | 31       | 23 56 87       | 15 54 18                                          |                |    |
| 22  | 149                                                | 55.1 | 25.3     | 211                                                                                                                                                                            | 25.1     | 46.1     | 108                                               | 56            | 10                   | 48                                                | 31       | 45 90          | 16 06 14                                          |                |    |
| 23  | 164                                                | 55.3 | 26.2     | 225                                                                                                                                                                            | 53.3     | 35.3     | 108                                               | 58            | 06                   | 46                                                | 31       | 32 94          | 20 10                                             |                |    |
| 24  | 179                                                | 55.4 | +9 27.1  | 240                                                                                                                                                                            | 21.7     | -20 24.3 | 110                                               | 60 S          | 17 01                | 17 44                                             | 18 32    | 23 17 100      | 16 36 5                                           |                |    |
| UT  | ARIES                                              |      |          | VENUS                                                                                                                                                                          |          |          | MARTE                                             |               |                      | JÚPITER                                           |          |                | SATURNO                                           |                |    |
|     | PMG: 10 <sup>h</sup> 32 <sup>m</sup> 2             |      |          | Mag: -4.6<br>PMG: 14 <sup>h</sup> 58 <sup>m</sup>                                                                                                                              |          |          | Mag: +1.5<br>PMG: 15 <sup>h</sup> 25 <sup>m</sup> |               |                      | Mag: -2.4<br>PMG: 21 <sup>h</sup> 17 <sup>m</sup> |          |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 04 <sup>m</sup> |                |    |
|     | hG ♈                                               | Dec  |          | hG ♀                                                                                                                                                                           | Dec      |          | hG ♂                                              | Dec           |                      | hG ♃                                              | Dec      |                | hG ♄                                              | Dec            |    |
| h   | °                                                  | '    | °        | °                                                                                                                                                                              | '        | °        | °                                                 | '             | °                    | °                                                 | '        | °              | °                                                 | '              |    |
| 0   | 201                                                | 31.0 | 135 33.0 | +25 44.5                                                                                                                                                                       | 128 29.0 | +23 42.9 | 39                                                | 46.1          | +9 14.2              | 103 24.0                                          | +22 48.4 |                |                                                   |                |    |
| 1   | 216                                                | 33.5 | 150 33.2 | 45.0                                                                                                                                                                           | 143 29.7 | 43.1     | 54                                                | 48.7          | 14.3                 | 118 26.3                                          | 48.4     |                |                                                   |                |    |
| 2   | 231                                                | 36.0 | 165 33.4 | 45.4                                                                                                                                                                           | 158 30.4 | 43.3     | 69                                                | 51.4          | 14.3                 | 133 28.6                                          | 48.4     |                |                                                   |                |    |
| 3   | 246                                                | 38.4 | 180 33.6 | 45.9                                                                                                                                                                           | 173 31.2 | 43.5     | 84                                                | 54.0          | 14.4                 | 148 30.9                                          | 48.3     |                |                                                   |                |    |
| 4   | 261                                                | 40.9 | 195 33.7 | 46.4                                                                                                                                                                           | 188 31.9 | 43.7     | 99                                                | 56.6          | 14.5                 | 163 33.2                                          | 48.3     |                |                                                   |                |    |
| 5   | 276                                                | 43.4 | 210 33.9 | +25 46.9                                                                                                                                                                       | 203 32.6 | +23 43.9 | 114                                               | 59.2          | +9 14.5              | 178 35.4                                          | +22 48.3 |                |                                                   |                |    |
| 6   | 291                                                | 45.8 | 225 34.1 | +25 47.3                                                                                                                                                                       | 218 33.4 | +23 44.1 | 130                                               | 01.9          | +9 14.6              | 193 37.7                                          | +22 48.3 |                |                                                   |                |    |
| 7   | 306                                                | 48.3 | 240 34.3 | 47.8                                                                                                                                                                           | 233 34.1 | 44.3     | 145                                               | 04.5          | 14.6                 | 208 40.0                                          | 48.3     |                |                                                   |                |    |
| 8   | 321                                                | 50.7 | 255 34.5 | 48.2                                                                                                                                                                           | 248 34.8 | 44.5     | 160                                               | 07.1          | 14.7                 | 223 42.3                                          | 48.3     |                |                                                   |                |    |
| 9   | 336                                                | 53.2 | 270 34.6 | 48.7                                                                                                                                                                           | 263 35.6 | 44.7     | 175                                               | 09.7          | 14.7                 | 238 44.6                                          | 48.3     |                |                                                   |                |    |
| 10  | 351                                                | 55.7 | 285 34.8 | 49.2                                                                                                                                                                           | 278 36.3 | 44.9     | 190                                               | 12.3          | 14.8                 | 253 46.9                                          | 48.3     |                |                                                   |                |    |
| 11  | 6                                                  | 58.1 | 300 35.0 | +25 49.6                                                                                                                                                                       | 293 37.0 | +23 45.0 | 205                                               | 15.0          | +9 14.9              | 268 49.2                                          | +22 48.3 |                |                                                   |                |    |
| 12  | 22                                                 | 00.6 | 315 35.2 | +25 50.1                                                                                                                                                                       | 308 37.8 | +23 45.2 | 220                                               | 17.6          | +9 14.9              | 283 51.5                                          | +22 48.3 |                |                                                   |                |    |
| 13  | 37                                                 | 03.1 | 330 35.4 | 50.6                                                                                                                                                                           | 323 38.5 | 45.4     | 235                                               | 20.2          | 15.0                 | 298 53.8                                          | 48.3     |                |                                                   |                |    |
| 14  | 52                                                 | 05.5 | 345 35.6 | 51.0                                                                                                                                                                           | 338 39.2 | 45.6     | 250                                               | 22.8          | 15.0                 | 313 56.1                                          | 48.3     |                |                                                   |                |    |
| 15  | 67                                                 | 08.0 | 0 35.8   | 51.5                                                                                                                                                                           | 353 40.0 | 45.8     | 265                                               | 25.4          | 15.1                 | 328 58.3                                          | 48.3     |                |                                                   |                |    |
| 16  | 82                                                 | 10.5 | 15 35.9  | 51.9                                                                                                                                                                           | 8 40.7   | 46.0     | 280                                               | 28.0          | 15.1                 | 344 00.6                                          | 48.3     |                |                                                   |                |    |
| 17  | 97                                                 | 12.9 | 30 36.1  | +25 52.4                                                                                                                                                                       | 23 41.4  | +23 46.2 | 295                                               | 30.7          | +9 15.2              | 359 02.9                                          | +22 48.3 |                |                                                   |                |    |
| 18  | 112                                                | 15.4 | 45 36.3  | +25 52.8                                                                                                                                                                       | 38 42.2  | +23 46.4 | 310                                               | 33.3          | +9 15.2              | 14 05.2                                           | +22 48.3 |                |                                                   |                |    |
| 19  | 127                                                | 17.9 | 60 36.5  | 53.3                                                                                                                                                                           | 53 42.9  | 46.6     | 325                                               | 35.9          | 15.3                 | 29 07.5                                           | 48.3     |                |                                                   |                |    |
| 20  | 142                                                | 20.3 | 75 36.7  | 53.8                                                                                                                                                                           | 68 43.7  | 46.7     | 340                                               | 38.5          | 15.4                 | 44 09.8                                           | 48.3     |                |                                                   |                |    |
| 21  | 157                                                | 22.8 | 90 36.9  | 54.2                                                                                                                                                                           | 83 44.4  | 46.9     | 355                                               | 41.1          | 15.4                 | 59 12.1                                           | 48.3     |                |                                                   |                |    |
| 22  | 172                                                | 25.2 | 105 37.1 | 54.7                                                                                                                                                                           | 98 45.1  | 47.1     | 10                                                | 43.7          | 15.5                 | 74 14.4                                           | 48.3     |                |                                                   |                |    |
| 23  | 187                                                | 27.7 | 120 37.3 | 55.1                                                                                                                                                                           | 113 45.9 | 47.3     | 25                                                | 46.4          | 15.5                 | 89 16.7                                           | 48.3     |                |                                                   |                |    |
| 24  | 202                                                | 30.2 | 135 37.5 | +25 55.6                                                                                                                                                                       | 128 46.6 | +23 47.5 | 40                                                | 49.0          | +9 15.6              | 104 18.9                                          | +22 48.3 |                |                                                   |                |    |
| Dif | —                                                  |      | +2       | +5                                                                                                                                                                             | +7       | +2       | +26                                               |               | +1                   | +23                                               |          | 0              |                                                   |                |    |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                                                             |                     |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |          |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|----------|----------|
|     | SD: 15°9<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 2 |      |                                                   | Edad: 24 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 57/8<br>12 <sup>h</sup> : 57/6<br>20 <sup>h</sup> : 57/4<br>PMG: 8 <sup>h</sup> 16 <sup>m</sup> R°: 49 <sup>m</sup> |                     |                                                   |         |                          |                                                   |               |                |                                                   |                |          |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                               | Dif                 | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                              | R°             | Hora     | R°       |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                  | '                   | °                                                 | '       | °                        | h                                                 | m             | h              | m                                                 | h              | m        | m        |
| 0   | 179                                                | 55.4 | +9 27.1                                           | 240                                                                                                                                                                | 21.7                | -20 24.3                                          |         | 60 N                     | 2 59                                              | 4 00          | 4 46           |                                                   | 4 41           | 3        | 12 04 98 |
| 1   | 194                                                | 55.6 |                                                   | 254                                                                                                                                                                | 50.1 <sup>94</sup>  | 13.3 <sup>110</sup>                               |         | 58                       | 3 13                                              | 09            | 51             |                                                   | 28             | 7        | 17 93    |
| 2   | 209                                                | 55.7 |                                                   | 269                                                                                                                                                                | 18.6 <sup>95</sup>  | -20 02.1 <sup>112</sup>                           |         | 56                       | 25                                                | 16            | 4 56           |                                                   | 16             | 12       | 28 88    |
| 3   | 224                                                | 55.9 |                                                   | 283                                                                                                                                                                | 47.2 <sup>96</sup>  | -19 50.9 <sup>112</sup>                           |         | 54                       | 36                                                | 23            | 5 01           |                                                   | 4 06           | 15       | 38 85    |
| 4   | 239                                                | 56.1 |                                                   | 298                                                                                                                                                                | 16.0 <sup>98</sup>  | 39.5 <sup>114</sup>                               |         | 52                       | 45                                                | 29            | 05             |                                                   | 3 57           | 18       | 46 82    |
| 5   | 254                                                | 56.2 | +9 31.6                                           | 312                                                                                                                                                                | 44.8 <sup>98</sup>  | -19 28.1 <sup>114</sup>                           |         | 50                       | 3 53                                              | 4 35          | 5 09           |                                                   | 3 49           | 20       | 12 54 79 |
| 6   | 269                                                | 56.4 | +9 32.5                                           | 327                                                                                                                                                                | 13.8 <sup>100</sup> | -19 16.6 <sup>115</sup>                           |         | 45                       | 4 09                                              | 4 46          | 5 17           |                                                   | 3 31           | 26       | 13 10 73 |
| 7   | 284                                                | 56.5 |                                                   | 341                                                                                                                                                                | 42.8 <sup>100</sup> | -19 04.9 <sup>117</sup>                           |         | 40                       | 22                                                | 4 55          | 23             |                                                   | 17             | 29       | 23 69    |
| 8   | 299                                                | 56.7 |                                                   | 356                                                                                                                                                                | 12.0 <sup>102</sup> | -18 53.2 <sup>117</sup>                           |         | 35                       | 32                                                | 5 03          | 29             |                                                   | 3 04           | 33       | 34 66    |
| 9   | 314                                                | 56.8 |                                                   | 10                                                                                                                                                                 | 41.2 <sup>102</sup> | 41.4 <sup>118</sup>                               |         | 30                       | 41                                                | 10            | 34             |                                                   | 2 53           | 37       | 13 44 62 |
| 10  | 329                                                | 57.0 |                                                   | 25                                                                                                                                                                 | 10.6 <sup>104</sup> | 29.5 <sup>119</sup>                               |         | 20                       | 4 54                                              | 20            | 43             |                                                   | 35             | 41       | 14 00 57 |
| 11  | 344                                                | 57.1 | +9 37.0                                           | 39                                                                                                                                                                 | 40.0 <sup>104</sup> | -18 17.5 <sup>120</sup>                           |         | 10 N                     | 5 04                                              | 5 29          | 5 50           |                                                   | 2 19           | 45       | 14 14 53 |
| 12  | 359                                                | 57.3 | +9 37.9                                           | 54                                                                                                                                                                 | 09.6 <sup>106</sup> | -18 05.4 <sup>121</sup>                           |         | 0                        | 5 12                                              | 5 36          | 5 57           |                                                   | 2 03           | 50       | 14 28 48 |
| 13  | 14                                                 | 57.4 |                                                   | 68                                                                                                                                                                 | 39.2 <sup>106</sup> | -17 53.3 <sup>121</sup>                           |         | 10 S                     | 18                                                | 42            | 6 04           |                                                   | 1 48           | 54       | 41 44    |
| 14  | 29                                                 | 57.6 |                                                   | 83                                                                                                                                                                 | 09.0 <sup>108</sup> | 41.0 <sup>123</sup>                               |         | 20                       | 23                                                | 48            | 11             |                                                   | 32             | 58       | 14 55 39 |
| 15  | 44                                                 | 57.7 |                                                   | 97                                                                                                                                                                 | 38.8 <sup>108</sup> | 28.7 <sup>123</sup>                               |         | 30                       | 27                                                | 54            | 19             |                                                   | 13             | 63       | 15 11 34 |
| 16  | 59                                                 | 57.9 |                                                   | 112                                                                                                                                                                | 08.8 <sup>110</sup> | 16.3 <sup>124</sup>                               |         | 35                       | 28                                                | 5 58          | 23             |                                                   | 1 02           | 66       | 20 31    |
| 17  | 74                                                 | 58.0 | +9 42.3                                           | 126                                                                                                                                                                | 38.8 <sup>110</sup> | -17 03.8 <sup>125</sup>                           |         | 40                       | 5 29                                              | 6 01          | 6 28           |                                                   | 0 49           | 70       | 15 31 27 |
| 18  | 89                                                 | 58.2 | +9 43.2                                           | 141                                                                                                                                                                | 08.9 <sup>111</sup> | -16 51.3 <sup>125</sup>                           |         | 45                       | 5 30                                              | 6 04          | 6 34           |                                                   | 0 34           | 75       | 15 43 23 |
| 19  | 104                                                | 58.3 |                                                   | 155                                                                                                                                                                | 39.2 <sup>113</sup> | 38.6 <sup>127</sup>                               |         | 50                       | 31                                                | 08            | 41             |                                                   | 15             | 80       | 15 57 19 |
| 20  | 119                                                | 58.5 |                                                   | 170                                                                                                                                                                | 09.5 <sup>113</sup> | 25.9 <sup>127</sup>                               |         | 52                       | 31                                                | 10            | 44             |                                                   | 0 06           | 83       | 16 04 16 |
| 21  | 134                                                | 58.7 |                                                   | 184                                                                                                                                                                | 39.9 <sup>114</sup> | 13.1 <sup>128</sup>                               |         | 54                       | 31                                                | 12            | 48             |                                                   | ** ** *        | **       | 12 13    |
| 22  | 149                                                | 58.8 |                                                   | 199                                                                                                                                                                | 10.4 <sup>115</sup> | -16 00.3 <sup>128</sup>                           |         | 56                       | 31                                                | 14            | 52             |                                                   | ** ** *        | **       | 20 10    |
| 23  | 164                                                | 59.0 |                                                   | 213                                                                                                                                                                | 41.0 <sup>116</sup> | -15 47.4 <sup>129</sup>                           |         | 58                       | 31                                                | 16            | 6 56           |                                                   | ** ** *        | **       | 30 6     |
| 24  | 179                                                | 59.1 | +9 48.6                                           | 228                                                                                                                                                                | 11.7 <sup>117</sup> | -15 34.4 <sup>130</sup>                           |         | 60 S                     | 5 30                                              | 6 18          | 7 01           |                                                   | ** ** *        | **       | 16 41 2  |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                    |                     | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                           |                |          |          |
|     | PMG 10 <sup>h</sup> 28 <sup>m</sup> 3              |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |                                                                                                                                                                    |                     | Mag: +1.5<br>PMG: 15 <sup>h</sup> 24 <sup>m</sup> |         |                          | Mag: -2.4<br>PMG: 21 <sup>h</sup> 13 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 17 <sup>h</sup> 00 <sup>m</sup> |                |          |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                |                     | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                              | Dec            |          |          |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                  | '                   | °                                                 | '       | °                        | °                                                 | '             | °              | °                                                 | '              | °        |          |
| 0   | 202                                                | 30.2 | 135                                               | 37.5                                                                                                                                                               | +25 55.6            | 128                                               | 46.6    | +23 47.5                 | 40                                                | 49.0          | +9 15.6        | 104                                               | 18.9           | +22 48.3 |          |
| 1   | 217                                                | 32.6 | 150                                               | 37.7                                                                                                                                                               | 56.0                | 143                                               | 47.3    | 47.7                     | 55                                                | 51.6          | 15.6           | 119                                               | 21.2           | 48.3     |          |
| 2   | 232                                                | 35.1 | 165                                               | 37.9                                                                                                                                                               | 56.5                | 158                                               | 48.1    | 47.9                     | 70                                                | 54.2          | 15.7           | 134                                               | 23.5           | 48.3     |          |
| 3   | 247                                                | 37.6 | 180                                               | 38.1                                                                                                                                                               | 56.9                | 173                                               | 48.8    | 48.0                     | 85                                                | 56.8          | 15.7           | 149                                               | 25.8           | 48.3     |          |
| 4   | 262                                                | 40.0 | 195                                               | 38.3                                                                                                                                                               | 57.3                | 188                                               | 49.5    | 48.2                     | 100                                               | 59.4          | 15.8           | 164                                               | 28.1           | 48.3     |          |
| 5   | 277                                                | 42.5 | 210                                               | 38.5                                                                                                                                                               | +25 57.8            | 203                                               | 50.3    | +23 48.4                 | 116                                               | 02.1          | +9 15.8        | 179                                               | 30.4           | +22 48.3 |          |
| 6   | 292                                                | 45.0 | 225                                               | 38.7                                                                                                                                                               | +25 58.2            | 218                                               | 51.0    | +23 48.6                 | 131                                               | 04.7          | +9 15.9        | 194                                               | 32.7           | +22 48.3 |          |
| 7   | 307                                                | 47.4 | 240                                               | 38.9                                                                                                                                                               | 58.7                | 233                                               | 51.7    | 48.8                     | 146                                               | 07.3          | 15.9           | 209                                               | 35.0           | 48.3     |          |
| 8   | 322                                                | 49.9 | 255                                               | 39.1                                                                                                                                                               | 59.1                | 248                                               | 52.5    | 49.0                     | 161                                               | 09.9          | 16.0           | 224                                               | 37.2           | 48.2     |          |
| 9   | 337                                                | 52.4 | 270                                               | 39.3                                                                                                                                                               | +25 59.6            | 263                                               | 53.2    | 49.1                     | 176                                               | 12.5          | 16.1           | 239                                               | 39.5           | 48.2     |          |
| 10  | 352                                                | 54.8 | 285                                               | 39.6                                                                                                                                                               | +26 00.0            | 278                                               | 53.9    | 49.3                     | 191                                               | 15.1          | 16.1           | 254                                               | 41.8           | 48.2     |          |
| 11  | 7                                                  | 57.3 | 300                                               | 39.8                                                                                                                                                               | +26 00.4            | 293                                               | 54.7    | +23 49.5                 | 206                                               | 17.7          | +9 16.2        | 269                                               | 44.1           | +22 48.2 |          |
| 12  | 22                                                 | 59.7 | 315                                               | 40.0                                                                                                                                                               | +26 00.9            | 308                                               | 55.4    | +23 49.7                 | 221                                               | 20.4          | +9 16.2        | 284                                               | 46.4           | +22 48.2 |          |
| 13  | 38                                                 | 02.2 | 330                                               | 40.2                                                                                                                                                               | 01.3                | 323                                               | 56.1    | 49.9                     | 236                                               | 23.0          | 16.3           | 299                                               | 48.7           | 48.2     |          |
| 14  | 53                                                 | 04.7 | 345                                               | 40.4                                                                                                                                                               | 01.8                | 338                                               | 56.9    | 50.0                     | 251                                               | 25.6          | 16.3           | 314                                               | 51.0           | 48.2     |          |
| 15  | 68                                                 | 07.1 | 0                                                 | 40.6                                                                                                                                                               | 02.2                | 353                                               | 57.6    | 50.2                     | 266                                               | 28.2          | 16.4           | 329                                               | 53.2           | 48.2     |          |
| 16  | 83                                                 | 09.6 | 15                                                | 40.8                                                                                                                                                               | 02.6                | 8                                                 | 58.3    | 50.4                     | 281                                               | 30.8          | 16.4           | 344                                               | 55.5           | 48.2     |          |
| 17  | 98                                                 | 12.1 | 30                                                | 41.1                                                                                                                                                               | +26 03.1            | 23                                                | 59.1    | +23 50.6                 | 296                                               | 33.4          | +9 16.5        | 359                                               | 57.8           | +22 48.2 |          |
| 18  | 113                                                | 14.5 | 45                                                | 41.3                                                                                                                                                               | +26 03.5            | 38                                                | 59.8    | +23 50.8                 | 311                                               | 36.0          | +9 16.5        | 15                                                | 00.1           | +22 48.2 |          |
| 19  | 128                                                | 17.0 | 60                                                | 41.5                                                                                                                                                               | 03.9                | 54                                                | 00.5    | 50.9                     | 326                                               | 38.6          | 16.6           | 30                                                | 02.4           | 48.2     |          |
| 20  | 143                                                | 19.5 | 75                                                | 41.7                                                                                                                                                               | 04.4                | 69                                                | 01.3    | 51.1                     | 341                                               | 41.2          | 16.6           | 45                                                | 04.7           | 48.2     |          |
| 21  | 158                                                | 21.9 | 90                                                | 41.9                                                                                                                                                               | 04.8                | 84                                                | 02.0    | 51.3                     | 356                                               | 43.9          | 16.7           | 60                                                | 06.9           | 48.2     |          |
| 22  | 173                                                | 24.4 | 105                                               | 42.2                                                                                                                                                               | 05.2                | 99                                                | 02.7    | 51.5                     | 11                                                | 46.5          | 16.7           | 75                                                | 09.2           | 48.2     |          |
| 23  | 188                                                | 26.8 | 120                                               | 42.4                                                                                                                                                               | 05.7                | 114                                               | 03.5    | 51.7                     | 26                                                | 49.1          | 16.8           | 90                                                | 11.5           | 48.2     |          |
| 24  | 203                                                | 29.3 | 135                                               | 42.6                                                                                                                                                               | +26 06.1            | 129                                               | 04.2    | +23 51.8                 | 41                                                | 51.7          | +9 16.8        | 105                                               | 13.8           | +22 48.2 |          |
| Dif | —                                                  |      | +2                                                |                                                                                                                                                                    | +4                  | +7                                                |         | +2                       | +26                                               |               | +1             | +23                                               |                | 0        |          |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                                                                         |                         |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna |                                                   | Puesta de Luna |       |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|----------------|---------------------------------------------------|----------------|-------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 9 |      |                                                   | Edad: 25 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 57/3<br>12 <sup>h</sup> : 57/1<br>20 <sup>h</sup> : 56/9<br>SD: 15°6<br>PMG: 9 <sup>h</sup> 05 <sup>m</sup> R°: 45 <sup>m</sup> |                         |                                                   |          |               |                                                   |          |                |                                                   |                |       |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                           | Dif                     | Dec                                               |          |               | Dif                                               | Civil    | Náutico        | Hora                                              | R°             | Hora  |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                              | °                       | '                                                 | °        | h m           | h m                                               | h m      | h m m          | h m m                                             | h m m          | h m m |
| 0   | 179                                                | 59.1 | +9 48.6                                           | 228                                                                                                                                                                            | 11.7                    | -15 34.4                                          | 60 N     | 19 19         | 20 05                                             | 21 08    | 4 44 2         | 13 42 92                                          |                |       |
| 1   | 194                                                | 59.3 |                                                   | 49.5                                                                                                                                                                           | 242 42.5 <sup>118</sup> | 21.3 <sup>131</sup>                               | 58       | 13            | 19 56                                             | 20 53    | 35 6           | 50 88                                             |                |       |
| 2   | 209                                                | 59.4 |                                                   | 50.4                                                                                                                                                                           | 257 13.3 <sup>118</sup> | -15 08.2 <sup>131</sup>                           | 56       | 07            | 48                                                | 40       | 28 8           | 13 56 85                                          |                |       |
| 3   | 224                                                | 59.6 |                                                   | 51.3                                                                                                                                                                           | 271 44.3 <sup>120</sup> | -14 55.0 <sup>132</sup>                           | 54       | 19 03         | 41                                                | 29       | 21 11          | 14 03 81                                          |                |       |
| 4   | 239                                                | 59.7 |                                                   | 52.2                                                                                                                                                                           | 286 15.3 <sup>120</sup> | 41.8 <sup>132</sup>                               | 52       | 18 58         | 34                                                | 19       | 15 13          | 08 79                                             |                |       |
| 5   | 254                                                | 59.9 | +9 53.1                                           | 300 46.5 <sup>122</sup>                                                                                                                                                        | -14 28.5 <sup>133</sup> |                                                   | 50       | 18 54         | 19 29                                             | 20 11    | 4 09 16        | 14 13 76                                          |                |       |
| 6   | 270                                                | 00.0 | +9 54.0                                           | 315 17.7 <sup>122</sup>                                                                                                                                                        | -14 15.1 <sup>134</sup> |                                                   | 45       | 18 46         | 19 17                                             | 19 54    | 3 57 21        | 14 23 71                                          |                |       |
| 7   | 285                                                | 00.2 |                                                   | 54.9                                                                                                                                                                           | 329 49.0 <sup>123</sup> | -14 01.7 <sup>134</sup>                           | 40       | 39            | 19 07                                             | 41       | 46 26          | 32 67                                             |                |       |
| 8   | 300                                                | 00.3 |                                                   | 55.7                                                                                                                                                                           | 344 20.3 <sup>123</sup> | -13 48.2 <sup>135</sup>                           | 35       | 33            | 18 59                                             | 30       | 37 29          | 40 62                                             |                |       |
| 9   | 315                                                | 00.5 |                                                   | 56.6                                                                                                                                                                           | 358 51.8 <sup>125</sup> | 34.6 <sup>136</sup>                               | 30       | 27            | 52                                                | 21       | 30 32          | 46 60                                             |                |       |
| 10  | 330                                                | 00.6 |                                                   | 57.5                                                                                                                                                                           | 13 23.3 <sup>125</sup>  | 21.0 <sup>136</sup>                               | 20       | 18            | 41                                                | 19 07    | 16 38          | 14 57 54                                          |                |       |
| 11  | 345                                                | 00.8 | +9 58.4                                           | 27 54.9 <sup>126</sup>                                                                                                                                                         | -13 07.4 <sup>136</sup> |                                                   | 10 N     | 18 11         | 18 32                                             | 18 57    | 3 04 42        | 15 07 49                                          |                |       |
| 12  | 0                                                  | 00.9 | +9 59.3                                           | 42 26.6 <sup>127</sup>                                                                                                                                                         | -12 53.7 <sup>137</sup> |                                                   | 0        | 18 03         | 18 24                                             | 18 49    | 2 53 47        | 15 16 45                                          |                |       |
| 13  | 15                                                 | 01.1 | +10 00.2                                          | 56 58.4 <sup>128</sup>                                                                                                                                                         | 40.0 <sup>137</sup>     |                                                   | 10 S     | 17 56         | 17                                                | 42       | 42 51          | 25 40                                             |                |       |
| 14  | 30                                                 | 01.2 |                                                   | 01.1                                                                                                                                                                           | 71 30.2 <sup>128</sup>  | 26.2 <sup>138</sup>                               | 20       | 49            | 11                                                | 37       | 30 56          | 34 36                                             |                |       |
| 15  | 45                                                 | 01.4 |                                                   | 02.0                                                                                                                                                                           | 86 02.2 <sup>130</sup>  | -12 12.3 <sup>139</sup>                           | 30       | 40            | 04                                                | 32       | 16 61          | 45 30                                             |                |       |
| 16  | 60                                                 | 01.5 |                                                   | 02.9                                                                                                                                                                           | 100 34.2 <sup>130</sup> | -11 58.4 <sup>139</sup>                           | 35       | 35            | 18 01                                             | 31       | 2 08 65        | 51 28                                             |                |       |
| 17  | 75                                                 | 01.6 | +10 03.7                                          | 115 06.2 <sup>130</sup>                                                                                                                                                        | -11 44.5 <sup>139</sup> |                                                   | 40       | 17 30         | 17 57                                             | 18 29    | 1 59 68        | 15 58 24                                          |                |       |
| 18  | 90                                                 | 01.8 | +10 04.6                                          | 129 38.4 <sup>132</sup>                                                                                                                                                        | -11 30.5 <sup>140</sup> |                                                   | 45       | 17 24         | 17 54                                             | 18 28    | 1 49 72        | 16 06 20                                          |                |       |
| 19  | 105                                                | 01.9 |                                                   | 05.5                                                                                                                                                                           | 144 10.6 <sup>132</sup> | 16.5 <sup>140</sup>                               | 50       | 16            | 49                                                | 27       | 35 78          | 16 15                                             |                |       |
| 20  | 120                                                | 02.1 |                                                   | 06.4                                                                                                                                                                           | 158 42.9 <sup>133</sup> | -11 02.4 <sup>141</sup>                           | 52       | 13            | 47                                                | 26       | 29 80          | 20 13                                             |                |       |
| 21  | 135                                                | 02.2 |                                                   | 07.3                                                                                                                                                                           | 173 15.2 <sup>133</sup> | -10 48.3 <sup>141</sup>                           | 54       | 09            | 45                                                | 26       | 23 82          | 25 10                                             |                |       |
| 22  | 150                                                | 02.4 |                                                   | 08.2                                                                                                                                                                           | 187 47.6 <sup>134</sup> | 34.1 <sup>142</sup>                               | 56       | 05            | 43                                                | 26       | 15 86          | 30 8                                              |                |       |
| 23  | 165                                                | 02.5 |                                                   | 09.1                                                                                                                                                                           | 202 20.1 <sup>135</sup> | 20.0 <sup>141</sup>                               | 58       | 17 01         | 41                                                | 26       | 1 06 90        | 36 5                                              |                |       |
| 24  | 180                                                | 02.7 | +10 10.0                                          | 216 52.6 <sup>135</sup>                                                                                                                                                        | -10 05.7 <sup>143</sup> |                                                   | 60 S     | 16 55         | 17 38                                             | 18 26    | 0 57 94        | 16 43 1                                           |                |       |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                |                         | MARTE                                             |          |               | JÚPITER                                           |          |                | SATURNO                                           |                |       |
|     | PMG: 10 <sup>h</sup> 24 <sup>m</sup> 3             |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |                                                                                                                                                                                |                         | Mag: +1.5<br>PMG: 15 <sup>h</sup> 23 <sup>m</sup> |          |               | Mag: -2.4<br>PMG: 21 <sup>h</sup> 09 <sup>m</sup> |          |                | Mag: +0.1<br>PMG: 16 <sup>h</sup> 57 <sup>m</sup> |                |       |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                            |                         | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      |                | hG ♄                                              | Dec            |       |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                              | °                       | '                                                 | °        | '             | °                                                 | '        | °              | '                                                 | °              | '     |
| 0   | 203                                                | 29.3 | 135 42.6                                          | +26 06.1                                                                                                                                                                       | 129 04.2                | +23 51.8                                          | 41 51.7  | +9 16.8       | 105 13.8                                          | +22 48.2 |                |                                                   |                |       |
| 1   | 218                                                | 31.8 | 150 42.8                                          | 06.5                                                                                                                                                                           | 144 04.9                | 52.0                                              | 56 54.3  | 16.9          | 120 16.1                                          | 48.2     |                |                                                   |                |       |
| 2   | 233                                                | 34.2 | 165 43.1                                          | 06.9                                                                                                                                                                           | 159 05.7                | 52.2                                              | 71 56.9  | 16.9          | 135 18.4                                          | 48.2     |                |                                                   |                |       |
| 3   | 248                                                | 36.7 | 180 43.3                                          | 07.4                                                                                                                                                                           | 174 06.4                | 52.4                                              | 86 59.5  | 17.0          | 150 20.6                                          | 48.2     |                |                                                   |                |       |
| 4   | 263                                                | 39.2 | 195 43.5                                          | 07.8                                                                                                                                                                           | 189 07.1                | 52.5                                              | 102 02.1 | 17.0          | 165 22.9                                          | 48.2     |                |                                                   |                |       |
| 5   | 278                                                | 41.6 | 210 43.8                                          | +26 08.2                                                                                                                                                                       | 204 07.8                | +23 52.7                                          | 117 04.7 | +9 17.1       | 180 25.2                                          | +22 48.2 |                |                                                   |                |       |
| 6   | 293                                                | 44.1 | 225 44.0                                          | +26 08.6                                                                                                                                                                       | 219 08.6                | +23 52.9                                          | 132 07.3 | +9 17.2       | 195 27.5                                          | +22 48.2 |                |                                                   |                |       |
| 7   | 308                                                | 46.6 | 240 44.2                                          | 09.1                                                                                                                                                                           | 234 09.3                | 53.1                                              | 147 09.9 | 17.2          | 210 29.8                                          | 48.2     |                |                                                   |                |       |
| 8   | 323                                                | 49.0 | 255 44.5                                          | 09.5                                                                                                                                                                           | 249 10.0                | 53.3                                              | 162 12.5 | 17.3          | 225 32.1                                          | 48.2     |                |                                                   |                |       |
| 9   | 338                                                | 51.5 | 270 44.7                                          | 09.9                                                                                                                                                                           | 264 10.8                | 53.4                                              | 177 15.2 | 17.3          | 240 34.3                                          | 48.2     |                |                                                   |                |       |
| 10  | 353                                                | 54.0 | 285 44.9                                          | 10.3                                                                                                                                                                           | 279 11.5                | 53.6                                              | 192 17.8 | 17.4          | 255 36.6                                          | 48.2     |                |                                                   |                |       |
| 11  | 8                                                  | 56.4 | 300 45.2                                          | +26 10.7                                                                                                                                                                       | 294 12.2                | +23 53.8                                          | 207 20.4 | +9 17.4       | 270 38.9                                          | +22 48.1 |                |                                                   |                |       |
| 12  | 23                                                 | 58.9 | 315 45.4                                          | +26 11.2                                                                                                                                                                       | 309 13.0                | +23 53.9                                          | 222 23.0 | +9 17.5       | 285 41.2                                          | +22 48.1 |                |                                                   |                |       |
| 13  | 39                                                 | 01.3 | 330 45.7                                          | 11.6                                                                                                                                                                           | 324 13.7                | 54.1                                              | 237 25.6 | 17.5          | 300 43.5                                          | 48.1     |                |                                                   |                |       |
| 14  | 54                                                 | 03.8 | 345 45.9                                          | 12.0                                                                                                                                                                           | 339 14.4                | 54.3                                              | 252 28.2 | 17.6          | 315 45.7                                          | 48.1     |                |                                                   |                |       |
| 15  | 69                                                 | 06.3 | 0 46.2                                            | 12.4                                                                                                                                                                           | 354 15.2                | 54.5                                              | 267 30.8 | 17.6          | 330 48.0                                          | 48.1     |                |                                                   |                |       |
| 16  | 84                                                 | 08.7 | 15 46.4                                           | 12.8                                                                                                                                                                           | 9 15.9                  | 54.6                                              | 282 33.4 | 17.7          | 345 50.3                                          | 48.1     |                |                                                   |                |       |
| 17  | 99                                                 | 11.2 | 30 46.6                                           | +26 13.2                                                                                                                                                                       | 24 16.6                 | +23 54.8                                          | 297 36.0 | +9 17.7       | 0 52.6                                            | +22 48.1 |                |                                                   |                |       |
| 18  | 114                                                | 13.7 | 45 46.9                                           | +26 13.6                                                                                                                                                                       | 39 17.4                 | +23 55.0                                          | 312 38.6 | +9 17.8       | 15 54.9                                           | +22 48.1 |                |                                                   |                |       |
| 19  | 129                                                | 16.1 | 60 47.1                                           | 14.0                                                                                                                                                                           | 54 18.1                 | 55.2                                              | 327 41.2 | 17.8          | 30 57.2                                           | 48.1     |                |                                                   |                |       |
| 20  | 144                                                | 18.6 | 75 47.4                                           | 14.5                                                                                                                                                                           | 69 18.8                 | 55.3                                              | 342 43.8 | 17.9          | 45 59.4                                           | 48.1     |                |                                                   |                |       |
| 21  | 159                                                | 21.1 | 90 47.7                                           | 14.9                                                                                                                                                                           | 84 19.6                 | 55.5                                              | 357 46.4 | 17.9          | 61 01.7                                           | 48.1     |                |                                                   |                |       |
| 22  | 174                                                | 23.5 | 105 47.9                                          | 15.3                                                                                                                                                                           | 99 20.3                 | 55.7                                              | 12 49.0  | 18.0          | 76 04.0                                           | 48.1     |                |                                                   |                |       |
| 23  | 189                                                | 26.0 | 120 48.2                                          | 15.7                                                                                                                                                                           | 114 21.0                | 55.8                                              | 27 51.6  | 18.0          | 91 06.3                                           | 48.1     |                |                                                   |                |       |
| 24  | 204                                                | 28.4 | 135 48.4                                          | +26 16.1                                                                                                                                                                       | 129 21.7                | +23 56.0                                          | 42 54.2  | +9 18.1       | 106 08.6                                          | +22 48.1 |                |                                                   |                |       |
| Dif | —                                                  |      | +2 +4                                             |                                                                                                                                                                                | +7 +2                   |                                                   | +26 +1   |               | +23                                               |          | 0              |                                                   |                |       |

| UT  | SOL                                                             |      |                                                   |      | ☾ LUNA                                                                                                                                                                                                                                |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 7 |      |                                                   |      | Edad: 26 <sup>d</sup> 1 PHE {<br>SD: 15 <sup>h</sup> 5<br>PMG: 9 <sup>h</sup> 50 <sup>m</sup> R°: 44 <sup>m</sup><br>4 <sup>h</sup> : 56 <sup>m</sup> 7<br>12 <sup>h</sup> : 56 <sup>m</sup> 6<br>20 <sup>h</sup> : 56 <sup>m</sup> 4 |                     |                                                   |                     |         |                          |                                                   |               |                |      |                                                   |      |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                                                                                                                                                                  |                     | Dif                                               |                     |         | Náutico                  | Civil                                             |               | Hora           | R°   | Hora                                              | R°   |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                     | '                   | °                                                 | '                   | °       | h                        | m                                                 | h             | m              | h    | m                                                 | h    | m   | m    |
| 0   | 180                                                             | 02.7 | +10                                               | 10.0 | 216                                                                                                                                                                                                                                   | 52.6                | -10                                               | 05.7                | 60 N    | 2 51                     | 3 53                                              | 4 40          | 4 46           | 0    | 15 14                                             | 88   |     |      |
| 1   | 195                                                             | 02.8 |                                                   | 10.8 | 231                                                                                                                                                                                                                                   | 25.3 <sup>137</sup> | -9                                                | 51.5 <sup>142</sup> | 58      | 3 06                     | 4 03                                              | 46            | 41             | 3    | 18 84                                             |      |     |      |
| 2   | 210                                                             | 03.0 |                                                   | 11.7 | 245                                                                                                                                                                                                                                   | 57.9 <sup>136</sup> |                                                   | 37.2 <sup>143</sup> | 56      | 19                       | 11                                                | 51            | 36             | 7    | 21 81                                             |      |     |      |
| 3   | 225                                                             | 03.1 |                                                   | 12.6 | 260                                                                                                                                                                                                                                   | 30.7 <sup>138</sup> |                                                   | 22.9 <sup>143</sup> | 54      | 30                       | 18                                                | 4 56          | 32             | 9    | 24 79                                             |      |     |      |
| 4   | 240                                                             | 03.3 |                                                   | 13.5 | 275                                                                                                                                                                                                                                   | 03.5 <sup>138</sup> | -9                                                | 08.5 <sup>144</sup> | 52      | 40                       | 25                                                | 5 01          | 28             | 12   | 27 76                                             |      |     |      |
| 5   | 255                                                             | 03.4 | +10                                               | 14.4 | 289                                                                                                                                                                                                                                   | 36.3 <sup>138</sup> | -8                                                | 54.1 <sup>144</sup> | 50      | 3 48                     | 4 30                                              | 5 05          | 4 25           | 14   | 15 29                                             | 74   |     |      |
| 6   | 270                                                             | 03.6 | +10                                               | 15.3 | 304                                                                                                                                                                                                                                   | 09.2 <sup>139</sup> | -8                                                | 39.7 <sup>144</sup> | 45      | 4 05                     | 4 43                                              | 5 13          | 4 18           | 19   | 15 34                                             | 69   |     |      |
| 7   | 285                                                             | 03.7 |                                                   | 16.2 | 318                                                                                                                                                                                                                                   | 42.2 <sup>140</sup> |                                                   | 25.3 <sup>144</sup> | 40      | 19                       | 4 52                                              | 20            | 12             | 22   | 39 64                                             |      |     |      |
| 8   | 300                                                             | 03.9 |                                                   | 17.0 | 333                                                                                                                                                                                                                                   | 15.2 <sup>140</sup> | -8                                                | 10.8 <sup>145</sup> | 35      | 29                       | 5 00                                              | 27            | 06             | 27   | 42 61                                             |      |     |      |
| 9   | 315                                                             | 04.0 |                                                   | 17.9 | 347                                                                                                                                                                                                                                   | 48.3 <sup>141</sup> | -7                                                | 56.3 <sup>145</sup> | 30      | 38                       | 07                                                | 32            | 4 02           | 29   | 46 57                                             |      |     |      |
| 10  | 330                                                             | 04.1 |                                                   | 18.8 | 2                                                                                                                                                                                                                                     | 21.5 <sup>142</sup> |                                                   | 41.8 <sup>145</sup> | 20      | 4 52                     | 19                                                | 41            | 3 54           | 34   | 51 53                                             |      |     |      |
| 11  | 345                                                             | 04.3 | +10                                               | 19.7 | 16                                                                                                                                                                                                                                    | 54.7 <sup>142</sup> | -7                                                | 27.2 <sup>146</sup> | 10 N    | 5 03                     | 5 28                                              | 5 49          | 3 46           | 40   | 15 56                                             | 48   |     |      |
| 12  | 0                                                               | 04.4 | +10                                               | 20.6 | 31                                                                                                                                                                                                                                    | 27.9 <sup>142</sup> | -7                                                | 12.7 <sup>145</sup> | 0       | 5 11                     | 5 35                                              | 5 56          | 3 40           | 43   | 16 01                                             | 43   |     |      |
| 13  | 15                                                              | 04.6 |                                                   | 21.5 | 46                                                                                                                                                                                                                                    | 01.2 <sup>143</sup> | -6                                                | 58.1 <sup>146</sup> | 10 S    | 18                       | 42                                                | 6 04          | 33             | 48   | 05 39                                             |      |     |      |
| 14  | 30                                                              | 04.7 |                                                   | 22.3 | 60                                                                                                                                                                                                                                    | 34.5 <sup>143</sup> |                                                   | 43.5 <sup>146</sup> | 20      | 23                       | 49                                                | 11            | 26             | 53   | 10 34                                             |      |     |      |
| 15  | 45                                                              | 04.9 |                                                   | 23.2 | 75                                                                                                                                                                                                                                    | 07.9 <sup>144</sup> |                                                   | 28.8 <sup>147</sup> | 30      | 28                       | 56                                                | 20            | 17             | 59   | 15 29                                             |      |     |      |
| 16  | 60                                                              | 05.0 |                                                   | 24.1 | 89                                                                                                                                                                                                                                    | 41.4 <sup>145</sup> | -6                                                | 14.2 <sup>146</sup> | 35      | 30                       | 5 59                                              | 25            | 13             | 61   | 19 25                                             |      |     |      |
| 17  | 75                                                              | 05.2 | +10                                               | 25.0 | 104                                                                                                                                                                                                                                   | 14.9 <sup>145</sup> | -5                                                | 59.5 <sup>147</sup> | 40      | 5 31                     | 6 03                                              | 6 30          | 3 07           | 65   | 16 22                                             | 22   |     |      |
| 18  | 90                                                              | 05.3 | +10                                               | 25.9 | 118                                                                                                                                                                                                                                   | 48.4 <sup>145</sup> | -5                                                | 44.8 <sup>147</sup> | 45      | 5 33                     | 6 07                                              | 6 37          | 3 01           | 69   | 16 26                                             | 18   |     |      |
| 19  | 105                                                             | 05.4 |                                                   | 26.7 | 133                                                                                                                                                                                                                                   | 22.0 <sup>146</sup> |                                                   | 30.2 <sup>146</sup> | 50      | 34                       | 11                                                | 44            | 2 53           | 75   | 31 13                                             |      |     |      |
| 20  | 120                                                             | 05.6 |                                                   | 27.6 | 147                                                                                                                                                                                                                                   | 55.6 <sup>146</sup> |                                                   | 15.4 <sup>148</sup> | 52      | 34                       | 13                                                | 48            | 49             | 77   | 33 11                                             |      |     |      |
| 21  | 135                                                             | 05.7 |                                                   | 28.5 | 162                                                                                                                                                                                                                                   | 29.2 <sup>146</sup> | -5                                                | 00.7 <sup>147</sup> | 54      | 34                       | 15                                                | 52            | 45             | 80   | 35 9                                              |      |     |      |
| 22  | 150                                                             | 05.9 |                                                   | 29.4 | 177                                                                                                                                                                                                                                   | 02.9 <sup>147</sup> | -4                                                | 46.0 <sup>147</sup> | 56      | 35                       | 18                                                | 6 56          | 41             | 83   | 38 6                                              |      |     |      |
| 23  | 165                                                             | 06.0 |                                                   | 30.3 | 191                                                                                                                                                                                                                                   | 36.7 <sup>148</sup> |                                                   | 31.3 <sup>147</sup> | 58      | 35                       | 20                                                | 7 01          | 36             | 86   | 41 3                                              |      |     |      |
| 24  | 180                                                             | 06.2 | +10                                               | 31.1 | 206                                                                                                                                                                                                                                   | 10.5 <sup>148</sup> | -4                                                | 16.5 <sup>148</sup> | 60 S    | 5 35                     | 6 23                                              | 7 06          | 2 31           | 89   | 16 44                                             | 0    |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                                                       |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |      | SATURNO                                           |      |     |      |
|     | PMG: 10 <sup>h</sup> 20 <sup>m</sup> 4                          |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |      |                                                                                                                                                                                                                                       |                     | Mag: +1.5<br>PMG: 15 <sup>h</sup> 22 <sup>m</sup> |                     |         |                          | Mag: -2.4<br>PMG: 21 <sup>h</sup> 05 <sup>m</sup> |               |                |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 53 <sup>m</sup> |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                                                                                                                                                                   |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                     | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '    | °                                                 | '    | °   | '    |
| 0   | 204                                                             | 28.4 | 135                                               | 48.4 | +26                                                                                                                                                                                                                                   | 16.1                | 129                                               | 21.7                | +23     | 56.0                     | 42                                                | 54.2          | +9             | 18.1 | 106                                               | 08.6 | +22 | 48.1 |
| 1   | 219                                                             | 30.9 | 150                                               | 48.7 |                                                                                                                                                                                                                                       | 16.5                | 144                                               | 22.5                |         | 56.2                     | 57                                                | 56.8          |                | 18.1 | 121                                               | 10.8 |     | 48.1 |
| 2   | 234                                                             | 33.4 | 165                                               | 48.9 |                                                                                                                                                                                                                                       | 16.9                | 159                                               | 23.2                |         | 56.4                     | 72                                                | 59.4          |                | 18.1 | 136                                               | 13.1 |     | 48.1 |
| 3   | 249                                                             | 35.8 | 180                                               | 49.2 |                                                                                                                                                                                                                                       | 17.3                | 174                                               | 23.9                |         | 56.5                     | 88                                                | 02.0          |                | 18.2 | 151                                               | 15.4 |     | 48.1 |
| 4   | 264                                                             | 38.3 | 195                                               | 49.4 |                                                                                                                                                                                                                                       | 17.7                | 189                                               | 24.7                |         | 56.7                     | 103                                               | 04.6          |                | 18.2 | 166                                               | 17.7 |     | 48.1 |
| 5   | 279                                                             | 40.8 | 210                                               | 49.7 | +26                                                                                                                                                                                                                                   | 18.1                | 204                                               | 25.4                | +23     | 56.9                     | 118                                               | 07.2          | +9             | 18.3 | 181                                               | 19.9 | +22 | 48.1 |
| 6   | 294                                                             | 43.2 | 225                                               | 50.0 | +26                                                                                                                                                                                                                                   | 18.5                | 219                                               | 26.1                | +23     | 57.0                     | 133                                               | 09.8          | +9             | 18.3 | 196                                               | 22.2 | +22 | 48.1 |
| 7   | 309                                                             | 45.7 | 240                                               | 50.2 |                                                                                                                                                                                                                                       | 18.9                | 234                                               | 26.9                |         | 57.2                     | 148                                               | 12.4          |                | 18.4 | 211                                               | 24.5 |     | 48.1 |
| 8   | 324                                                             | 48.2 | 255                                               | 50.5 |                                                                                                                                                                                                                                       | 19.3                | 249                                               | 27.6                |         | 57.4                     | 163                                               | 15.0          |                | 18.4 | 226                                               | 26.8 |     | 48.1 |
| 9   | 339                                                             | 50.6 | 270                                               | 50.8 |                                                                                                                                                                                                                                       | 19.7                | 264                                               | 28.3                |         | 57.5                     | 178                                               | 17.6          |                | 18.5 | 241                                               | 29.1 |     | 48.1 |
| 10  | 354                                                             | 53.1 | 285                                               | 51.0 |                                                                                                                                                                                                                                       | 20.1                | 279                                               | 29.1                |         | 57.7                     | 193                                               | 20.2          |                | 18.5 | 256                                               | 31.3 |     | 48.1 |
| 11  | 9                                                               | 55.6 | 300                                               | 51.3 | +26                                                                                                                                                                                                                                   | 20.5                | 294                                               | 29.8                | +23     | 57.9                     | 208                                               | 22.8          | +9             | 18.6 | 271                                               | 33.6 | +22 | 48.0 |
| 12  | 24                                                              | 58.0 | 315                                               | 51.6 | +26                                                                                                                                                                                                                                   | 20.9                | 309                                               | 30.5                | +23     | 58.0                     | 223                                               | 25.4          | +9             | 18.6 | 286                                               | 35.9 | +22 | 48.0 |
| 13  | 40                                                              | 00.5 | 330                                               | 51.9 |                                                                                                                                                                                                                                       | 21.3                | 324                                               | 31.2                |         | 58.2                     | 238                                               | 28.0          |                | 18.7 | 301                                               | 38.2 |     | 48.0 |
| 14  | 55                                                              | 02.9 | 345                                               | 52.1 |                                                                                                                                                                                                                                       | 21.7                | 339                                               | 32.0                |         | 58.4                     | 253                                               | 30.6          |                | 18.7 | 316                                               | 40.4 |     | 48.0 |
| 15  | 70                                                              | 05.4 | 0                                                 | 52.4 |                                                                                                                                                                                                                                       | 22.1                | 354                                               | 32.7                |         | 58.5                     | 268                                               | 33.2          |                | 18.8 | 331                                               | 42.7 |     | 48.0 |
| 16  | 85                                                              | 07.9 | 15                                                | 52.7 |                                                                                                                                                                                                                                       | 22.5                | 9                                                 | 33.4                |         | 58.7                     | 283                                               | 35.8          |                | 18.8 | 346                                               | 45.0 |     | 48.0 |
| 17  | 100                                                             | 10.3 | 30                                                | 53.0 | +26                                                                                                                                                                                                                                   | 22.9                | 24                                                | 34.2                | +23     | 58.9                     | 298                                               | 38.4          | +9             | 18.9 | 1                                                 | 47.3 | +22 | 48.0 |
| 18  | 115                                                             | 12.8 | 45                                                | 53.2 | +26                                                                                                                                                                                                                                   | 23.2                | 39                                                | 34.9                | +23     | 59.0                     | 313                                               | 41.0          | +9             | 18.9 | 16                                                | 49.6 | +22 | 48.0 |
| 19  | 130                                                             | 15.3 | 60                                                | 53.5 |                                                                                                                                                                                                                                       | 23.6                | 54                                                | 35.6                |         | 59.2                     | 328                                               | 43.6          |                | 19.0 | 31                                                | 51.8 |     | 48.0 |
| 20  | 145                                                             | 17.7 | 75                                                | 53.8 |                                                                                                                                                                                                                                       | 24.0                | 69                                                | 36.4                |         | 59.4                     | 343                                               | 46.2          |                | 19.0 | 46                                                | 54.1 |     | 48.0 |
| 21  | 160                                                             | 20.2 | 90                                                | 54.1 |                                                                                                                                                                                                                                       | 24.4                | 84                                                | 37.1                |         | 59.5                     | 358                                               | 48.8          |                | 19.1 | 61                                                | 56.4 |     | 48.0 |
| 22  | 175                                                             | 22.7 | 105                                               | 54.4 |                                                                                                                                                                                                                                       | 24.8                | 99                                                | 37.8                |         | 59.7                     | 13                                                | 51.4          |                | 19.1 | 76                                                | 58.7 |     | 48.0 |
| 23  | 190                                                             | 25.1 | 120                                               | 54.6 |                                                                                                                                                                                                                                       | 25.2                | 114                                               | 38.5                | +23     | 59.8                     | 28                                                | 54.0          |                | 19.1 | 92                                                | 00.9 |     | 48.0 |
| 24  | 205                                                             | 27.6 | 135                                               | 54.9 | +26                                                                                                                                                                                                                                   | 25.6                | 129                                               | 39.3                | +24     | 00.0                     | 43                                                | 56.6          | +9             | 19.2 | 107                                               | 03.2 | +22 | 48.0 |
| Dif | —                                                               |      | +3                                                |      | +4                                                                                                                                                                                                                                    |                     | +7                                                |                     | +2      |                          | +26                                               |               | 0              |      | +23                                               |      | 0   |      |

| UT  | SOL                                                |      |                                                   |      | ● LUNA                                                                                                                                                                                |                     |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |       |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|----------------------|-------|----------------|----------|----------------|-------|
|     | SD: 15:9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 5 |      |                                                   |      | Edad: 27 <sup>d</sup> 1 PHE {<br>SD: 15:3<br>PMG: 10 <sup>h</sup> 34 <sup>m</sup><br>4 <sup>h</sup> : 56:2<br>12 <sup>h</sup> : 56:1<br>20 <sup>h</sup> : 55:9<br>R°: 42 <sup>m</sup> |                     |                                                   |                     |                                                   |               |                      |       |                |          |                |       |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾                                                                                                                                                                                  |                     | Dif                                               |                     |                                                   |               | Civil                |       | Náutico        |          | Hora R°        |       |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                     | '                   | °                                                 | '                   | °                                                 | h m           | h m                  | h m   | h m m          | h m m    | h m m          | h m m |
| 0   | 180                                                | 06.2 | +10                                               | 31.1 | 206                                                                                                                                                                                   | 10.5                | -4                                                | 16.5                | 60 N                                              | 19 24         | 20 11                | 21 15 | 4 46 0         | 16 42 87 |                |       |
| 1   | 195                                                | 06.3 |                                                   | 32.0 | 220                                                                                                                                                                                   | 44.3 <sup>148</sup> | -4                                                | 01.8 <sup>147</sup> | 58                                                | 17            | 20 01                | 20 59 | 44 4           | 42 83    |                |       |
| 2   | 210                                                | 06.4 |                                                   | 32.9 | 235                                                                                                                                                                                   | 18.1 <sup>148</sup> | -3                                                | 47.0 <sup>148</sup> | 56                                                | 11            | 19 52                | 45    | 43 6           | 42 80    |                |       |
| 3   | 225                                                | 06.6 |                                                   | 33.8 | 249                                                                                                                                                                                   | 52.0 <sup>149</sup> |                                                   | 32.2 <sup>148</sup> | 54                                                | 06            | 45                   | 34    | 41 9           | 43 77    |                |       |
| 4   | 240                                                | 06.7 |                                                   | 34.7 | 264                                                                                                                                                                                   | 25.9 <sup>149</sup> |                                                   | 17.4 <sup>148</sup> | 52                                                | 19 02         | 38                   | 24    | 40 11          | 43 74    |                |       |
| 5   | 255                                                | 06.9 | +10                                               | 35.5 | 278                                                                                                                                                                                   | 59.9 <sup>150</sup> | -3                                                | 02.7 <sup>147</sup> | 50                                                | 18 57         | 19 32                | 20 15 | 4 39 13        | 16 43 72 |                |       |
| 6   | 270                                                | 07.0 | +10                                               | 36.4 | 293                                                                                                                                                                                   | 33.9 <sup>150</sup> | -2                                                | 47.9 <sup>148</sup> | 45                                                | 18 48         | 19 19                | 19 57 | 4 37 17        | 16 43 67 |                |       |
| 7   | 285                                                | 07.2 |                                                   | 37.3 | 308                                                                                                                                                                                   | 07.9 <sup>150</sup> |                                                   | 33.1 <sup>148</sup> | 40                                                | 41            | 09                   | 43    | 34 22          | 43 63    |                |       |
| 8   | 300                                                | 07.3 |                                                   | 38.2 | 322                                                                                                                                                                                   | 41.9 <sup>150</sup> |                                                   | 18.3 <sup>148</sup> | 35                                                | 34            | 19 01                | 32    | 33 25          | 43 60    |                |       |
| 9   | 315                                                | 07.4 |                                                   | 39.0 | 337                                                                                                                                                                                   | 16.0 <sup>151</sup> | -2                                                | 03.5 <sup>148</sup> | 30                                                | 29            | 18 53                | 22    | 31 28          | 43 57    |                |       |
| 10  | 330                                                | 07.6 |                                                   | 39.9 | 351                                                                                                                                                                                   | 50.1 <sup>151</sup> | -1                                                | 48.7 <sup>148</sup> | 20                                                | 19            | 42                   | 19 08 | 28 34          | 44 51    |                |       |
| 11  | 345                                                | 07.7 | +10                                               | 40.8 | 6                                                                                                                                                                                     | 24.2 <sup>151</sup> | -1                                                | 34.0 <sup>147</sup> | 10 N                                              | 18 11         | 18 32                | 18 57 | 4 26 38        | 16 44 46 |                |       |
| 12  | 0                                                  | 07.9 | +10                                               | 41.7 | 20                                                                                                                                                                                    | 58.4 <sup>152</sup> | -1                                                | 19.2 <sup>148</sup> | 0                                                 | 18 03         | 18 24                | 18 48 | 4 23 43        | 16 44 42 |                |       |
| 13  | 15                                                 | 08.0 |                                                   | 42.5 | 35                                                                                                                                                                                    | 32.6 <sup>152</sup> | -1                                                | 04.4 <sup>148</sup> | 10 S                                              | 17 55         | 16                   | 41    | 21 47          | 44 38    |                |       |
| 14  | 30                                                 | 08.1 |                                                   | 43.4 | 50                                                                                                                                                                                    | 06.8 <sup>152</sup> | -0                                                | 49.6 <sup>148</sup> | 20                                                | 47            | 09                   | 35    | 19 51          | 44 33    |                |       |
| 15  | 45                                                 | 08.3 |                                                   | 44.3 | 64                                                                                                                                                                                    | 41.0 <sup>152</sup> |                                                   | 34.9 <sup>147</sup> | 30                                                | 38            | 18 02                | 30    | 16 57          | 44 28    |                |       |
| 16  | 60                                                 | 08.4 |                                                   | 45.2 | 79                                                                                                                                                                                    | 15.2 <sup>152</sup> |                                                   | 20.1 <sup>148</sup> | 35                                                | 33            | 17 59                | 28    | 14 60          | 44 25    |                |       |
| 17  | 75                                                 | 08.6 | +10                                               | 46.0 | 93                                                                                                                                                                                    | 49.5 <sup>153</sup> | -0                                                | 05.4 <sup>147</sup> | 40                                                | 17 27         | 17 55                | 18 26 | 4 12 64        | 16 44 22 |                |       |
| 18  | 90                                                 | 08.7 | +10                                               | 46.9 | 108                                                                                                                                                                                   | 23.8 <sup>153</sup> | +0                                                | 09.4 <sup>148</sup> | 45                                                | 17 20         | 17 50                | 18 24 | 4 10 68        | 16 44 18 |                |       |
| 19  | 105                                                | 08.9 |                                                   | 47.8 | 122                                                                                                                                                                                   | 58.1 <sup>153</sup> |                                                   | 24.1 <sup>147</sup> | 50                                                | 12            | 45                   | 23    | 08 72          | 44 14    |                |       |
| 20  | 120                                                | 09.0 |                                                   | 48.7 | 137                                                                                                                                                                                   | 32.4 <sup>153</sup> |                                                   | 38.8 <sup>147</sup> | 52                                                | 09            | 43                   | 22    | 06 76          | 44 11    |                |       |
| 21  | 135                                                | 09.1 |                                                   | 49.5 | 152                                                                                                                                                                                   | 06.7 <sup>153</sup> | +0                                                | 53.5 <sup>147</sup> | 54                                                | 05            | 41                   | 22    | 05 78          | 44 9     |                |       |
| 22  | 150                                                | 09.3 |                                                   | 50.4 | 166                                                                                                                                                                                   | 41.1 <sup>154</sup> | +1                                                | 08.2 <sup>147</sup> | 56                                                | 17 00         | 38                   | 21    | 04 80          | 44 7     |                |       |
| 23  | 165                                                | 09.4 |                                                   | 51.3 | 181                                                                                                                                                                                   | 15.4 <sup>153</sup> |                                                   | 22.9 <sup>147</sup> | 58                                                | 16 55         | 36                   | 21    | 02 84          | 44 4     |                |       |
| 24  | 180                                                | 09.5 | +10                                               | 52.2 | 195                                                                                                                                                                                   | 49.8 <sup>154</sup> | +1                                                | 37.6 <sup>147</sup> | 60 S                                              | 16 50         | 17 33                | 18 21 | 4 00 87        | 16 44 1  |                |       |
| UT  | ARIES                                              |      | VENUS                                             |      | MARTE                                                                                                                                                                                 |                     | JÚPITER                                           |                     | SATURNO                                           |               |                      |       |                |          |                |       |
|     | PMG: 10 <sup>h</sup> 16 <sup>m</sup> 5             |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.5<br>PMG: 15 <sup>h</sup> 21 <sup>m</sup>                                                                                                                                     |                     | Mag: -2.4<br>PMG: 21 <sup>h</sup> 01 <sup>m</sup> |                     | Mag: +0.1<br>PMG: 16 <sup>h</sup> 49 <sup>m</sup> |               |                      |       |                |          |                |       |
|     | hG ♈                                               |      | hG ♀                                              |      | hG ♂                                                                                                                                                                                  |                     | hG ♃                                              |                     | hG ♄                                              |               |                      |       |                |          |                |       |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                                                                     | '                   | °                                                 | '                   | °                                                 | '             |                      |       |                |          |                |       |
| 0   | 205                                                | 27.6 | 135                                               | 54.9 | +26                                                                                                                                                                                   | 25.6                | 43                                                | 56.6                | +9                                                | 19.2          |                      |       |                |          |                |       |
| 1   | 220                                                | 30.1 | 150                                               | 55.2 |                                                                                                                                                                                       | 25.9                | 58                                                | 59.2                |                                                   | 19.2          |                      |       |                |          |                |       |
| 2   | 235                                                | 32.5 | 165                                               | 55.5 |                                                                                                                                                                                       | 26.3                | 74                                                | 01.8                |                                                   | 19.3          |                      |       |                |          |                |       |
| 3   | 250                                                | 35.0 | 180                                               | 55.8 |                                                                                                                                                                                       | 26.7                | 89                                                | 04.4                |                                                   | 19.3          |                      |       |                |          |                |       |
| 4   | 265                                                | 37.4 | 195                                               | 56.1 |                                                                                                                                                                                       | 27.1                | 104                                               | 07.0                |                                                   | 19.4          |                      |       |                |          |                |       |
| 5   | 280                                                | 39.9 | 210                                               | 56.4 | +26                                                                                                                                                                                   | 27.5                | 119                                               | 09.6                | +9                                                | 19.4          |                      |       |                |          |                |       |
| 6   | 295                                                | 42.4 | 225                                               | 56.7 | +26                                                                                                                                                                                   | 27.9                | 134                                               | 12.2                | +9                                                | 19.5          |                      |       |                |          |                |       |
| 7   | 310                                                | 44.8 | 240                                               | 57.0 |                                                                                                                                                                                       | 28.2                | 149                                               | 14.8                |                                                   | 19.5          |                      |       |                |          |                |       |
| 8   | 325                                                | 47.3 | 255                                               | 57.3 |                                                                                                                                                                                       | 28.6                | 164                                               | 17.4                |                                                   | 19.6          |                      |       |                |          |                |       |
| 9   | 340                                                | 49.8 | 270                                               | 57.6 |                                                                                                                                                                                       | 29.0                | 179                                               | 20.0                |                                                   | 19.6          |                      |       |                |          |                |       |
| 10  | 355                                                | 52.2 | 285                                               | 57.9 |                                                                                                                                                                                       | 29.4                | 194                                               | 22.6                |                                                   | 19.6          |                      |       |                |          |                |       |
| 11  | 10                                                 | 54.7 | 300                                               | 58.2 | +26                                                                                                                                                                                   | 29.7                | 209                                               | 25.1                | +9                                                | 19.7          |                      |       |                |          |                |       |
| 12  | 25                                                 | 57.2 | 315                                               | 58.5 | +26                                                                                                                                                                                   | 30.1                | 224                                               | 27.7                | +9                                                | 19.7          |                      |       |                |          |                |       |
| 13  | 40                                                 | 59.6 | 330                                               | 58.8 |                                                                                                                                                                                       | 30.5                | 239                                               | 30.3                |                                                   | 19.8          |                      |       |                |          |                |       |
| 14  | 56                                                 | 02.1 | 345                                               | 59.1 |                                                                                                                                                                                       | 30.9                | 254                                               | 32.9                |                                                   | 19.8          |                      |       |                |          |                |       |
| 15  | 71                                                 | 04.5 | 0                                                 | 59.4 |                                                                                                                                                                                       | 31.2                | 269                                               | 35.5                |                                                   | 19.9          |                      |       |                |          |                |       |
| 16  | 86                                                 | 07.0 | 15                                                | 59.7 |                                                                                                                                                                                       | 31.6                | 284                                               | 38.1                |                                                   | 19.9          |                      |       |                |          |                |       |
| 17  | 101                                                | 09.5 | 31                                                | 00.0 | +26                                                                                                                                                                                   | 32.0                | 299                                               | 40.7                | +9                                                | 20.0          |                      |       |                |          |                |       |
| 18  | 116                                                | 11.9 | 46                                                | 00.3 | +26                                                                                                                                                                                   | 32.3                | 314                                               | 43.3                | +9                                                | 20.0          |                      |       |                |          |                |       |
| 19  | 131                                                | 14.4 | 61                                                | 00.6 |                                                                                                                                                                                       | 32.7                | 329                                               | 45.9                |                                                   | 20.0          |                      |       |                |          |                |       |
| 20  | 146                                                | 16.9 | 76                                                | 01.0 |                                                                                                                                                                                       | 33.1                | 344                                               | 48.5                |                                                   | 20.1          |                      |       |                |          |                |       |
| 21  | 161                                                | 19.3 | 91                                                | 01.3 |                                                                                                                                                                                       | 33.4                | 359                                               | 51.1                |                                                   | 20.1          |                      |       |                |          |                |       |
| 22  | 176                                                | 21.8 | 106                                               | 01.6 |                                                                                                                                                                                       | 33.8                | 14                                                | 53.6                |                                                   | 20.2          |                      |       |                |          |                |       |
| 23  | 191                                                | 24.3 | 121                                               | 01.9 |                                                                                                                                                                                       | 34.2                | 29                                                | 56.2                |                                                   | 20.2          |                      |       |                |          |                |       |
| 24  | 206                                                | 26.7 | 136                                               | 02.2 | +26                                                                                                                                                                                   | 34.5                | 44                                                | 58.8                | +9                                                | 20.3          |                      |       |                |          |                |       |
| Dif | —                                                  |      | +3                                                |      | +4                                                                                                                                                                                    |                     | +7                                                |                     | +2                                                |               |                      |       |                |          |                |       |
|     |                                                    |      |                                                   |      |                                                                                                                                                                                       |                     | +26                                               |                     | 0                                                 |               |                      |       |                |          |                |       |
|     |                                                    |      |                                                   |      |                                                                                                                                                                                       |                     |                                                   |                     | +23                                               |               |                      |       |                |          |                |       |
|     |                                                    |      |                                                   |      |                                                                                                                                                                                       |                     |                                                   |                     | 0                                                 |               |                      |       |                |          |                |       |

| UT  | SOL                                                |      |                                                   |      | ● LUNA                                                                                                                            |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |       | Puesta de Luna                                    |      |      |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|------|------|------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 3 |      |                                                   |      | Edad: 28 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 55°8<br>12 <sup>h</sup> : 55°6<br>20 <sup>h</sup> : 55°5<br>R°: 42 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |       |                                                   |      |      |      |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾                                                                                                                              |                     | Dif                                               |                     |         | Dif                      |                                                   |               | Náutico        | Civil | Hora                                              | R°   | Hora | R°   |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                 | '                   | °                                                 | '                   | °       | '                        | h                                                 | m             | h              | m     | h                                                 | m    | h    | m    |
| 0   | 180                                                | 09.5 | +10                                               | 52.2 | 195                                                                                                                               | 49.8                | +1                                                | 37.6                | 60 N    | 2                        | 42                                                | 3             | 47             | 4     | 34                                                | 4    | 46   | 1    |
| 1   | 195                                                | 09.7 |                                                   | 53.0 | 210                                                                                                                               | 24.2 <sup>154</sup> | +1                                                | 52.2 <sup>146</sup> | 58      | 2                        | 59                                                | 3             | 57             | 40    |                                                   | 48   | 3    | 05   |
| 2   | 210                                                | 09.8 |                                                   | 53.9 | 224                                                                                                                               | 58.6 <sup>154</sup> | +2                                                | 06.8 <sup>146</sup> | 56      | 3                        | 13                                                | 4             | 05             | 46    |                                                   | 49   | 6    | 02   |
| 3   | 225                                                | 10.0 |                                                   | 54.8 | 239                                                                                                                               | 33.0 <sup>154</sup> |                                                   | 21.5 <sup>147</sup> | 54      | 24                       |                                                   | 13            |                | 52    |                                                   | 50   | 9    | 18   |
| 4   | 240                                                | 10.1 |                                                   | 55.6 | 254                                                                                                                               | 07.4 <sup>154</sup> |                                                   | 36.1 <sup>146</sup> | 52      | 34                       |                                                   | 20            |                | 4     | 56                                                | 51   | 12   | 17   |
| 5   | 255                                                | 10.2 | +10                                               | 56.5 | 268                                                                                                                               | 41.8 <sup>154</sup> | +2                                                | 50.6 <sup>145</sup> | 50      | 3                        | 43                                                | 4             | 26             | 5     | 01                                                | 4    | 52   | 14   |
| 6   | 270                                                | 10.4 | +10                                               | 57.4 | 283                                                                                                                               | 16.2 <sup>154</sup> | +3                                                | 05.2 <sup>146</sup> | 45      | 4                        | 01                                                | 4             | 39             | 5     | 10                                                | 4    | 54   | 18   |
| 7   | 285                                                | 10.5 |                                                   | 58.3 | 297                                                                                                                               | 50.7 <sup>155</sup> |                                                   | 19.7 <sup>145</sup> | 40      | 15                       |                                                   | 49            |                | 17    |                                                   | 56   | 22   | 46   |
| 8   | 300                                                | 10.7 | +10                                               | 59.1 | 312                                                                                                                               | 25.1 <sup>154</sup> |                                                   | 34.2 <sup>145</sup> | 35      | 27                       |                                                   | 4             | 58             | 24    |                                                   | 58   | 25   | 43   |
| 9   | 315                                                | 10.8 | +11                                               | 00.0 | 326                                                                                                                               | 59.5 <sup>154</sup> | +3                                                | 48.7 <sup>145</sup> | 30      | 36                       |                                                   | 5             | 05             | 30    |                                                   | 4    | 59   | 28   |
| 10  | 330                                                | 10.9 | +11                                               | 00.9 | 341                                                                                                                               | 34.0 <sup>155</sup> | +4                                                | 03.2 <sup>145</sup> | 20      | 4                        | 51                                                | 17            |                | 40    |                                                   | 5    | 02   | 33   |
| 11  | 345                                                | 11.1 | +11                                               | 01.7 | 356                                                                                                                               | 08.4 <sup>154</sup> | +4                                                | 17.6 <sup>144</sup> | 10 N    | 5                        | 02                                                | 5             | 27             | 5     | 48                                                | 5    | 04   | 38   |
| 12  | 0                                                  | 11.2 | +11                                               | 02.6 | 10                                                                                                                                | 42.9 <sup>155</sup> | +4                                                | 32.0 <sup>144</sup> | 0       | 5                        | 10                                                | 5             | 35             | 5     | 56                                                | 5    | 06   | 42   |
| 13  | 15                                                 | 11.3 |                                                   | 03.5 | 25                                                                                                                                | 17.3 <sup>154</sup> | +4                                                | 46.4 <sup>144</sup> | 10 S    | 18                       |                                                   | 42            |                | 6     | 04                                                | 08   | 46   | 22   |
| 14  | 30                                                 | 11.5 |                                                   | 04.3 | 39                                                                                                                                | 51.8 <sup>155</sup> | +5                                                | 00.8 <sup>144</sup> | 20      | 24                       |                                                   | 49            |                | 12    |                                                   | 10   | 51   | 17   |
| 15  | 45                                                 | 11.6 |                                                   | 05.2 | 54                                                                                                                                | 26.2 <sup>154</sup> |                                                   | 15.1 <sup>143</sup> | 30      | 29                       |                                                   | 5             | 57             | 21    |                                                   | 13   | 56   | 12   |
| 16  | 60                                                 | 11.7 |                                                   | 06.1 | 69                                                                                                                                | 00.6 <sup>154</sup> |                                                   | 29.4 <sup>143</sup> | 35      | 31                       |                                                   | 6             | 01             | 26    |                                                   | 14   | 60   | 09   |
| 17  | 75                                                 | 11.9 | +11                                               | 06.9 | 83                                                                                                                                | 35.1 <sup>155</sup> | +5                                                | 43.6 <sup>142</sup> | 40      | 5                        | 33                                                | 6             | 05             | 6     | 32                                                | 5    | 16   | 63   |
| 18  | 90                                                 | 12.0 | +11                                               | 07.8 | 98                                                                                                                                | 09.5 <sup>154</sup> | +5                                                | 57.9 <sup>143</sup> | 45      | 5                        | 35                                                | 6             | 09             | 6     | 39                                                | 5    | 18   | 67   |
| 19  | 105                                                | 12.2 |                                                   | 08.7 | 112                                                                                                                               | 43.9 <sup>154</sup> | +6                                                | 12.1 <sup>142</sup> | 50      | 37                       |                                                   | 14            |                | 47    |                                                   | 20   | 72   | 16   |
| 20  | 120                                                | 12.3 |                                                   | 09.5 | 127                                                                                                                               | 18.3 <sup>154</sup> |                                                   | 26.2 <sup>141</sup> | 52      | 37                       |                                                   | 16            |                | 51    |                                                   | 22   | 74   | 55   |
| 21  | 135                                                | 12.4 |                                                   | 10.4 | 141                                                                                                                               | 52.7 <sup>154</sup> |                                                   | 40.4 <sup>142</sup> | 54      | 38                       |                                                   | 19            |                | 6     | 55                                                | 23   | 77   | 53   |
| 22  | 150                                                | 12.6 |                                                   | 11.3 | 156                                                                                                                               | 27.1 <sup>154</sup> | +6                                                | 54.5 <sup>141</sup> | 56      | 38                       |                                                   | 22            |                | 7     | 00                                                | 24   | 80   | 51   |
| 23  | 165                                                | 12.7 |                                                   | 12.1 | 171                                                                                                                               | 01.5 <sup>154</sup> | +7                                                | 08.5 <sup>140</sup> | 58      | 39                       |                                                   | 24            |                | 05    |                                                   | 26   | 82   | 48   |
| 24  | 180                                                | 12.8 | +11                                               | 13.0 | 185                                                                                                                               | 35.9 <sup>154</sup> | +7                                                | 22.6 <sup>141</sup> | 60 S    | 5                        | 39                                                | 6             | 27             | 7     | 11                                                | 5    | 27   | 87   |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                                   |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |       | SATURNO                                           |      |      |      |
|     | PMG<br>10 <sup>h</sup> 12 <sup>m</sup> 5           |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      |                                                                                                                                   |                     | Mag: +1.5<br>PMG: 15 <sup>h</sup> 19 <sup>m</sup> |                     |         |                          | Mag: -2.4<br>PMG: 20 <sup>h</sup> 56 <sup>m</sup> |               |                |       | Mag: +0.1<br>PMG: 16 <sup>h</sup> 46 <sup>m</sup> |      |      |      |
|     | hG ♈                                               |      | hG ♀                                              |      | Dec                                                                                                                               |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |       | hG ♄                                              |      | Dec  |      |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                                 | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '     | °                                                 | '    | °    | '    |
| 0   | 206                                                | 26.7 | 136                                               | 02.2 | +26                                                                                                                               | 34.5                | 129                                               | 56.8                | +24     | 03.8                     | 44                                                | 58.8          | +9             | 20.3  | 107                                               | 57.8 | +22  | 47.9 |
| 1   | 221                                                | 29.2 | 151                                               | 02.5 |                                                                                                                                   | 34.9                | 144                                               | 57.5                |         | 04.0                     | 60                                                | 01.4          |                | 20.3  | 123                                               | 00.0 |      | 47.9 |
| 2   | 236                                                | 31.7 | 166                                               | 02.9 |                                                                                                                                   | 35.2                | 159                                               | 58.2                |         | 04.1                     | 75                                                | 04.0          |                | 20.3  | 138                                               | 02.3 |      | 47.9 |
| 3   | 251                                                | 34.1 | 181                                               | 03.2 |                                                                                                                                   | 35.6                | 174                                               | 58.9                |         | 04.3                     | 90                                                | 06.6          |                | 20.4  | 153                                               | 04.6 |      | 47.9 |
| 4   | 266                                                | 36.6 | 196                                               | 03.5 |                                                                                                                                   | 36.0                | 189                                               | 59.7                |         | 04.4                     | 105                                               | 09.2          |                | 20.4  | 168                                               | 06.9 |      | 47.9 |
| 5   | 281                                                | 39.0 | 211                                               | 03.8 | +26                                                                                                                               | 36.3                | 205                                               | 00.4                | +24     | 04.6                     | 120                                               | 11.8          | +9             | 20.5  | 183                                               | 09.1 | +22  | 47.9 |
| 6   | 296                                                | 41.5 | 226                                               | 04.2 | +26                                                                                                                               | 36.7                | 220                                               | 01.1                | +24     | 04.7                     | 135                                               | 14.4          | +9             | 20.5  | 198                                               | 11.4 | +22  | 47.8 |
| 7   | 311                                                | 44.0 | 241                                               | 04.5 |                                                                                                                                   | 37.0                | 235                                               | 01.9                |         | 04.9                     | 150                                               | 16.9          |                | 20.6  | 213                                               | 13.7 |      | 47.8 |
| 8   | 326                                                | 46.4 | 256                                               | 04.8 |                                                                                                                                   | 37.4                | 250                                               | 02.6                |         | 05.0                     | 165                                               | 19.5          |                | 20.6  | 228                                               | 15.9 |      | 47.8 |
| 9   | 341                                                | 48.9 | 271                                               | 05.2 |                                                                                                                                   | 37.7                | 265                                               | 03.3                |         | 05.2                     | 180                                               | 22.1          |                | 20.6  | 243                                               | 18.2 |      | 47.8 |
| 10  | 356                                                | 51.4 | 286                                               | 05.5 |                                                                                                                                   | 38.1                | 280                                               | 04.0                |         | 05.3                     | 195                                               | 24.7          |                | 20.7  | 258                                               | 20.5 |      | 47.8 |
| 11  | 11                                                 | 53.8 | 301                                               | 05.8 | +26                                                                                                                               | 38.4                | 295                                               | 04.8                | +24     | 05.5                     | 210                                               | 27.3          | +9             | 20.7  | 273                                               | 22.8 | +22  | 47.8 |
| 12  | 26                                                 | 56.3 | 316                                               | 06.2 | +26                                                                                                                               | 38.8                | 310                                               | 05.5                | +24     | 05.6                     | 225                                               | 29.9          | +9             | 20.8  | 288                                               | 25.0 | +22  | 47.8 |
| 13  | 41                                                 | 58.8 | 331                                               | 06.5 |                                                                                                                                   | 39.2                | 325                                               | 06.2                |         | 05.8                     | 240                                               | 32.5          |                | 20.8  | 303                                               | 27.3 |      | 47.8 |
| 14  | 57                                                 | 01.2 | 346                                               | 06.9 |                                                                                                                                   | 39.5                | 340                                               | 07.0                |         | 05.9                     | 255                                               | 35.0          |                | 20.8  | 318                                               | 29.6 |      | 47.8 |
| 15  | 72                                                 | 03.7 | 1                                                 | 07.2 |                                                                                                                                   | 39.9                | 355                                               | 07.7                |         | 06.1                     | 270                                               | 37.6          |                | 20.9  | 333                                               | 31.8 |      | 47.8 |
| 16  | 87                                                 | 06.1 | 16                                                | 07.5 |                                                                                                                                   | 40.2                | 10                                                | 08.4                |         | 06.2                     | 285                                               | 40.2          |                | 20.9  | 348                                               | 34.1 |      | 47.8 |
| 17  | 102                                                | 08.6 | 31                                                | 07.9 | +26                                                                                                                               | 40.5                | 25                                                | 09.1                | +24     | 06.4                     | 300                                               | 42.8          | +9             | 21.0  | 3                                                 | 36.4 | +22  | 47.8 |
| 18  | 117                                                | 11.1 | 46                                                | 08.2 | +26                                                                                                                               | 40.9                | 40                                                | 09.9                | +24     | 06.5                     | 315                                               | 45.4          | +9             | 21.0  | 18                                                | 38.6 | +22  | 47.8 |
| 19  | 132                                                | 13.5 | 61                                                | 08.6 |                                                                                                                                   | 41.2                | 55                                                | 10.6                |         | 06.7                     | 330                                               | 48.0          |                | 21.1  | 33                                                | 40.9 |      | 47.8 |
| 20  | 147                                                | 16.0 | 76                                                | 08.9 |                                                                                                                                   | 41.6                | 70                                                | 11.3                |         | 06.8                     | 345                                               | 50.6          |                | 21.1  | 48                                                | 43.2 |      | 47.8 |
| 21  | 162                                                | 18.5 | 91                                                | 09.3 |                                                                                                                                   | 41.9                | 85                                                | 12.0                |         | 07.0                     | 0                                                 | 53.1          |                | 21.1  | 63                                                | 45.4 |      | 47.8 |
| 22  | 177                                                | 20.9 | 106                                               | 09.6 |                                                                                                                                   | 42.3                | 100                                               | 12.8                |         | 07.1                     | 15                                                | 55.7          |                | 21.2  | 78                                                | 47.7 |      | 47.8 |
| 23  | 192                                                | 23.4 | 121                                               | 10.0 |                                                                                                                                   | 42.6                | 115                                               | 13.5                |         | 07.3                     | 30                                                | 58.3          |                | 21.2  | 93                                                | 50.0 |      | 47.8 |
| 24  | 207                                                | 25.9 | 136                                               | 10.3 | +26                                                                                                                               | 43.0                | 130                                               | 14.2                | +24     | 07.4                     | 46                                                | 00.9          | +9             | 21.3  | 108                                               | 52.2 | +22  | 47.8 |
| Dif | —                                                  |      | +3                                                |      | +4                                                                                                                                |                     | +7                                                |                     | +2      |                          | +26                                               |               | 0              |       | +23                                               |      | 0    |      |



| UT  | SOL                                                |      |                                                   | ● LUNA                                                                            |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna |         | Puesta de Luna |       |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|---------------------------------------------------|----------|----------------|---------|----------------|-------|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 0 |      |                                                   | Edad: 29 <sup>d</sup> 1 PHE {<br>SD: 15'1<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> |                                                   |                     |                                                   |               |                                                   |          |                |         |                |       |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                              | Dif                                               | Dec                 |                                                   |               | Dif                                               | Civil    | Náutico        | Hora    | R°             | Hora  |
| h   | °                                                  | '    | °                                                 | '                                                                                 | °                                                 | '                   | °                                                 | h m           | h m                                               | h m      | h m m          | h m m   | h m m          | h m m |
| 0   | 180                                                | 12.8 | +11                                               | 13.0                                                                              | 185                                               | 35.9                | +7 22.6                                           | 60 N          | 19 29                                             | 20 17    | 21 23          | 4 47 1  | 19 35 88       |       |
| 1   | 195                                                | 13.0 |                                                   | 13.9                                                                              | 200                                               | 10.2 <sup>153</sup> | 36.6 <sup>140</sup>                               | 58            | 22                                                | 20 06    | 21 05          | 51 5    | 28 84          |       |
| 2   | 210                                                | 13.1 |                                                   | 14.7                                                                              | 214                                               | 44.6 <sup>154</sup> | +7 50.5 <sup>139</sup>                            | 56            | 16                                                | 19 57    | 20 51          | 55 8    | 22 80          |       |
| 3   | 225                                                | 13.2 |                                                   | 15.6                                                                              | 229                                               | 18.9 <sup>153</sup> | +8 04.4 <sup>139</sup>                            | 54            | 10                                                | 49       | 39             | 4 59 10 | 17 77          |       |
| 4   | 240                                                | 13.4 |                                                   | 16.4                                                                              | 243                                               | 53.2 <sup>153</sup> | 18.3 <sup>139</sup>                               | 52            | 05                                                | 42       | 28             | 5 03 12 | 12 74          |       |
| 5   | 255                                                | 13.5 | +11                                               | 17.3                                                                              | 258                                               | 27.5 <sup>153</sup> | +8 32.1 <sup>138</sup>                            | 50            | 19 01                                             | 19 35    | 20 19          | 5 06 14 | 19 07 72       |       |
| 6   | 270                                                | 13.6 | +11                                               | 18.2                                                                              | 273                                               | 01.8 <sup>153</sup> | +8 45.9 <sup>138</sup>                            | 45            | 18 51                                             | 19 22    | 20 00          | 5 12 20 | 18 57 67       |       |
| 7   | 285                                                | 13.8 |                                                   | 19.0                                                                              | 287                                               | 36.1 <sup>153</sup> | +8 59.6 <sup>137</sup>                            | 40            | 43                                                | 11       | 19 45          | 18 23   | 49 63          |       |
| 8   | 300                                                | 13.9 |                                                   | 19.9                                                                              | 302                                               | 10.3 <sup>152</sup> | +9 13.3 <sup>137</sup>                            | 35            | 36                                                | 19 02    | 34             | 23 26   | 42 60          |       |
| 9   | 315                                                | 14.0 |                                                   | 20.8                                                                              | 316                                               | 44.6 <sup>153</sup> | 27.0 <sup>137</sup>                               | 30            | 30                                                | 18 55    | 24             | 27 30   | 36 57          |       |
| 10  | 330                                                | 14.2 |                                                   | 21.6                                                                              | 331                                               | 18.8 <sup>152</sup> | 40.6 <sup>136</sup>                               | 20            | 20                                                | 42       | 19 09          | 35 34   | 26 52          |       |
| 11  | 345                                                | 14.3 | +11                                               | 22.5                                                                              | 345                                               | 53.0 <sup>152</sup> | +9 54.1 <sup>135</sup>                            | 10 N          | 18 11                                             | 18 32    | 18 57          | 5 42 38 | 18 17 47       |       |
| 12  | 0                                                  | 14.4 | +11                                               | 23.3                                                                              | 0                                                 | 27.2 <sup>152</sup> | +10 07.6 <sup>135</sup>                           | 0             | 18 02                                             | 18 23    | 18 48          | 5 48 43 | 18 08 44       |       |
| 13  | 15                                                 | 14.6 |                                                   | 24.2                                                                              | 15                                                | 01.3 <sup>151</sup> | 21.1 <sup>135</sup>                               | 10 S          | 17 54                                             | 16       | 40             | 5 54 47 | 18 00 39       |       |
| 14  | 30                                                 | 14.7 |                                                   | 25.1                                                                              | 29                                                | 35.4 <sup>151</sup> | 34.5 <sup>134</sup>                               | 20            | 46                                                | 08       | 34             | 6 01 52 | 17 51 35       |       |
| 15  | 45                                                 | 14.8 |                                                   | 25.9                                                                              | 44                                                | 09.6 <sup>152</sup> | +10 47.9 <sup>134</sup>                           | 30            | 36                                                | 18 00    | 28             | 09 57   | 41 30          |       |
| 16  | 60                                                 | 15.0 |                                                   | 26.8                                                                              | 58                                                | 43.6 <sup>150</sup> | +11 01.2 <sup>133</sup>                           | 35            | 31                                                | 17 56    | 26             | 14 59   | 35 28          |       |
| 17  | 75                                                 | 15.1 | +11                                               | 27.6                                                                              | 73                                                | 17.7 <sup>151</sup> | +11 14.4 <sup>132</sup>                           | 40            | 17 24                                             | 17 52    | 18 23          | 6 19 63 | 17 28 25       |       |
| 18  | 90                                                 | 15.2 | +11                                               | 28.5                                                                              | 87                                                | 51.7 <sup>150</sup> | +11 27.7 <sup>133</sup>                           | 45            | 17 17                                             | 17 47    | 18 21          | 6 25 67 | 17 21 20       |       |
| 19  | 105                                                | 15.4 |                                                   | 29.4                                                                              | 102                                               | 25.7 <sup>150</sup> | 40.8 <sup>131</sup>                               | 50            | 08                                                | 42       | 19             | 32 72   | 11 16          |       |
| 20  | 120                                                | 15.5 |                                                   | 30.2                                                                              | 116                                               | 59.7 <sup>150</sup> | +11 53.9 <sup>131</sup>                           | 52            | 05                                                | 39       | 18             | 36 74   | 07 14          |       |
| 21  | 135                                                | 15.6 |                                                   | 31.1                                                                              | 131                                               | 33.6 <sup>149</sup> | +12 06.9 <sup>130</sup>                           | 54            | 17 00                                             | 37       | 18             | 40 77   | 17 03 11       |       |
| 22  | 150                                                | 15.7 |                                                   | 31.9                                                                              | 146                                               | 07.6 <sup>150</sup> | 19.9 <sup>130</sup>                               | 56            | 16 55                                             | 34       | 17             | 44 80   | 16 57 9        |       |
| 23  | 165                                                | 15.9 |                                                   | 32.8                                                                              | 160                                               | 41.4 <sup>148</sup> | 32.9 <sup>130</sup>                               | 58            | 50                                                | 31       | 16             | 48 84   | 52 5           |       |
| 24  | 180                                                | 16.0 | +11                                               | 33.6                                                                              | 175                                               | 15.3 <sup>149</sup> | +12 45.7 <sup>128</sup>                           | 60 S          | 16 44                                             | 17 27    | 18 16          | 6 54 87 | 16 45 2        |       |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                   | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                           |          |                |         |                |       |
|     | PMG: 10 <sup>h</sup> 08 <sup>m</sup> 6             |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |                                                                                   | Mag: +1.6<br>PMG: 15 <sup>h</sup> 18 <sup>m</sup> |                     | Mag: -2.3<br>PMG: 20 <sup>h</sup> 52 <sup>m</sup> |               | Mag: +0.1<br>PMG: 16 <sup>h</sup> 42 <sup>m</sup> |          |                |         |                |       |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                               | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                              | Dec      |                |         |                |       |
| h   | °                                                  | '    | °                                                 | '                                                                                 | °                                                 | '                   | °                                                 | '             | °                                                 | '        |                |         |                |       |
| 0   | 207                                                | 25.9 | 136                                               | 10.3                                                                              | +26 43.0                                          | 130 14.2            | +24 07.4                                          | 46 00.9       | +9 21.3                                           | 108 52.2 | +22 47.8       |         |                |       |
| 1   | 222                                                | 28.3 | 151                                               | 10.7                                                                              | 43.3                                              | 145 14.9            | 07.6                                              | 61 03.5       | 21.3                                              | 123 54.5 | 47.8           |         |                |       |
| 2   | 237                                                | 30.8 | 166                                               | 11.0                                                                              | 43.6                                              | 160 15.7            | 07.7                                              | 76 06.0       | 21.3                                              | 138 56.8 | 47.7           |         |                |       |
| 3   | 252                                                | 33.3 | 181                                               | 11.4                                                                              | 44.0                                              | 175 16.4            | 07.9                                              | 91 08.6       | 21.4                                              | 153 59.0 | 47.7           |         |                |       |
| 4   | 267                                                | 35.7 | 196                                               | 11.8                                                                              | 44.3                                              | 190 17.1            | 08.0                                              | 106 11.2      | 21.4                                              | 169 01.3 | 47.7           |         |                |       |
| 5   | 282                                                | 38.2 | 211                                               | 12.1                                                                              | +26 44.6                                          | 205 17.9            | +24 08.2                                          | 121 13.8      | +9 21.5                                           | 184 03.6 | +22 47.7       |         |                |       |
| 6   | 297                                                | 40.6 | 226                                               | 12.5                                                                              | +26 45.0                                          | 220 18.6            | +24 08.3                                          | 136 16.4      | +9 21.5                                           | 199 05.8 | +22 47.7       |         |                |       |
| 7   | 312                                                | 43.1 | 241                                               | 12.9                                                                              | 45.3                                              | 235 19.3            | 08.4                                              | 151 19.0      | 21.5                                              | 214 08.1 | 47.7           |         |                |       |
| 8   | 327                                                | 45.6 | 256                                               | 13.2                                                                              | 45.6                                              | 250 20.0            | 08.6                                              | 166 21.5      | 21.6                                              | 229 10.4 | 47.7           |         |                |       |
| 9   | 342                                                | 48.0 | 271                                               | 13.6                                                                              | 46.0                                              | 265 20.8            | 08.7                                              | 181 24.1      | 21.6                                              | 244 12.6 | 47.7           |         |                |       |
| 10  | 357                                                | 50.5 | 286                                               | 14.0                                                                              | 46.3                                              | 280 21.5            | 08.9                                              | 196 26.7      | 21.7                                              | 259 14.9 | 47.7           |         |                |       |
| 11  | 12                                                 | 53.0 | 301                                               | 14.3                                                                              | +26 46.6                                          | 295 22.2            | +24 09.0                                          | 211 29.3      | +9 21.7                                           | 274 17.2 | +22 47.7       |         |                |       |
| 12  | 27                                                 | 55.4 | 316                                               | 14.7                                                                              | +26 47.0                                          | 310 22.9            | +24 09.2                                          | 226 31.8      | +9 21.7                                           | 289 19.4 | +22 47.7       |         |                |       |
| 13  | 42                                                 | 57.9 | 331                                               | 15.1                                                                              | 47.3                                              | 325 23.7            | 09.3                                              | 241 34.4      | 21.8                                              | 304 21.7 | 47.7           |         |                |       |
| 14  | 58                                                 | 00.4 | 346                                               | 15.5                                                                              | 47.6                                              | 340 24.4            | 09.5                                              | 256 37.0      | 21.8                                              | 319 24.0 | 47.7           |         |                |       |
| 15  | 73                                                 | 02.8 | 1                                                 | 15.8                                                                              | 48.0                                              | 355 25.1            | 09.6                                              | 271 39.6      | 21.8                                              | 334 26.2 | 47.7           |         |                |       |
| 16  | 88                                                 | 05.3 | 16                                                | 16.2                                                                              | 48.3                                              | 10 25.8             | 09.7                                              | 286 42.2      | 21.9                                              | 349 28.5 | 47.7           |         |                |       |
| 17  | 103                                                | 07.7 | 31                                                | 16.6                                                                              | +26 48.6                                          | 25 26.6             | +24 09.9                                          | 301 44.7      | +9 21.9                                           | 4 30.8   | +22 47.7       |         |                |       |
| 18  | 118                                                | 10.2 | 46                                                | 17.0                                                                              | +26 48.9                                          | 40 27.3             | +24 10.0                                          | 316 47.3      | +9 22.0                                           | 19 33.0  | +22 47.7       |         |                |       |
| 19  | 133                                                | 12.7 | 61                                                | 17.4                                                                              | 49.3                                              | 55 28.0             | 10.2                                              | 331 49.9      | 22.0                                              | 34 35.3  | 47.7           |         |                |       |
| 20  | 148                                                | 15.1 | 76                                                | 17.7                                                                              | 49.6                                              | 70 28.7             | 10.3                                              | 346 52.5      | 22.0                                              | 49 37.6  | 47.6           |         |                |       |
| 21  | 163                                                | 17.6 | 91                                                | 18.1                                                                              | 49.9                                              | 85 29.5             | 10.4                                              | 1 55.0        | 22.1                                              | 64 39.8  | 47.6           |         |                |       |
| 22  | 178                                                | 20.1 | 106                                               | 18.5                                                                              | 50.2                                              | 100 30.2            | 10.6                                              | 16 57.6       | 22.1                                              | 79 42.1  | 47.6           |         |                |       |
| 23  | 193                                                | 22.5 | 121                                               | 18.9                                                                              | 50.5                                              | 115 30.9            | 10.7                                              | 32 00.2       | 22.1                                              | 94 44.4  | 47.6           |         |                |       |
| 24  | 208                                                | 25.0 | 136                                               | 19.3                                                                              | +26 50.9                                          | 130 31.6            | +24 10.9                                          | 47 02.8       | +9 22.2                                           | 109 46.6 | +22 47.6       |         |                |       |
| Dif | —                                                  |      | +4 +3                                             |                                                                                   | +7 +1                                             |                     | +26 0                                             |               | +23 0                                             |          |                |         |                |       |

| UT  | SOL                                                             |      |                                                   |      | ● LUNA                                                                                                                                                                                                    |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 8 |      |                                                   |      | Edad: 0 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 9<br>12 <sup>h</sup> : 54 <sup>m</sup> 8<br>20 <sup>h</sup> : 54 <sup>m</sup> 7<br>PMG: 12 <sup>h</sup> 41 <sup>m</sup> R°: 45 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |      |                                                   |      |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                                                                                                                                      |                     | Dif                                               |                     |         | Náutico                  | Civil                                             |               | Hora           | R°   | Hora                                              | R°   |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                         | '                   | °                                                 | '                   | °       | h                        | m                                                 | h             | m              | h    | m                                                 | h    | m   | m    |
| 0   | 180                                                             | 16.0 | +11                                               | 33.6 | 175                                                                                                                                                                                                       | 15.3                | +12                                               | 45.7                | 60 N    | 2                        | 34                                                | 3             | 40             | 4    | 28                                                | 4    | 48  | 2    |
| 1   | 195                                                             | 16.1 |                                                   | 34.5 | 189                                                                                                                                                                                                       | 49.1 <sup>148</sup> | +12                                               | 58.5 <sup>128</sup> | 58      | 2                        | 52                                                | 3             | 51             | 35   | 4                                                 | 56   | 6   |      |
| 2   | 210                                                             | 16.3 |                                                   | 35.4 | 204                                                                                                                                                                                                       | 22.9 <sup>148</sup> | +13                                               | 11.3 <sup>128</sup> | 56      | 3                        | 06                                                | 4             | 00             | 41   | 5                                                 | 03   | 10  |      |
| 3   | 225                                                             | 16.4 |                                                   | 36.2 | 218                                                                                                                                                                                                       | 56.7 <sup>148</sup> |                                                   | 24.0 <sup>127</sup> | 54      |                          | 19                                                |               | 08             | 47   | 09                                                | 13   | 34  |      |
| 4   | 240                                                             | 16.5 |                                                   | 37.1 | 233                                                                                                                                                                                                       | 30.4 <sup>147</sup> |                                                   | 36.6 <sup>126</sup> | 52      |                          | 29                                                |               | 15             | 52   | 15                                                | 15   | 26  |      |
| 5   | 255                                                             | 16.7 | +11                                               | 37.9 | 248                                                                                                                                                                                                       | 04.1 <sup>147</sup> | +13                                               | 49.2 <sup>126</sup> | 50      | 3                        | 38                                                | 4             | 22             | 4    | 57                                                | 5    | 20  |      |
| 6   | 270                                                             | 16.8 | +11                                               | 38.8 | 262                                                                                                                                                                                                       | 37.8 <sup>147</sup> | +14                                               | 01.7 <sup>125</sup> | 45      | 3                        | 57                                                | 4             | 35             | 5    | 06                                                | 5    | 32  |      |
| 7   | 285                                                             | 16.9 |                                                   | 39.6 | 277                                                                                                                                                                                                       | 11.4 <sup>146</sup> |                                                   | 14.1 <sup>124</sup> | 40      | 4                        | 12                                                |               | 46             | 15   | 41                                                | 26   |     |      |
| 8   | 300                                                             | 17.0 |                                                   | 40.5 | 291                                                                                                                                                                                                       | 45.0 <sup>146</sup> |                                                   | 26.5 <sup>124</sup> | 35      |                          | 24                                                | 4             | 55             | 22   | 49                                                | 30   |     |      |
| 9   | 315                                                             | 17.2 |                                                   | 41.3 | 306                                                                                                                                                                                                       | 18.5 <sup>145</sup> |                                                   | 38.8 <sup>123</sup> | 30      |                          | 34                                                | 5             | 03             | 28   | 5                                                 | 57   |     |      |
| 10  | 330                                                             | 17.3 |                                                   | 42.2 | 320                                                                                                                                                                                                       | 52.1 <sup>146</sup> | +14                                               | 51.0 <sup>122</sup> | 20      | 4                        | 49                                                | 15            | 38             | 38   | 6                                                 | 09   |     |      |
| 11  | 345                                                             | 17.4 | +11                                               | 43.0 | 335                                                                                                                                                                                                       | 25.5 <sup>144</sup> | +15                                               | 03.2 <sup>122</sup> | 10 N    | 5                        | 01                                                | 5             | 26             | 5    | 47                                                | 6    | 20  |      |
| 12  | 0                                                               | 17.6 | +11                                               | 43.9 | 349                                                                                                                                                                                                       | 59.0 <sup>145</sup> | +15                                               | 15.3 <sup>121</sup> | 0       | 5                        | 10                                                | 5             | 34             | 5    | 55                                                | 6    | 31  |      |
| 13  | 15                                                              | 17.7 |                                                   | 44.7 | 4                                                                                                                                                                                                         | 32.4 <sup>144</sup> |                                                   | 27.4 <sup>121</sup> | 10 S    |                          | 18                                                | 42            | 6              | 04   | 41                                                | 48   |     |      |
| 14  | 30                                                              | 17.8 |                                                   | 45.6 | 19                                                                                                                                                                                                        | 05.7 <sup>143</sup> |                                                   | 39.3 <sup>119</sup> | 20      |                          | 24                                                | 50            | 12             | 6    | 53                                                |      |     |      |
| 15  | 45                                                              | 17.9 |                                                   | 46.4 | 33                                                                                                                                                                                                        | 39.1 <sup>144</sup> | +15                                               | 51.2 <sup>119</sup> | 30      |                          | 30                                                | 5             | 58             | 22   | 7                                                 | 06   |     |      |
| 16  | 60                                                              | 18.1 |                                                   | 47.3 | 48                                                                                                                                                                                                        | 12.3 <sup>142</sup> | +16                                               | 03.0 <sup>118</sup> | 35      |                          | 32                                                | 6             | 02             | 28   | 13                                                | 60   |     |      |
| 17  | 75                                                              | 18.2 | +11                                               | 48.2 | 62                                                                                                                                                                                                        | 45.6 <sup>143</sup> | +16                                               | 14.8 <sup>118</sup> | 40      | 5                        | 35                                                | 6             | 07             | 6    | 34                                                | 7    | 22  |      |
| 18  | 90                                                              | 18.3 | +11                                               | 49.0 | 77                                                                                                                                                                                                        | 18.8 <sup>142</sup> | +16                                               | 26.5 <sup>117</sup> | 45      | 5                        | 37                                                | 6             | 12             | 6    | 42                                                | 7    | 32  |      |
| 19  | 105                                                             | 18.4 |                                                   | 49.9 | 91                                                                                                                                                                                                        | 51.9 <sup>141</sup> |                                                   | 38.1 <sup>116</sup> | 50      |                          | 39                                                | 17            | 50             | 50   | 44                                                |      |     |      |
| 20  | 120                                                             | 18.6 |                                                   | 50.7 | 106                                                                                                                                                                                                       | 25.0 <sup>141</sup> | +16                                               | 49.6 <sup>115</sup> | 52      |                          | 40                                                | 20            | 54             | 50   | 75                                                |      |     |      |
| 21  | 135                                                             | 18.7 |                                                   | 51.6 | 120                                                                                                                                                                                                       | 58.1 <sup>141</sup> | +17                                               | 01.1 <sup>115</sup> | 54      |                          | 41                                                | 22            | 6              | 59   | 7                                                 | 57   |     |      |
| 22  | 150                                                             | 18.8 |                                                   | 52.4 | 135                                                                                                                                                                                                       | 31.1 <sup>140</sup> |                                                   | 12.4 <sup>113</sup> | 56      |                          | 42                                                | 25            | 7              | 04   | 8                                                 | 04   |     |      |
| 23  | 165                                                             | 19.0 |                                                   | 53.2 | 150                                                                                                                                                                                                       | 04.1 <sup>140</sup> |                                                   | 23.7 <sup>113</sup> | 58      |                          | 43                                                | 28            | 09             | 12   | 84                                                |      |     |      |
| 24  | 180                                                             | 19.1 | +11                                               | 54.1 | 164                                                                                                                                                                                                       | 37.1 <sup>140</sup> | +17                                               | 35.0 <sup>113</sup> | 60 S    | 5                        | 43                                                | 6             | 32             | 7    | 15                                                | 8    | 21  |      |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                           |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |      | SATURNO                                           |      |     |      |
|     | PMG: 10 <sup>h</sup> 04 <sup>m</sup> 7                          |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |      |                                                                                                                                                                                                           |                     | Mag: +1.6<br>PMG: 15 <sup>h</sup> 17 <sup>m</sup> |                     |         |                          | Mag: -2.3<br>PMG: 20 <sup>h</sup> 48 <sup>m</sup> |               |                |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 38 <sup>m</sup> |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                                                                                                                                       |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                         | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '    | °                                                 | '    | °   | '    |
| 0   | 208                                                             | 25.0 | 136                                               | 19.3 | +26                                                                                                                                                                                                       | 50.9                | 130                                               | 31.6                | +24     | 10.9                     | 47                                                | 02.8          | +9             | 22.2 | 109                                               | 46.6 | +22 | 47.6 |
| 1   | 223                                                             | 27.5 | 151                                               | 19.7 |                                                                                                                                                                                                           | 51.2                | 145                                               | 32.4                |         | 11.0                     | 62                                                | 05.3          |                | 22.2 | 124                                               | 48.9 |     | 47.6 |
| 2   | 238                                                             | 29.9 | 166                                               | 20.1 |                                                                                                                                                                                                           | 51.5                | 160                                               | 33.1                |         | 11.1                     | 77                                                | 07.9          |                | 22.3 | 139                                               | 51.2 |     | 47.6 |
| 3   | 253                                                             | 32.4 | 181                                               | 20.5 |                                                                                                                                                                                                           | 51.8                | 175                                               | 33.8                |         | 11.3                     | 92                                                | 10.5          |                | 22.3 | 154                                               | 53.4 |     | 47.6 |
| 4   | 268                                                             | 34.9 | 196                                               | 20.9 |                                                                                                                                                                                                           | 52.1                | 190                                               | 34.6                |         | 11.4                     | 107                                               | 13.1          |                | 22.3 | 169                                               | 55.7 |     | 47.6 |
| 5   | 283                                                             | 37.3 | 211                                               | 21.3 | +26                                                                                                                                                                                                       | 52.4                | 205                                               | 35.3                | +24     | 11.6                     | 122                                               | 15.6          | +9             | 22.4 | 184                                               | 57.9 | +22 | 47.6 |
| 6   | 298                                                             | 39.8 | 226                                               | 21.7 | +26                                                                                                                                                                                                       | 52.8                | 220                                               | 36.0                | +24     | 11.7                     | 137                                               | 18.2          | +9             | 22.4 | 200                                               | 00.2 | +22 | 47.6 |
| 7   | 313                                                             | 42.2 | 241                                               | 22.1 |                                                                                                                                                                                                           | 53.1                | 235                                               | 36.7                |         | 11.8                     | 152                                               | 20.8          |                | 22.4 | 215                                               | 02.5 |     | 47.6 |
| 8   | 328                                                             | 44.7 | 256                                               | 22.5 |                                                                                                                                                                                                           | 53.4                | 250                                               | 37.5                |         | 12.0                     | 167                                               | 23.4          |                | 22.5 | 230                                               | 04.7 |     | 47.6 |
| 9   | 343                                                             | 47.2 | 271                                               | 22.9 |                                                                                                                                                                                                           | 53.7                | 265                                               | 38.2                |         | 12.1                     | 182                                               | 25.9          |                | 22.5 | 245                                               | 07.0 |     | 47.6 |
| 10  | 358                                                             | 49.6 | 286                                               | 23.3 |                                                                                                                                                                                                           | 54.0                | 280                                               | 38.9                |         | 12.2                     | 197                                               | 28.5          |                | 22.6 | 260                                               | 09.3 |     | 47.6 |
| 11  | 13                                                              | 52.1 | 301                                               | 23.7 | +26                                                                                                                                                                                                       | 54.3                | 295                                               | 39.6                | +24     | 12.4                     | 212                                               | 31.1          | +9             | 22.6 | 275                                               | 11.5 | +22 | 47.6 |
| 12  | 28                                                              | 54.6 | 316                                               | 24.1 | +26                                                                                                                                                                                                       | 54.6                | 310                                               | 40.4                | +24     | 12.5                     | 227                                               | 33.7          | +9             | 22.6 | 290                                               | 13.8 | +22 | 47.6 |
| 13  | 43                                                              | 57.0 | 331                                               | 24.5 |                                                                                                                                                                                                           | 54.9                | 325                                               | 41.1                |         | 12.6                     | 242                                               | 36.2          |                | 22.7 | 305                                               | 16.0 |     | 47.6 |
| 14  | 58                                                              | 59.5 | 346                                               | 24.9 |                                                                                                                                                                                                           | 55.2                | 340                                               | 41.8                |         | 12.8                     | 257                                               | 38.8          |                | 22.7 | 320                                               | 18.3 |     | 47.5 |
| 15  | 74                                                              | 02.0 | 1                                                 | 25.4 |                                                                                                                                                                                                           | 55.5                | 355                                               | 42.5                |         | 12.9                     | 272                                               | 41.4          |                | 22.7 | 335                                               | 20.6 |     | 47.5 |
| 16  | 89                                                              | 04.4 | 16                                                | 25.8 |                                                                                                                                                                                                           | 55.9                | 10                                                | 43.3                |         | 13.1                     | 287                                               | 43.9          |                | 22.8 | 350                                               | 22.8 |     | 47.5 |
| 17  | 104                                                             | 06.9 | 31                                                | 26.2 | +26                                                                                                                                                                                                       | 56.2                | 25                                                | 44.0                | +24     | 13.2                     | 302                                               | 46.5          | +9             | 22.8 | 5                                                 | 25.1 | +22 | 47.5 |
| 18  | 119                                                             | 09.4 | 46                                                | 26.6 | +26                                                                                                                                                                                                       | 56.5                | 40                                                | 44.7                | +24     | 13.3                     | 317                                               | 49.1          | +9             | 22.8 | 20                                                | 27.3 | +22 | 47.5 |
| 19  | 134                                                             | 11.8 | 61                                                | 27.0 |                                                                                                                                                                                                           | 56.8                | 55                                                | 45.4                |         | 13.5                     | 332                                               | 51.6          |                | 22.9 | 35                                                | 29.6 |     | 47.5 |
| 20  | 149                                                             | 14.3 | 76                                                | 27.5 |                                                                                                                                                                                                           | 57.1                | 70                                                | 46.2                |         | 13.6                     | 347                                               | 54.2          |                | 22.9 | 50                                                | 31.9 |     | 47.5 |
| 21  | 164                                                             | 16.7 | 91                                                | 27.9 |                                                                                                                                                                                                           | 57.4                | 85                                                | 46.9                |         | 13.7                     | 2                                                 | 56.8          |                | 22.9 | 65                                                | 34.1 |     | 47.5 |
| 22  | 179                                                             | 19.2 | 106                                               | 28.3 |                                                                                                                                                                                                           | 57.7                | 100                                               | 47.6                |         | 13.8                     | 17                                                | 59.4          |                | 23.0 | 80                                                | 36.4 |     | 47.5 |
| 23  | 194                                                             | 21.7 | 121                                               | 28.7 |                                                                                                                                                                                                           | 58.0                | 115                                               | 48.3                |         | 14.0                     | 33                                                | 01.9          |                | 23.0 | 95                                                | 38.6 |     | 47.5 |
| 24  | 209                                                             | 24.1 | 136                                               | 29.2 | +26                                                                                                                                                                                                       | 58.3                | 130                                               | 49.0                | +24     | 14.1                     | 48                                                | 04.5          | +9             | 23.0 | 110                                               | 40.9 | +22 | 47.5 |
| Dif | —                                                               |      | +4                                                |      | +3                                                                                                                                                                                                        |                     | +7                                                |                     | +1      |                          | +26                                               |               | 0              |      | +23                                               |      | 0   |      |

| UT  | SOL                                                |      |                                                   | ● LUNA                                                                     |                                                                                                           |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna                                    |         | Puesta de Luna |          |      |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------|---------------|---------------------------------------------------|-------|---------------------------------------------------|---------|----------------|----------|------|------|-----|------|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 6 |      |                                                   | Edad: 1 <sup>d</sup> 4<br>SD: 14'9<br>PMG: 13 <sup>h</sup> 26 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 54'6<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'4<br>R°: 47 <sup>m</sup> |                                                   |                         |               |                                                   |       |                                                   |         |                |          |      |      |     |      |
|     | hG ☉                                               | Dec  | hG ☾                                              |                                                                            |                                                                                                           | Dif                                               |                         |               | Dec                                               | Dif   | Civil                                             | Náutico | Hora           | R°       | Hora | R°   |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                          | °                                                                                                         | '                                                 | °                       | h m           | h m                                               | h m   | h m                                               | h m     | h m            | h m      |      |      |     |      |
| 0   | 180                                                | 19.1 | +11                                               | 54.1                                                                       | 164                                                                                                       | 37.1                                              | +17 35.0                | 60 N          | 19 34                                             | 20 23 | 21 31                                             | 4 50    | 4              | 22 33 90 |      |      |     |      |
| 1   | 195                                                | 19.2 |                                                   | 54.9                                                                       | 179                                                                                                       | 10.0 <sup>139</sup>                               | 46.1 <sup>111</sup>     | 58            | 26                                                | 11    | 21 12                                             | 5 02    | 9              | 17 83    |      |      |     |      |
| 2   | 210                                                | 19.3 |                                                   | 55.8                                                                       | 193                                                                                                       | 42.8 <sup>138</sup>                               | +17 57.2 <sup>111</sup> | 56            | 20                                                | 20 02 | 20 57                                             | 13 13   |                | 22 03 79 |      |      |     |      |
| 3   | 225                                                | 19.5 |                                                   | 56.6                                                                       | 208                                                                                                       | 15.6 <sup>138</sup>                               | +18 08.1 <sup>109</sup> | 54            | 14                                                | 19 53 | 44                                                | 22 16   |                | 21 51 75 |      |      |     |      |
| 4   | 240                                                | 19.6 |                                                   | 57.5                                                                       | 222                                                                                                       | 48.4 <sup>138</sup>                               | 19.0 <sup>109</sup>     | 52            | 08                                                | 46    | 32                                                | 30 20   |                | 40 73    |      |      |     |      |
| 5   | 255                                                | 19.7 | +11                                               | 58.3                                                                       | 237                                                                                                       | 21.1 <sup>137</sup>                               | +18 29.9 <sup>109</sup> | 50            | 19 04                                             | 19 39 | 20 23                                             | 5 38    | 21             | 21 31 70 |      |      |     |      |
| 6   | 270                                                | 19.8 | +11                                               | 59.2                                                                       | 251                                                                                                       | 53.7 <sup>136</sup>                               | +18 40.6 <sup>107</sup> | 45            | 18 53                                             | 19 25 | 20 03                                             | 5 54    | 26             | 21 11 66 |      |      |     |      |
| 7   | 285                                                | 20.0 | +12                                               | 00.0                                                                       | 266                                                                                                       | 26.3 <sup>136</sup>                               | +18 51.2 <sup>106</sup> | 40            | 45                                                | 13    | 19 48                                             | 6 07    | 30             | 20 55 63 |      |      |     |      |
| 8   | 300                                                | 20.1 | +12                                               | 00.9                                                                       | 280                                                                                                       | 58.9 <sup>136</sup>                               | +19 01.8 <sup>106</sup> | 35            | 38                                                | 19 04 | 36                                                | 19 32   |                | 42 59    |      |      |     |      |
| 9   | 315                                                | 20.2 |                                                   | 01.7                                                                       | 295                                                                                                       | 31.4 <sup>135</sup>                               | 12.3 <sup>105</sup>     | 30            | 31                                                | 18 56 | 25                                                | 29 35   |                | 30 57    |      |      |     |      |
| 10  | 330                                                | 20.3 |                                                   | 02.6                                                                       | 310                                                                                                       | 03.9 <sup>135</sup>                               | 22.7 <sup>104</sup>     | 20            | 20                                                | 43    | 19 10                                             | 6 46    | 39             | 20 10 54 |      |      |     |      |
| 11  | 345                                                | 20.5 | +12                                               | 03.4                                                                       | 324                                                                                                       | 36.3 <sup>134</sup>                               | +19 33.0 <sup>103</sup> | 10 N          | 18 11                                             | 18 32 | 18 57                                             | 7 01    | 43             | 19 53 50 |      |      |     |      |
| 12  | 0                                                  | 20.6 | +12                                               | 04.3                                                                       | 339                                                                                                       | 08.7 <sup>134</sup>                               | +19 43.2 <sup>102</sup> | 0             | 18 02                                             | 18 23 | 18 48                                             | 7 15    | 46             | 19 37 48 |      |      |     |      |
| 13  | 15                                                 | 20.7 |                                                   | 05.1                                                                       | 353                                                                                                       | 41.0 <sup>133</sup>                               | +19 53.3 <sup>101</sup> | 10 S          | 17 53                                             | 15    | 40                                                | 29 50   |                | 21 45    |      |      |     |      |
| 14  | 30                                                 | 20.8 |                                                   | 05.9                                                                       | 8                                                                                                         | 13.3 <sup>133</sup>                               | +20 03.4 <sup>101</sup> | 20            | 44                                                | 18 07 | 33                                                | 7 45    | 53             | 19 04 41 |      |      |     |      |
| 15  | 45                                                 | 20.9 |                                                   | 06.8                                                                       | 22                                                                                                        | 45.5 <sup>132</sup>                               | 13.3 <sup>99</sup>      | 30            | 34                                                | 17 58 | 26                                                | 8 03    | 57             | 18 45 37 |      |      |     |      |
| 16  | 60                                                 | 21.1 |                                                   | 07.6                                                                       | 37                                                                                                        | 17.7 <sup>132</sup>                               | 23.2 <sup>99</sup>      | 35            | 28                                                | 54    | 24                                                | 13 60   |                | 33 35    |      |      |     |      |
| 17  | 75                                                 | 21.2 | +12                                               | 08.5                                                                       | 51                                                                                                        | 49.8 <sup>131</sup>                               | +20 32.9 <sup>97</sup>  | 40            | 17 21                                             | 17 49 | 18 21                                             | 8 25    | 63             | 18 20 33 |      |      |     |      |
| 18  | 90                                                 | 21.3 | +12                                               | 09.3                                                                       | 66                                                                                                        | 21.9 <sup>131</sup>                               | +20 42.6 <sup>97</sup>  | 45            | 17 14                                             | 17 44 | 18 18                                             | 8 39    | 67             | 18 05 29 |      |      |     |      |
| 19  | 105                                                | 21.4 |                                                   | 10.2                                                                       | 80                                                                                                        | 53.9 <sup>130</sup>                               | +20 52.2 <sup>96</sup>  | 50            | 05                                                | 38    | 16                                                | 8 57    | 71             | 17 47 24 |      |      |     |      |
| 20  | 120                                                | 21.6 |                                                   | 11.0                                                                       | 95                                                                                                        | 25.9 <sup>130</sup>                               | +21 01.7 <sup>95</sup>  | 52            | 17 00                                             | 35    | 15                                                | 9 05    | 74             | 38 22    |      |      |     |      |
| 21  | 135                                                | 21.7 |                                                   | 11.8                                                                       | 109                                                                                                       | 57.8 <sup>129</sup>                               | 11.1 <sup>94</sup>      | 54            | 16 56                                             | 32    | 14                                                | 14 77   |                | 28 19    |      |      |     |      |
| 22  | 150                                                | 21.8 |                                                   | 12.7                                                                       | 124                                                                                                       | 29.7 <sup>129</sup>                               | 20.4 <sup>93</sup>      | 56            | 51                                                | 29    | 13                                                | 24 81   |                | 17 16    |      |      |     |      |
| 23  | 165                                                | 21.9 |                                                   | 13.5                                                                       | 139                                                                                                       | 01.5 <sup>128</sup>                               | 29.6 <sup>92</sup>      | 58            | 45                                                | 26    | 12                                                | 36 85   |                | 17 04 12 |      |      |     |      |
| 24  | 180                                                | 22.0 | +12                                               | 14.4                                                                       | 153                                                                                                       | 33.3 <sup>128</sup>                               | +21 38.7 <sup>91</sup>  | 60 S          | 16 38                                             | 17 22 | 18 11                                             | 9 50    | 91             | 16 50 6  |      |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                            |                                                                                                           | MARTE                                             |                         |               | JÚPITER                                           |       | SATURNO                                           |         |                |          |      |      |     |      |
|     | PMG: 10 <sup>h</sup> 00 <sup>m</sup> 7             |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |                                                                            |                                                                                                           | Mag: +1.6<br>PMG: 15 <sup>h</sup> 16 <sup>m</sup> |                         |               | Mag: -2.3<br>PMG: 20 <sup>h</sup> 44 <sup>m</sup> |       | Mag: +0.1<br>PMG: 16 <sup>h</sup> 35 <sup>m</sup> |         |                |          |      |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                        |                                                                                                           | hG ♂                                              | Dec                     |               | hG ♃                                              | Dec   |                                                   | hG ♄    | Dec            |          |      |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                          | °                                                                                                         | '                                                 | °                       | '             | °                                                 | '     | °                                                 | '       | °              | '        |      |      |     |      |
| 0   | 209                                                | 24.1 | 136                                               | 29.2                                                                       | +26                                                                                                       | 58.3                                              | 130                     | 49.0          | +24                                               | 14.1  | 48                                                | 04.5    | +9             | 23.0     | 110  | 40.9 | +22 | 47.5 |
| 1   | 224                                                | 26.6 | 151                                               | 29.6                                                                       |                                                                                                           | 58.6                                              | 145                     | 49.8          |                                                   | 14.2  | 63                                                | 07.1    |                | 23.1     | 125  | 43.2 |     | 47.5 |
| 2   | 239                                                | 29.1 | 166                                               | 30.0                                                                       |                                                                                                           | 58.9                                              | 160                     | 50.5          |                                                   | 14.4  | 78                                                | 09.6    |                | 23.1     | 140  | 45.4 |     | 47.5 |
| 3   | 254                                                | 31.5 | 181                                               | 30.5                                                                       |                                                                                                           | 59.1                                              | 175                     | 51.2          |                                                   | 14.5  | 93                                                | 12.2    |                | 23.1     | 155  | 47.7 |     | 47.5 |
| 4   | 269                                                | 34.0 | 196                                               | 30.9                                                                       |                                                                                                           | 59.4                                              | 190                     | 51.9          |                                                   | 14.6  | 108                                               | 14.8    |                | 23.2     | 170  | 49.9 |     | 47.5 |
| 5   | 284                                                | 36.5 | 211                                               | 31.4                                                                       | +26                                                                                                       | 59.7                                              | 205                     | 52.7          | +24                                               | 14.8  | 123                                               | 17.3    | +9             | 23.2     | 185  | 52.2 | +22 | 47.5 |
| 6   | 299                                                | 38.9 | 226                                               | 31.8                                                                       | +27                                                                                                       | 00.0                                              | 220                     | 53.4          | +24                                               | 14.9  | 138                                               | 19.9    | +9             | 23.2     | 200  | 54.5 | +22 | 47.5 |
| 7   | 314                                                | 41.4 | 241                                               | 32.2                                                                       | +27                                                                                                       | 00.3                                              | 235                     | 54.1          |                                                   | 15.0  | 153                                               | 22.5    |                | 23.3     | 215  | 56.7 |     | 47.4 |
| 8   | 329                                                | 43.8 | 256                                               | 32.7                                                                       |                                                                                                           | 00.6                                              | 250                     | 54.8          |                                                   | 15.2  | 168                                               | 25.0    |                | 23.3     | 230  | 59.0 |     | 47.4 |
| 9   | 344                                                | 46.3 | 271                                               | 33.1                                                                       |                                                                                                           | 00.9                                              | 265                     | 55.6          |                                                   | 15.3  | 183                                               | 27.6    |                | 23.3     | 246  | 01.2 |     | 47.4 |
| 10  | 359                                                | 48.8 | 286                                               | 33.6                                                                       |                                                                                                           | 01.2                                              | 280                     | 56.3          |                                                   | 15.4  | 198                                               | 30.2    |                | 23.4     | 261  | 03.5 |     | 47.4 |
| 11  | 14                                                 | 51.2 | 301                                               | 34.0                                                                       | +27                                                                                                       | 01.5                                              | 295                     | 57.0          | +24                                               | 15.5  | 213                                               | 32.7    | +9             | 23.4     | 276  | 05.8 | +22 | 47.4 |
| 12  | 29                                                 | 53.7 | 316                                               | 34.5                                                                       | +27                                                                                                       | 01.8                                              | 310                     | 57.7          | +24                                               | 15.7  | 228                                               | 35.3    | +9             | 23.4     | 291  | 08.0 | +22 | 47.4 |
| 13  | 44                                                 | 56.2 | 331                                               | 34.9                                                                       |                                                                                                           | 02.0                                              | 325                     | 58.5          |                                                   | 15.8  | 243                                               | 37.9    |                | 23.5     | 306  | 10.3 |     | 47.4 |
| 14  | 59                                                 | 58.6 | 346                                               | 35.4                                                                       |                                                                                                           | 02.3                                              | 340                     | 59.2          |                                                   | 15.9  | 258                                               | 40.4    |                | 23.5     | 321  | 12.5 |     | 47.4 |
| 15  | 75                                                 | 01.1 | 1                                                 | 35.8                                                                       |                                                                                                           | 02.6                                              | 355                     | 59.9          |                                                   | 16.0  | 273                                               | 43.0    |                | 23.5     | 336  | 14.8 |     | 47.4 |
| 16  | 90                                                 | 03.6 | 16                                                | 36.3                                                                       |                                                                                                           | 02.9                                              | 11                      | 00.6          |                                                   | 16.2  | 288                                               | 45.5    |                | 23.6     | 351  | 17.0 |     | 47.4 |
| 17  | 105                                                | 06.0 | 31                                                | 36.7                                                                       | +27                                                                                                       | 03.2                                              | 26                      | 01.4          | +24                                               | 16.3  | 303                                               | 48.1    | +9             | 23.6     | 6    | 19.3 | +22 | 47.4 |
| 18  | 120                                                | 08.5 | 46                                                | 37.2                                                                       | +27                                                                                                       | 03.5                                              | 41                      | 02.1          | +24                                               | 16.4  | 318                                               | 50.7    | +9             | 23.6     | 21   | 21.6 | +22 | 47.4 |
| 19  | 135                                                | 11.0 | 61                                                | 37.7                                                                       |                                                                                                           | 03.7                                              | 56                      | 02.8          |                                                   | 16.6  | 333                                               | 53.2    |                | 23.7     | 36   | 23.8 |     | 47.4 |
| 20  | 150                                                | 13.4 | 76                                                | 38.1                                                                       |                                                                                                           | 04.0                                              | 71                      | 03.5          |                                                   | 16.7  | 348                                               | 55.8    |                | 23.7     | 51   | 26.1 |     | 47.4 |
| 21  | 165                                                | 15.9 | 91                                                | 38.6                                                                       |                                                                                                           | 04.3                                              | 86                      | 04.3          |                                                   | 16.8  | 3                                                 | 58.4    |                | 23.7     | 66   | 28.3 |     | 47.4 |
| 22  | 180                                                | 18.3 | 106                                               | 39.1                                                                       |                                                                                                           | 04.6                                              | 101                     | 05.0          |                                                   | 16.9  | 19                                                | 00.9    |                | 23.8     | 81   | 30.6 |     | 47.4 |
| 23  | 195                                                | 20.8 | 121                                               | 39.5                                                                       |                                                                                                           | 04.9                                              | 116                     | 05.7          |                                                   | 17.1  | 34                                                | 03.5    |                | 23.8     | 96   | 32.8 |     | 47.4 |
| 24  | 210                                                | 23.3 | 136                                               | 40.0                                                                       | +27                                                                                                       | 05.1                                              | 131                     | 06.4          | +24                                               | 17.2  | 49                                                | 06.0    | +9             | 23.8     | 111  | 35.1 | +22 | 47.3 |
| Dif | —                                                  |      | +5                                                |                                                                            | +3                                                                                                        | +7                                                |                         | +1            | +26                                               |       | 0                                                 | +23     |                |          |      |      |     |      |

| UT  | SOL                                                |      |                                                   |      | ● LUNA                                                                                                                        |      |                                                   |      | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |      |                                                   | Puesta de Luna |     |      |      |    |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|------|---------|--------------------------|---------------------------------------------------|---------------|----------------|------|---------------------------------------------------|----------------|-----|------|------|----|----|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 4 |      |                                                   |      | Edad: 2 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54/3<br>12 <sup>h</sup> : 54/2<br>20 <sup>h</sup> : 54/2<br>R°: 49 <sup>m</sup> |      |                                                   |      |         |                          |                                                   |               |                |      |                                                   |                |     |      |      |    |    |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾                                                                                                                          |      | Dif                                               |      |         |                          |                                                   |               |                |      | Hora                                              |                | R°  |      | Hora |    | R° |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                             | '    | °                                                 | '    | °       | h                        | m                                                 | h             | m              | h    | m                                                 | h              | m   | h    | m    | h  | m  |
| 0   | 180                                                | 22.0 | +12                                               | 14.4 | 153                                                                                                                           | 33.3 | +21                                               | 38.7 | 60 N    | 2                        | 25                                                | 3             | 34             | 4    | 22                                                | 4              | 54  | 10   | **   | ** | ** |
| 1   | 195                                                | 22.2 |                                                   | 15.2 | 168                                                                                                                           | 05.0 | 127                                               | 47.7 | 58      | 2                        | 44                                                | 45            |                | 30   |                                                   | 5              | 11  | 16   | 23   | 40 | 77 |
| 2   | 210                                                | 22.3 |                                                   | 16.0 | 182                                                                                                                           | 36.7 | 127                                               | +21  | 56.6    | 89                       | 56                                                | 3             | 00             | 3    | 55                                                | 37             | 26  | 20   |      | 22 | 72 |
| 3   | 225                                                | 22.4 |                                                   | 16.9 | 197                                                                                                                           | 08.3 | 126                                               | +22  | 05.4    | 88                       | 54                                                | 13            | 4              | 03   | 42                                                | 38             | 24  | 23   | 06   | 70 |    |
| 4   | 240                                                | 22.5 |                                                   | 17.7 | 211                                                                                                                           | 39.9 | 126                                               |      | 14.1    | 87                       | 52                                                | 24            |                | 11   | 48                                                | 50             | 25  | 22   | 53   | 67 |    |
| 5   | 255                                                | 22.6 | +12                                               | 18.6 | 226                                                                                                                           | 11.4 | 125                                               | +22  | 22.7    | 86                       | 50                                                | 3             | 34             | 4    | 18                                                | 4              | 53  | 5    | 59   | 28 | 66 |
| 6   | 270                                                | 22.8 | +12                                               | 19.4 | 240                                                                                                                           | 42.9 | 125                                               | +22  | 31.2    | 85                       | 45                                                | 3             | 53             | 4    | 32                                                | 5              | 03  | 6    | 20   | 32 | 62 |
| 7   | 285                                                | 22.9 |                                                   | 20.2 | 255                                                                                                                           | 14.3 | 124                                               |      | 39.6    | 84                       | 40                                                | 4             | 09             |      | 43                                                | 12             | 37  | 35   | 21   | 58 | 59 |
| 8   | 300                                                | 23.0 |                                                   | 21.1 | 269                                                                                                                           | 45.7 | 124                                               |      | 47.9    | 83                       | 35                                                | 21            | 4              | 53   | 19                                                | 6              | 51  | 38   |      | 41 | 58 |
| 9   | 315                                                | 23.1 |                                                   | 21.9 | 284                                                                                                                           | 17.0 | 123                                               | +22  | 56.1    | 82                       | 30                                                | 31            | 5              | 01   | 26                                                | 7              | 04  | 40   |      | 27 | 57 |
| 10  | 330                                                | 23.2 |                                                   | 22.7 | 298                                                                                                                           | 48.2 | 122                                               | +23  | 04.2    | 81                       | 20                                                | 47            |                | 14   | 37                                                | 25             | 43  | 21   | 04   | 53 |    |
| 11  | 345                                                | 23.4 | +12                                               | 23.6 | 313                                                                                                                           | 19.5 | 123                                               | +23  | 12.2    | 80                       | 10 N                                              | 4             | 59             | 5    | 25                                                | 5              | 46  | 7    | 44   | 46 | 52 |
| 12  | 0                                                  | 23.5 | +12                                               | 24.4 | 327                                                                                                                           | 50.6 | 121                                               | +23  | 20.1    | 79                       | 0                                                 | 5             | 09             | 5    | 34                                                | 5              | 55  | 8    | 01   | 49 | 49 |
| 13  | 15                                                 | 23.6 |                                                   | 25.3 | 342                                                                                                                           | 21.7 | 121                                               |      | 27.8    | 77                       | 10 S                                              | 18            |                | 42   | 6                                                 | 04             | 19  | 51   | 20   | 06 | 47 |
| 14  | 30                                                 | 23.7 |                                                   | 26.1 | 356                                                                                                                           | 52.8 | 121                                               |      | 35.5    | 77                       | 20                                                | 25            |                | 51   | 13                                                | 8              | 38  | 54   | 19   | 45 | 45 |
| 15  | 45                                                 | 23.8 |                                                   | 26.9 | 11                                                                                                                            | 23.8 | 120                                               |      | 43.0    | 75                       | 30                                                | 31            | 5              | 59   | 24                                                | 9              | 00  | 57   |      | 22 | 42 |
| 16  | 60                                                 | 24.0 |                                                   | 27.8 | 25                                                                                                                            | 54.8 | 120                                               |      | 50.5    | 75                       | 35                                                | 34            | 6              | 04   | 29                                                | 13             | 59  | 19   | 08   | 41 |    |
| 17  | 75                                                 | 24.1 | +12                                               | 28.6 | 40                                                                                                                            | 25.7 | 119                                               | +23  | 57.8    | 73                       | 40                                                | 5             | 37             | 6    | 08                                                | 6              | 36  | 9    | 28   | 61 | 38 |
| 18  | 90                                                 | 24.2 | +12                                               | 29.4 | 54                                                                                                                            | 56.6 | 119                                               | +24  | 05.1    | 73                       | 45                                                | 5             | 40             | 6    | 14                                                | 6              | 44  | 9    | 46   | 64 | 36 |
| 19  | 105                                                | 24.3 |                                                   | 30.3 | 69                                                                                                                            | 27.4 | 118                                               |      | 12.2    | 71                       | 50                                                | 42            |                | 20   | 53                                                | 10             | 08  | 68   |      | 11 | 32 |
| 20  | 120                                                | 24.4 |                                                   | 31.1 | 83                                                                                                                            | 58.2 | 118                                               |      | 19.2    | 70                       | 52                                                | 43            |                | 23   | 6                                                 | 58             | 19  | 70   | 18   | 00 | 30 |
| 21  | 135                                                | 24.5 |                                                   | 31.9 | 98                                                                                                                            | 28.9 | 117                                               |      | 26.1    | 69                       | 54                                                | 44            |                | 26   | 7                                                 | 02             | 31  | 73   | 17   | 47 | 28 |
| 22  | 150                                                | 24.7 |                                                   | 32.8 | 112                                                                                                                           | 59.6 | 117                                               |      | 32.9    | 68                       | 56                                                | 45            |                | 29   | 08                                                | 10             | 45  | 76   |      | 33 | 24 |
| 23  | 165                                                | 24.8 |                                                   | 33.6 | 127                                                                                                                           | 30.2 | 116                                               |      | 39.5    | 66                       | 58                                                | 47            |                | 33   | 14                                                | 11             | 01  | 81   | 17   | 16 | 20 |
| 24  | 180                                                | 24.9 | +12                                               | 34.4 | 142                                                                                                                           | 00.8 | 116                                               | +24  | 46.1    | 66                       | 60 S                                              | 5             | 48             | 6    | 36                                                | 7              | 20  | 11   | 21   | 88 | 12 |
| UT  | ARIES                                              |      | VENUS                                             |      |                                                                                                                               |      | MARTE                                             |      |         |                          | JÚPITER                                           |               |                |      | SATURNO                                           |                |     |      |      |    |    |
|     | PMG<br>9 <sup>h</sup> 56 <sup>m</sup> 8            |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |      |                                                                                                                               |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 15 <sup>m</sup> |      |         |                          | Mag: -2.3<br>PMG: 20 <sup>h</sup> 40 <sup>m</sup> |               |                |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 31 <sup>m</sup> |                |     |      |      |    |    |
|     | hG ♈                                               |      | hG ♀                                              |      | Dec                                                                                                                           |      | hG ♂                                              |      | Dec     |                          | hG ♃                                              |               | Dec            |      | hG ♄                                              |                | Dec |      |      |    |    |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                                                             | '    | °                                                 | '    | °       | '                        | °                                                 | '             | °              | '    | °                                                 | '              | °   | '    |      |    |    |
| 0   | 210                                                | 23.3 | 136                                               | 40.0 | +27                                                                                                                           | 05.1 | 131                                               | 06.4 | +24     | 17.2                     | 49                                                | 06.0          | +9             | 23.8 | 111                                               | 35.1           | +22 | 47.3 |      |    |    |
| 1   | 225                                                | 25.7 | 151                                               | 40.5 |                                                                                                                               | 05.4 | 146                                               | 07.1 |         | 17.3                     | 64                                                | 08.6          |                | 23.9 | 126                                               | 37.4           |     | 47.3 |      |    |    |
| 2   | 240                                                | 28.2 | 166                                               | 41.0 |                                                                                                                               | 05.7 | 161                                               | 07.9 |         | 17.4                     | 79                                                | 11.2          |                | 23.9 | 141                                               | 39.6           |     | 47.3 |      |    |    |
| 3   | 255                                                | 30.7 | 181                                               | 41.4 |                                                                                                                               | 06.0 | 176                                               | 08.6 |         | 17.5                     | 94                                                | 13.7          |                | 23.9 | 156                                               | 41.9           |     | 47.3 |      |    |    |
| 4   | 270                                                | 33.1 | 196                                               | 41.9 |                                                                                                                               | 06.2 | 191                                               | 09.3 |         | 17.7                     | 109                                               | 16.3          |                | 24.0 | 171                                               | 44.1           |     | 47.3 |      |    |    |
| 5   | 285                                                | 35.6 | 211                                               | 42.4 | +27                                                                                                                           | 06.5 | 206                                               | 10.0 | +24     | 17.8                     | 124                                               | 18.8          | +9             | 24.0 | 186                                               | 46.4           | +22 | 47.3 |      |    |    |
| 6   | 300                                                | 38.1 | 226                                               | 42.9 | +27                                                                                                                           | 06.8 | 221                                               | 10.8 | +24     | 17.9                     | 139                                               | 21.4          | +9             | 24.0 | 201                                               | 48.6           | +22 | 47.3 |      |    |    |
| 7   | 315                                                | 40.5 | 241                                               | 43.4 |                                                                                                                               | 07.0 | 236                                               | 11.5 |         | 18.0                     | 154                                               | 24.0          |                | 24.1 | 216                                               | 50.9           |     | 47.3 |      |    |    |
| 8   | 330                                                | 43.0 | 256                                               | 43.8 |                                                                                                                               | 07.3 | 251                                               | 12.2 |         | 18.2                     | 169                                               | 26.5          |                | 24.1 | 231                                               | 53.1           |     | 47.3 |      |    |    |
| 9   | 345                                                | 45.5 | 271                                               | 44.3 |                                                                                                                               | 07.6 | 266                                               | 12.9 |         | 18.3                     | 184                                               | 29.1          |                | 24.1 | 246                                               | 55.4           |     | 47.3 |      |    |    |
| 10  | 0                                                  | 47.9 | 286                                               | 44.8 |                                                                                                                               | 07.9 | 281                                               | 13.7 |         | 18.4                     | 199                                               | 31.6          |                | 24.1 | 261                                               | 57.7           |     | 47.3 |      |    |    |
| 11  | 15                                                 | 50.4 | 301                                               | 45.3 | +27                                                                                                                           | 08.1 | 296                                               | 14.4 | +24     | 18.5                     | 214                                               | 34.2          | +9             | 24.2 | 276                                               | 59.9           | +22 | 47.3 |      |    |    |
| 12  | 30                                                 | 52.8 | 316                                               | 45.8 | +27                                                                                                                           | 08.4 | 311                                               | 15.1 | +24     | 18.6                     | 229                                               | 36.8          | +9             | 24.2 | 292                                               | 02.2           | +22 | 47.3 |      |    |    |
| 13  | 45                                                 | 55.3 | 331                                               | 46.3 |                                                                                                                               | 08.6 | 326                                               | 15.8 |         | 18.8                     | 244                                               | 39.3          |                | 24.2 | 307                                               | 04.4           |     | 47.3 |      |    |    |
| 14  | 60                                                 | 57.8 | 346                                               | 46.8 |                                                                                                                               | 08.9 | 341                                               | 16.5 |         | 18.9                     | 259                                               | 41.9          |                | 24.3 | 322                                               | 06.7           |     | 47.3 |      |    |    |
| 15  | 76                                                 | 00.2 | 1                                                 | 47.3 |                                                                                                                               | 09.2 | 356                                               | 17.3 |         | 19.0                     | 274                                               | 44.4          |                | 24.3 | 337                                               | 08.9           |     | 47.2 |      |    |    |
| 16  | 91                                                 | 02.7 | 16                                                | 47.8 |                                                                                                                               | 09.4 | 11                                                | 18.0 |         | 19.1                     | 289                                               | 47.0          |                | 24.3 | 352                                               | 11.2           |     | 47.2 |      |    |    |
| 17  | 106                                                | 05.2 | 31                                                | 48.3 | +27                                                                                                                           | 09.7 | 26                                                | 18.7 | +24     | 19.2                     | 304                                               | 49.5          | +9             | 24.3 | 7                                                 | 13.4           | +22 | 47.2 |      |    |    |
| 18  | 121                                                | 07.6 | 46                                                | 48.8 | +27                                                                                                                           | 10.0 | 41                                                | 19.4 | +24     | 19.4                     | 319                                               | 52.1          | +9             | 24.4 | 22                                                | 15.7           | +22 | 47.2 |      |    |    |
| 19  | 136                                                | 10.1 | 61                                                | 49.3 |                                                                                                                               | 10.2 | 56                                                | 20.2 |         | 19.5                     | 334                                               | 54.7          |                | 24.4 | 37                                                | 17.9           |     | 47.2 |      |    |    |
| 20  | 151                                                | 12.6 | 76                                                | 49.8 |                                                                                                                               | 10.5 | 71                                                | 20.9 |         | 19.6                     | 349                                               | 57.2          |                | 24.4 | 52                                                | 20.2           |     | 47.2 |      |    |    |
| 21  | 166                                                | 15.0 | 91                                                | 50.3 |                                                                                                                               | 10.7 | 86                                                | 21.6 |         | 19.7                     | 4                                                 | 59.8          |                | 24.5 | 67                                                | 22.4           |     | 47.2 |      |    |    |
| 22  | 181                                                | 17.5 | 106                                               | 50.8 |                                                                                                                               | 11.0 | 101                                               | 22.3 |         | 19.8                     | 20                                                | 02.3          |                | 24.5 | 82                                                | 24.7           |     | 47.2 |      |    |    |
| 23  | 196                                                | 20.0 | 121                                               | 51.4 |                                                                                                                               | 11.2 | 116                                               | 23.1 |         | 19.9                     | 35                                                | 04.9          |                | 24.5 | 97                                                | 27.0           |     | 47.2 |      |    |    |
| 24  | 211                                                | 22.4 | 136                                               | 51.9 | +27                                                                                                                           | 11.5 | 131                                               | 23.8 | +24     | 20.1                     | 50                                                | 07.4          | +9             | 24.6 | 112                                               | 29.2           | +22 | 47.2 |      |    |    |
| Dif | —                                                  |      | +5                                                |      | +3                                                                                                                            |      | +7                                                |      | +1      |                          | +26                                               |               | 0              |      | +23                                               |                |     |      |      |    |    |

| UT  | SOL                                                             |      |                                                   | ● LUNA                                                                                                                                                                                                      |     |                                                   | Latitud | Puesta de Sol      | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |          |     |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|-----|------|-----|------|
|     | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 2 |      |                                                   | Edad: 3 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54 <sup>1</sup> / <sub>1</sub><br>12 <sup>h</sup> : 54 <sup>1</sup> / <sub>1</sub><br>20 <sup>h</sup> : 54 <sup>1</sup> / <sub>1</sub><br>R°: 50 <sup>m</sup> |     |                                                   |         |                    |                                                   |       |                |                                                   |                |          |     |      |     |      |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                                                                        | Dif | Dec                                               |         |                    | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora     | R°  |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                           | °   | '                                                 | °       | '                  | h m                                               | h m   | h m            | h m                                               | h m            | h m      |     |      |     |      |
| 0   | 180                                                             | 24.9 | +12                                               | 34.4                                                                                                                                                                                                        | 142 | 00.8                                              | +24     | 46.1               | 60 N                                              | 19 39 | 20 28          | 21 39                                             | 5 04 19        | 0 03 84  |     |      |     |      |
| 1   | 195                                                             | 25.0 |                                                   | 35.3                                                                                                                                                                                                        | 156 | 31.3 <sup>115</sup>                               |         | 52.5 <sup>64</sup> | 58                                                | 31    | 16             | 19                                                | 27 26          | ** ** *  |     |      |     |      |
| 2   | 210                                                             | 25.1 |                                                   | 36.1                                                                                                                                                                                                        | 171 | 01.8 <sup>115</sup>                               | +24     | 58.8 <sup>63</sup> | 56                                                | 24    | 20 06          | 21 02                                             | 5 46 30        | ** ** *  |     |      |     |      |
| 3   | 225                                                             | 25.2 |                                                   | 36.9                                                                                                                                                                                                        | 185 | 32.3 <sup>115</sup>                               | +25     | 05.1 <sup>63</sup> | 54                                                | 17    | 19 57          | 20 49                                             | 6 02 33        | ** ** *  |     |      |     |      |
| 4   | 240                                                             | 25.4 |                                                   | 37.7                                                                                                                                                                                                        | 200 | 02.7 <sup>114</sup>                               |         | 11.2 <sup>61</sup> | 52                                                | 12    | 49             | 37                                                | 15 35          | ** ** *  |     |      |     |      |
| 5   | 255                                                             | 25.5 | +12                                               | 38.6                                                                                                                                                                                                        | 214 | 33.0 <sup>113</sup>                               | +25     | 17.1 <sup>59</sup> | 50                                                | 19 07 | 19 42          | 20 27                                             | 6 27 37        | 23 47 57 |     |      |     |      |
| 6   | 270                                                             | 25.6 | +12                                               | 39.4                                                                                                                                                                                                        | 229 | 03.3 <sup>113</sup>                               | +25     | 23.0 <sup>59</sup> | 45                                                | 18 56 | 19 27          | 20 06                                             | 6 52 40        | 23 19 56 |     |      |     |      |
| 7   | 285                                                             | 25.7 |                                                   | 40.2                                                                                                                                                                                                        | 243 | 33.6 <sup>113</sup>                               |         | 28.7 <sup>57</sup> | 40                                                | 47    | 16             | 19 50                                             | 7 12 42        | 22 57 55 |     |      |     |      |
| 8   | 300                                                             | 25.8 |                                                   | 41.1                                                                                                                                                                                                        | 258 | 03.8 <sup>112</sup>                               |         | 34.4 <sup>57</sup> | 35                                                | 39    | 19 06          | 38                                                | 29 44          | 39 54    |     |      |     |      |
| 9   | 315                                                             | 25.9 |                                                   | 41.9                                                                                                                                                                                                        | 272 | 34.0 <sup>112</sup>                               |         | 39.9 <sup>55</sup> | 30                                                | 32    | 18 57          | 27                                                | 7 44 44        | 22 24 53 |     |      |     |      |
| 10  | 330                                                             | 26.1 |                                                   | 42.7                                                                                                                                                                                                        | 287 | 04.1 <sup>111</sup>                               |         | 45.2 <sup>53</sup> | 20                                                | 21    | 44             | 19 10                                             | 8 08 47        | 21 57 53 |     |      |     |      |
| 11  | 345                                                             | 26.2 | +12                                               | 43.5                                                                                                                                                                                                        | 301 | 34.2 <sup>111</sup>                               | +25     | 50.5 <sup>53</sup> | 10 N                                              | 18 11 | 18 32          | 18 58                                             | 8 30 48        | 21 35 52 |     |      |     |      |
| 12  | 0                                                               | 26.3 | +12                                               | 44.4                                                                                                                                                                                                        | 316 | 04.3 <sup>111</sup>                               | +25     | 55.6 <sup>51</sup> | 0                                                 | 18 02 | 18 23          | 18 47                                             | 8 50 50        | 21 14 51 |     |      |     |      |
| 13  | 15                                                              | 26.4 |                                                   | 45.2                                                                                                                                                                                                        | 330 | 34.3 <sup>110</sup>                               | +26     | 00.7 <sup>51</sup> | 10 S                                              | 17 52 | 14             | 39                                                | 9 10 52        | 20 53 50 |     |      |     |      |
| 14  | 30                                                              | 26.5 |                                                   | 46.0                                                                                                                                                                                                        | 345 | 04.3 <sup>110</sup>                               |         | 05.6 <sup>49</sup> | 20                                                | 43    | 18 05          | 31                                                | 32 53          | 30 49    |     |      |     |      |
| 15  | 45                                                              | 26.6 |                                                   | 46.9                                                                                                                                                                                                        | 359 | 34.2 <sup>109</sup>                               |         | 10.3 <sup>47</sup> | 30                                                | 32    | 17 56          | 25                                                | 9 57 55        | 20 04 48 |     |      |     |      |
| 16  | 60                                                              | 26.7 |                                                   | 47.7                                                                                                                                                                                                        | 14  | 04.1 <sup>109</sup>                               |         | 15.0 <sup>47</sup> | 35                                                | 26    | 52             | 21                                                | 10 12 56       | 19 49 47 |     |      |     |      |
| 17  | 75                                                              | 26.9 | +12                                               | 48.5                                                                                                                                                                                                        | 28  | 34.0 <sup>109</sup>                               | +26     | 19.5 <sup>45</sup> | 40                                                | 17 19 | 17 47          | 18 18                                             | 10 29 58       | 19 31 46 |     |      |     |      |
| 18  | 90                                                              | 27.0 | +12                                               | 49.3                                                                                                                                                                                                        | 43  | 03.8 <sup>108</sup>                               | +26     | 23.9 <sup>44</sup> | 45                                                | 17 11 | 17 41          | 18 15                                             | 10 50 59       | 19 10 44 |     |      |     |      |
| 19  | 105                                                             | 27.1 |                                                   | 50.2                                                                                                                                                                                                        | 57  | 33.6 <sup>108</sup>                               |         | 28.2 <sup>43</sup> | 50                                                | 17 01 | 34             | 12                                                | 11 16 62       | 18 43 42 |     |      |     |      |
| 20  | 120                                                             | 27.2 |                                                   | 51.0                                                                                                                                                                                                        | 72  | 03.3 <sup>107</sup>                               |         | 32.4 <sup>42</sup> | 52                                                | 16 56 | 31             | 11                                                | 29 63          | 30 41    |     |      |     |      |
| 21  | 135                                                             | 27.3 |                                                   | 51.8                                                                                                                                                                                                        | 86  | 33.1 <sup>108</sup>                               |         | 36.4 <sup>40</sup> | 54                                                | 51    | 28             | 10                                                | 11 44 65       | 18 15 39 |     |      |     |      |
| 22  | 150                                                             | 27.4 |                                                   | 52.6                                                                                                                                                                                                        | 101 | 02.7 <sup>106</sup>                               |         | 40.3 <sup>39</sup> | 56                                                | 46    | 25             | 08                                                | 12 01 68       | 17 57 37 |     |      |     |      |
| 23  | 165                                                             | 27.5 |                                                   | 53.5                                                                                                                                                                                                        | 115 | 32.4 <sup>107</sup>                               |         | 44.1 <sup>38</sup> | 58                                                | 40    | 21             | 07                                                | 22 71          | 36 33    |     |      |     |      |
| 24  | 180                                                             | 27.6 | +12                                               | 54.3                                                                                                                                                                                                        | 130 | 02.0 <sup>106</sup>                               | +26     | 47.8 <sup>37</sup> | 60 S                                              | 16 33 | 17 17          | 18 06                                             | 12 49 78       | 17 08 28 |     |      |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                                                             |     | MARTE                                             |         |                    | JÚPITER                                           |       |                | SATURNO                                           |                |          |     |      |     |      |
|     | PMG: 9 <sup>h</sup> 52 <sup>m</sup> 9                           |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |                                                                                                                                                                                                             |     | Mag: +1.6<br>PMG: 15 <sup>h</sup> 14 <sup>m</sup> |         |                    | Mag: -2.3<br>PMG: 20 <sup>h</sup> 36 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 16 <sup>h</sup> 28 <sup>m</sup> |                |          |     |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                                                                                                                                         |     | hG ♂                                              | Dec     |                    | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |          |     |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                           | °   | '                                                 | °       | '                  | °                                                 | '     | °              | '                                                 | °              | '        |     |      |     |      |
| 0   | 211                                                             | 22.4 | 136                                               | 51.9                                                                                                                                                                                                        | +27 | 11.5                                              | 131     | 23.8               | +24                                               | 20.1  | 50             | 07.4                                              | +9             | 24.6     | 112 | 29.2 | +22 | 47.2 |
| 1   | 226                                                             | 24.9 | 151                                               | 52.4                                                                                                                                                                                                        |     | 11.8                                              | 146     | 24.5               |                                                   | 20.2  | 65             | 10.0                                              |                | 24.6     | 127 | 31.5 |     | 47.2 |
| 2   | 241                                                             | 27.3 | 166                                               | 52.9                                                                                                                                                                                                        |     | 12.0                                              | 161     | 25.2               |                                                   | 20.3  | 80             | 12.5                                              |                | 24.6     | 142 | 33.7 |     | 47.2 |
| 3   | 256                                                             | 29.8 | 181                                               | 53.4                                                                                                                                                                                                        |     | 12.3                                              | 176     | 25.9               |                                                   | 20.4  | 95             | 15.1                                              |                | 24.6     | 157 | 36.0 |     | 47.2 |
| 4   | 271                                                             | 32.3 | 196                                               | 53.9                                                                                                                                                                                                        |     | 12.5                                              | 191     | 26.7               |                                                   | 20.5  | 110            | 17.6                                              |                | 24.7     | 172 | 38.2 |     | 47.2 |
| 5   | 286                                                             | 34.7 | 211                                               | 54.5                                                                                                                                                                                                        | +27 | 12.8                                              | 206     | 27.4               | +24                                               | 20.6  | 125            | 20.2                                              | +9             | 24.7     | 187 | 40.5 | +22 | 47.2 |
| 6   | 301                                                             | 37.2 | 226                                               | 55.0                                                                                                                                                                                                        | +27 | 13.0                                              | 221     | 28.1               | +24                                               | 20.7  | 140            | 22.7                                              | +9             | 24.7     | 202 | 42.7 | +22 | 47.2 |
| 7   | 316                                                             | 39.7 | 241                                               | 55.5                                                                                                                                                                                                        |     | 13.3                                              | 236     | 28.8               |                                                   | 20.9  | 155            | 25.3                                              |                | 24.7     | 217 | 45.0 |     | 47.1 |
| 8   | 331                                                             | 42.1 | 256                                               | 56.1                                                                                                                                                                                                        |     | 13.5                                              | 251     | 29.6               |                                                   | 21.0  | 170            | 27.9                                              |                | 24.8     | 232 | 47.2 |     | 47.1 |
| 9   | 346                                                             | 44.6 | 271                                               | 56.6                                                                                                                                                                                                        |     | 13.8                                              | 266     | 30.3               |                                                   | 21.1  | 185            | 30.4                                              |                | 24.8     | 247 | 49.5 |     | 47.1 |
| 10  | 1                                                               | 47.1 | 286                                               | 57.1                                                                                                                                                                                                        |     | 14.0                                              | 281     | 31.0               |                                                   | 21.2  | 200            | 33.0                                              |                | 24.8     | 262 | 51.7 |     | 47.1 |
| 11  | 16                                                              | 49.5 | 301                                               | 57.7                                                                                                                                                                                                        | +27 | 14.2                                              | 296     | 31.7               | +24                                               | 21.3  | 215            | 35.5                                              | +9             | 24.9     | 277 | 54.0 | +22 | 47.1 |
| 12  | 31                                                              | 52.0 | 316                                               | 58.2                                                                                                                                                                                                        | +27 | 14.5                                              | 311     | 32.4               | +24                                               | 21.4  | 230            | 38.1                                              | +9             | 24.9     | 292 | 56.2 | +22 | 47.1 |
| 13  | 46                                                              | 54.4 | 331                                               | 58.7                                                                                                                                                                                                        |     | 14.7                                              | 326     | 33.2               |                                                   | 21.5  | 245            | 40.6                                              |                | 24.9     | 307 | 58.5 |     | 47.1 |
| 14  | 61                                                              | 56.9 | 346                                               | 59.3                                                                                                                                                                                                        |     | 15.0                                              | 341     | 33.9               |                                                   | 21.6  | 260            | 43.2                                              |                | 24.9     | 323 | 00.7 |     | 47.1 |
| 15  | 76                                                              | 59.4 | 1                                                 | 59.8                                                                                                                                                                                                        |     | 15.2                                              | 356     | 34.6               |                                                   | 21.8  | 275            | 45.7                                              |                | 25.0     | 338 | 03.0 |     | 47.1 |
| 16  | 92                                                              | 01.8 | 17                                                | 00.4                                                                                                                                                                                                        |     | 15.5                                              | 11      | 35.3               |                                                   | 21.9  | 290            | 48.3                                              |                | 25.0     | 353 | 05.2 |     | 47.1 |
| 17  | 107                                                             | 04.3 | 32                                                | 00.9                                                                                                                                                                                                        | +27 | 15.7                                              | 26      | 36.1               | +24                                               | 22.0  | 305            | 50.8                                              | +9             | 25.0     | 8   | 07.5 | +22 | 47.1 |
| 18  | 122                                                             | 06.8 | 47                                                | 01.5                                                                                                                                                                                                        | +27 | 15.9                                              | 41      | 36.8               | +24                                               | 22.1  | 320            | 53.4                                              | +9             | 25.0     | 23  | 09.7 | +22 | 47.1 |
| 19  | 137                                                             | 09.2 | 62                                                | 02.0                                                                                                                                                                                                        |     | 16.2                                              | 56      | 37.5               |                                                   | 22.2  | 335            | 55.9                                              |                | 25.1     | 38  | 12.0 |     | 47.1 |
| 20  | 152                                                             | 11.7 | 77                                                | 02.6                                                                                                                                                                                                        |     | 16.4                                              | 71      | 38.2               |                                                   | 22.3  | 350            | 58.5                                              |                | 25.1     | 53  | 14.2 |     | 47.1 |
| 21  | 167                                                             | 14.2 | 92                                                | 03.1                                                                                                                                                                                                        |     | 16.7                                              | 86      | 38.9               |                                                   | 22.4  | 6              | 01.0                                              |                | 25.1     | 68  | 16.5 |     | 47.0 |
| 22  | 182                                                             | 16.6 | 107                                               | 03.7                                                                                                                                                                                                        |     | 16.9                                              | 101     | 39.7               |                                                   | 22.5  | 21             | 03.5                                              |                | 25.1     | 83  | 18.7 |     | 47.0 |
| 23  | 197                                                             | 19.1 | 122                                               | 04.2                                                                                                                                                                                                        |     | 17.1                                              | 116     | 40.4               |                                                   | 22.6  | 36             | 06.1                                              |                | 25.2     | 98  | 21.0 |     | 47.0 |
| 24  | 212                                                             | 21.6 | 137                                               | 04.8                                                                                                                                                                                                        | +27 | 17.4                                              | 131     | 41.1               | +24                                               | 22.7  | 51             | 08.6                                              | +9             | 25.2     | 113 | 23.2 | +22 | 47.0 |
| Dif | —                                                               |      | +5                                                |                                                                                                                                                                                                             | +2  |                                                   | +7      |                    | +1                                                |       | +26            |                                                   | 0              |          | +23 |      |     |      |

| UT | SOL                                    |      |     |  LUNA |                                                                                                                           |                       | Latitud | Principio del crepúsculo             |       | Salida de Sol | Salida de Luna      |      | Puesta de Luna |    |
|----|----------------------------------------|------|-----|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|--------------------------------------|-------|---------------|---------------------|------|----------------|----|
|    | SD: 15 <sup>h</sup> 9                  |      |     | Edad: 4 <sup>d</sup> 4                                                                 | PHE {<br>4 <sup>h</sup> : 54 <sup>l</sup> 1<br>12 <sup>h</sup> : 54 <sup>l</sup> 1<br>20 <sup>h</sup> : 54 <sup>l</sup> 1 |                       |         |                                      |       |               |                     |      |                |    |
|    | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 1 |      |     |                                                                                        |                                                                                                                           | SD: 14 <sup>h</sup> 7 |         | PMG: 15 <sup>h</sup> 52 <sup>m</sup> |       |               | Rº: 51 <sup>m</sup> |      |                |    |
|    | hG ☉                                   | Dec  |     | hG ☾                                                                                   | Dif                                                                                                                       | Dec                   | Dif     | Náutico                              | Civil |               | Hora                | Rº   | Hora           | Rº |
| h  | °                                      | '    | °   | '                                                                                      | °                                                                                                                         | '                     | °       | '                                    | h     | m             | h                   | m    | h              | m  |
| 0  | 180                                    | 27.6 | +12 | 54.3                                                                                   | 130                                                                                                                       | 02.0                  | +26     | 47.8                                 | 60 N  | 2 16          | 3 27                | 4 17 | 5 23           | 40 |
| 1  | 195                                    | 27.7 |     | 55.1                                                                                   | 144                                                                                                                       | 31.6 <sup>106</sup>   |         | 51.3 <sup>35</sup>                   | 58    | 37            | 39                  | 25   | 5 53           | 44 |
| 2  | 210                                    | 27.9 |     | 55.9                                                                                   | 159                                                                                                                       | 01.2 <sup>106</sup>   |         | 54.7 <sup>34</sup>                   | 56    | 2 53          | 49                  | 32   | 6 16           | 45 |
| 3  | 225                                    | 28.0 |     | 56.7                                                                                   | 173                                                                                                                       | 30.7 <sup>105</sup>   | +26     | 58.0 <sup>33</sup>                   | 54    | 3 07          | 3 58                | 38   | 35             | 46 |
| 4  | 240                                    | 28.1 |     | 57.6                                                                                   | 188                                                                                                                       | 00.2 <sup>105</sup>   | +27     | 01.1 <sup>31</sup>                   | 52    | 19            | 4 06                | 44   | 6 50           | 48 |
| 5  | 255                                    | 28.2 | +12 | 58.4                                                                                   | 202                                                                                                                       | 29.6 <sup>104</sup>   | +27     | 04.1 <sup>30</sup>                   | 50    | 3 29          | 4 13                | 4 49 | 7 04           | 48 |
| 6  | 270                                    | 28.3 | +12 | 59.2                                                                                   | 216                                                                                                                       | 59.1 <sup>105</sup>   | +27     | 07.0 <sup>29</sup>                   | 45    | 3 50          | 4 28                | 5 00 | 7 32           | 49 |
| 7  | 285                                    | 28.4 | +13 | 00.0                                                                                   | 231                                                                                                                       | 28.5 <sup>104</sup>   |         | 09.8 <sup>28</sup>                   | 40    | 4 06          | 40                  | 09   | 7 54           | 50 |
| 8  | 300                                    | 28.5 | +13 | 00.8                                                                                   | 245                                                                                                                       | 57.9 <sup>104</sup>   |         | 12.4 <sup>26</sup>                   | 35    | 18            | 50                  | 17   | 8 13           | 49 |
| 9  | 315                                    | 28.6 |     | 01.7                                                                                   | 260                                                                                                                       | 27.3 <sup>104</sup>   |         | 14.9 <sup>25</sup>                   | 30    | 29            | 4 59                | 24   | 28             | 50 |
| 10 | 330                                    | 28.7 |     | 02.5                                                                                   | 274                                                                                                                       | 56.6 <sup>103</sup>   |         | 17.3 <sup>24</sup>                   | 20    | 46            | 5 12                | 35   | 8 55           | 51 |
| 11 | 345                                    | 28.9 | +13 | 03.3                                                                                   | 289                                                                                                                       | 25.9 <sup>103</sup>   | +27     | 19.5 <sup>22</sup>                   | 10 N  | 4 58          | 5 24                | 5 45 | 9 18           | 51 |
| 12 | 0                                      | 29.0 | +13 | 04.1                                                                                   | 303                                                                                                                       | 55.2 <sup>103</sup>   | +27     | 21.7 <sup>22</sup>                   | 0     | 5 09          | 5 33                | 5 55 | 9 40           | 51 |
| 13 | 15                                     | 29.1 |     | 04.9                                                                                   | 318                                                                                                                       | 24.5 <sup>103</sup>   |         | 23.6 <sup>19</sup>                   | 10 S  | 18            | 42                  | 6 04 | 10 02          | 51 |
| 14 | 30                                     | 29.2 |     | 05.8                                                                                   | 332                                                                                                                       | 53.7 <sup>102</sup>   |         | 25.5 <sup>19</sup>                   | 20    | 25            | 5 51                | 14   | 25             | 51 |
| 15 | 45                                     | 29.3 |     | 06.6                                                                                   | 347                                                                                                                       | 23.0 <sup>103</sup>   |         | 27.2 <sup>17</sup>                   | 30    | 32            | 6 00                | 25   | 10 52          | 52 |
| 16 | 60                                     | 29.4 |     | 07.4                                                                                   | 1                                                                                                                         | 52.2 <sup>102</sup>   |         | 28.8 <sup>16</sup>                   | 35    | 35            | 05                  | 31   | 11 08          | 52 |
| 17 | 75                                     | 29.5 | +13 | 08.2                                                                                   | 16                                                                                                                        | 21.4 <sup>102</sup>   | +27     | 30.3 <sup>15</sup>                   | 40    | 5 39          | 6 10                | 6 38 | 11 27          | 52 |
| 18 | 90                                     | 29.6 | +13 | 09.0                                                                                   | 30                                                                                                                        | 50.6 <sup>102</sup>   | +27     | 31.6 <sup>13</sup>                   | 45    | 5 42          | 6 16                | 6 47 | 11 49          | 53 |
| 19 | 105                                    | 29.7 |     | 09.8                                                                                   | 45                                                                                                                        | 19.7 <sup>101</sup>   |         | 32.8 <sup>12</sup>                   | 50    | 45            | 23                  | 6 56 | 12 18          | 53 |
| 20 | 120                                    | 29.8 |     | 10.7                                                                                   | 59                                                                                                                        | 48.9 <sup>102</sup>   |         | 33.8 <sup>10</sup>                   | 52    | 46            | 26                  | 7 01 | 32             | 53 |
| 21 | 135                                    | 29.9 |     | 11.5                                                                                   | 74                                                                                                                        | 18.0 <sup>101</sup>   |         | 34.8 <sup>10</sup>                   | 54    | 48            | 29                  | 06   | 12 49          | 52 |
| 22 | 150                                    | 30.0 |     | 12.3                                                                                   | 88                                                                                                                        | 47.1 <sup>101</sup>   |         | 35.6 <sup>8</sup>                    | 56    | 49            | 33                  | 12   | 13 09          | 52 |
| 23 | 165                                    | 30.2 |     | 13.1                                                                                   | 103                                                                                                                       | 16.2 <sup>101</sup>   |         | 36.2 <sup>6</sup>                    | 58    | 50            | 37                  | 18   | 13 33          | 53 |
| 24 | 180                                    | 30.3 | +13 | 13.9                                                                                   | 117                                                                                                                       | 45.3 <sup>101</sup>   | +27     | 36.8 <sup>6</sup>                    | 60 S  | 5 52          | 6 41                | 7 25 | 14 07          | 52 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 9 <sup>h</sup> 49 <sup>m</sup> 0 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 13 <sup>m</sup> |      | Mag: -2.3<br>PMG: 20 <sup>h</sup> 32 <sup>m</sup> |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 24 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 212                                   | 21.6 | 137                                               | 04.8 | 131                                               | 41.1 | 51                                                | 08.6 | 113                                               | 23.2 |
| 1   | 227                                   | 24.0 | 152                                               | 05.4 | 146                                               | 41.8 | 66                                                | 11.2 | 128                                               | 25.5 |
| 2   | 242                                   | 26.5 | 167                                               | 05.9 | 161                                               | 42.6 | 81                                                | 13.7 | 143                                               | 27.7 |
| 3   | 257                                   | 28.9 | 182                                               | 06.5 | 176                                               | 43.3 | 96                                                | 16.3 | 158                                               | 30.0 |
| 4   | 272                                   | 31.4 | 197                                               | 07.1 | 191                                               | 44.0 | 111                                               | 18.8 | 173                                               | 32.2 |
| 5   | 287                                   | 33.9 | 212                                               | 07.6 | 206                                               | 44.7 | 126                                               | 21.4 | 188                                               | 34.5 |
| 6   | 302                                   | 36.3 | 227                                               | 08.2 | 221                                               | 45.4 | 141                                               | 23.9 | 203                                               | 36.7 |
| 7   | 317                                   | 38.8 | 242                                               | 08.8 | 236                                               | 46.2 | 156                                               | 26.5 | 218                                               | 39.0 |
| 8   | 332                                   | 41.3 | 257                                               | 09.3 | 251                                               | 46.9 | 171                                               | 29.0 | 233                                               | 41.2 |
| 9   | 347                                   | 43.7 | 272                                               | 09.9 | 266                                               | 47.6 | 186                                               | 31.6 | 248                                               | 43.5 |
| 10  | 2                                     | 46.2 | 287                                               | 10.5 | 281                                               | 48.3 | 201                                               | 34.1 | 263                                               | 45.7 |
| 11  | 17                                    | 48.7 | 302                                               | 11.1 | 296                                               | 49.0 | 216                                               | 36.6 | 278                                               | 47.9 |
| 12  | 32                                    | 51.1 | 317                                               | 11.7 | 311                                               | 49.8 | 231                                               | 39.2 | 293                                               | 50.2 |
| 13  | 47                                    | 53.6 | 332                                               | 12.3 | 326                                               | 50.5 | 246                                               | 41.7 | 308                                               | 52.4 |
| 14  | 62                                    | 56.1 | 347                                               | 12.8 | 341                                               | 51.2 | 261                                               | 44.3 | 323                                               | 54.7 |
| 15  | 77                                    | 58.5 | 2                                                 | 13.4 | 356                                               | 51.9 | 276                                               | 46.8 | 338                                               | 56.9 |
| 16  | 93                                    | 01.0 | 17                                                | 14.0 | 11                                                | 52.7 | 291                                               | 49.4 | 353                                               | 59.2 |
| 17  | 108                                   | 03.4 | 32                                                | 14.6 | 26                                                | 53.4 | 306                                               | 51.9 | 9                                                 | 01.4 |
| 18  | 123                                   | 05.9 | 47                                                | 15.2 | 41                                                | 54.1 | 321                                               | 54.4 | 24                                                | 03.7 |
| 19  | 138                                   | 08.4 | 62                                                | 15.8 | 56                                                | 54.8 | 336                                               | 57.0 | 39                                                | 05.9 |
| 20  | 153                                   | 10.8 | 77                                                | 16.4 | 71                                                | 55.5 | 351                                               | 59.5 | 54                                                | 08.2 |
| 21  | 168                                   | 13.3 | 92                                                | 17.0 | 86                                                | 56.3 | 7                                                 | 02.1 | 69                                                | 10.4 |
| 22  | 183                                   | 15.8 | 107                                               | 17.6 | 101                                               | 57.0 | 22                                                | 04.6 | 84                                                | 12.7 |
| 23  | 198                                   | 18.2 | 122                                               | 18.2 | 116                                               | 57.7 | 37                                                | 07.1 | 99                                                | 14.9 |
| 24  | 213                                   | 20.7 | 137                                               | 18.8 | 131                                               | 58.4 | 52                                                | 09.7 | 114                                               | 17.1 |
| Dif | —                                     |      | +6                                                | +2   | +7                                                | +1   | +25                                               | 0    | +22                                               |      |

| UT  | SOL                                                |      |                                                   |  LUNA                                        |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |       |         | Salida de Luna |       | Puesta de Luna |       |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|---------------------------------------------------|-------|---------|----------------|-------|----------------|-------|----|
|     | SD: 15:9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 9 |      |                                                   | Edad: 5 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54/2<br>12 <sup>h</sup> : 54/2<br>20 <sup>h</sup> : 54/3<br>R°: 51 <sup>m</sup> |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                          | Dif                                               | Dec                 |                                                   |               | Dif                                               | Civil | Náutico | Hora           | R°    | Hora           | R°    |    |
| h   | °                                                  | '    | °                                                 | '                                                                                                                             | °                                                 | '                   | °                                                 | h m           | h m                                               | h m   | h m     | m              | h m   | m              |       |    |
| 0   | 180                                                | 30.3 | +13                                               | 13.9                                                                                                                          | 117                                               | 45.3                | +27                                               | 36.8          | 60 N                                              | 19 44 | 20 34   | 21 48          | 6 03  | 68             | 2 32  | 39 |
| 1   | 195                                                | 30.4 |                                                   | 14.7                                                                                                                          | 132                                               | 14.4 <sup>101</sup> |                                                   | 37.2          | 58                                                | 35    | 22      | 26             | 6 37  | 64             | 1 59  | 43 |
| 2   | 210                                                | 30.5 |                                                   | 15.5                                                                                                                          | 146                                               | 43.5 <sup>101</sup> |                                                   | 37.4          | 56                                                | 28    | 11      | 21 08          | 7 01  | 62             | 35    | 44 |
| 3   | 225                                                | 30.6 |                                                   | 16.4                                                                                                                          | 161                                               | 12.6 <sup>101</sup> |                                                   | 37.6          | 54                                                | 21    | 20 01   | 20 54          | 21 60 |                | 1 15  | 45 |
| 4   | 240                                                | 30.7 |                                                   | 17.2                                                                                                                          | 175                                               | 41.7 <sup>101</sup> |                                                   | 37.6          | 52                                                | 15    | 19 53   | 41             | 38 59 |                | 0 58  | 47 |
| 5   | 255                                                | 30.8 | +13                                               | 18.0                                                                                                                          | 190                                               | 10.7 <sup>100</sup> | +27                                               | 37.4          | 50                                                | 19 10 | 19 46   | 20 31          | 7 52  | 58             | 0 44  | 47 |
| 6   | 270                                                | 30.9 | +13                                               | 18.8                                                                                                                          | 204                                               | 39.8 <sup>101</sup> | +27                                               | 37.2          | 45                                                | 18 58 | 19 30   | 20 09          | 8 21  | 57             | 0 15  | 48 |
| 7   | 285                                                | 31.0 |                                                   | 19.6                                                                                                                          | 219                                               | 08.8 <sup>100</sup> |                                                   | 36.8          | 40                                                | 49    | 18      | 19 53          | 8 44  | 55             | **    | ** |
| 8   | 300                                                | 31.1 |                                                   | 20.4                                                                                                                          | 233                                               | 37.9 <sup>101</sup> |                                                   | 36.2          | 35                                                | 41    | 19 07   | 39             | 9 02  | 55             | **    | ** |
| 9   | 315                                                | 31.2 |                                                   | 21.2                                                                                                                          | 248                                               | 07.0 <sup>101</sup> |                                                   | 35.6          | 30                                                | 34    | 18 59   | 29             | 18 55 |                | **    | ** |
| 10  | 330                                                | 31.3 |                                                   | 22.0                                                                                                                          | 262                                               | 36.0 <sup>100</sup> |                                                   | 34.8          | 20                                                | 22    | 44      | 19 11          | 9 46  | 53             | 23 40 | 48 |
| 11  | 345                                                | 31.4 | +13                                               | 22.8                                                                                                                          | 277                                               | 05.1 <sup>101</sup> | +27                                               | 33.8          | 10 N                                              | 18 11 | 18 33   | 18 58          | 10 09 | 52             | 23 17 | 49 |
| 12  | 0                                                  | 31.5 | +13                                               | 23.7                                                                                                                          | 291                                               | 34.1 <sup>100</sup> | +27                                               | 32.7          | 0                                                 | 18 01 | 18 23   | 18 47          | 10 31 | 51             | 22 56 | 51 |
| 13  | 15                                                 | 31.6 |                                                   | 24.5                                                                                                                          | 306                                               | 03.2 <sup>101</sup> |                                                   | 31.5          | 10 S                                              | 17 52 | 13      | 38             | 10 53 | 50             | 34    | 53 |
| 14  | 30                                                 | 31.7 |                                                   | 25.3                                                                                                                          | 320                                               | 32.2 <sup>100</sup> |                                                   | 30.2          | 20                                                | 42    | 18 04   | 30             | 11 16 | 49             | 22 11 | 54 |
| 15  | 45                                                 | 31.8 |                                                   | 26.1                                                                                                                          | 335                                               | 01.3 <sup>101</sup> |                                                   | 28.7          | 30                                                | 30    | 17 55   | 23             | 11 44 | 47             | 21 44 | 56 |
| 16  | 60                                                 | 31.9 |                                                   | 26.9                                                                                                                          | 349                                               | 30.4 <sup>101</sup> |                                                   | 27.1          | 35                                                | 23    | 49      | 19             | 12 00 | 47             | 28    | 57 |
| 17  | 75                                                 | 32.1 | +13                                               | 27.7                                                                                                                          | 3                                                 | 59.4 <sup>100</sup> | +27                                               | 25.4          | 40                                                | 17 16 | 17 44   | 18 16          | 12 19 | 45             | 21 09 | 59 |
| 18  | 90                                                 | 32.2 | +13                                               | 28.5                                                                                                                          | 18                                                | 28.5 <sup>101</sup> | +27                                               | 23.5          | 45                                                | 17 07 | 17 38   | 18 12          | 12 42 | 43             | 20 47 | 60 |
| 19  | 105                                                | 32.3 |                                                   | 29.3                                                                                                                          | 32                                                | 57.6 <sup>101</sup> |                                                   | 21.5          | 50                                                | 16 57 | 31      | 09             | 13 11 | 41             | 18    | 63 |
| 20  | 120                                                | 32.4 |                                                   | 30.1                                                                                                                          | 47                                                | 26.7 <sup>101</sup> |                                                   | 19.4          | 52                                                | 52    | 28      | 07             | 25    | 40             | 20 04 | 65 |
| 21  | 135                                                | 32.5 |                                                   | 30.9                                                                                                                          | 61                                                | 55.8 <sup>101</sup> |                                                   | 17.1          | 54                                                | 47    | 24      | 06             | 13 41 | 39             | 19 47 | 67 |
| 22  | 150                                                | 32.6 |                                                   | 31.7                                                                                                                          | 76                                                | 24.9 <sup>101</sup> |                                                   | 14.7          | 56                                                | 41    | 20      | 04             | 14 01 | 37             | 28    | 69 |
| 23  | 165                                                | 32.7 |                                                   | 32.5                                                                                                                          | 90                                                | 54.1 <sup>102</sup> |                                                   | 12.2          | 58                                                | 35    | 16      | 02             | 26    | 33             | 19 03 | 73 |
| 24  | 180                                                | 32.8 | +13                                               | 33.3                                                                                                                          | 105                                               | 23.2 <sup>101</sup> | +27                                               | 09.5          | 60 S                                              | 16 27 | 17 12   | 18 01          | 14 59 | 26             | 18 30 | 80 |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                               | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                           |       |         |                |       |                |       |    |
|     | PMG: 9 <sup>h</sup> 45 <sup>m</sup> 0              |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 50 <sup>m</sup> |                                                                                                                               | Mag: +1.6<br>PMG: 15 <sup>h</sup> 11 <sup>m</sup> |                     | Mag: -2.3<br>PMG: 20 <sup>h</sup> 28 <sup>m</sup> |               | Mag: +0.1<br>PMG: 16 <sup>h</sup> 20 <sup>m</sup> |       |         |                |       |                |       |    |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                           | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                              | Dec   |         |                |       |                |       |    |
| h   | °                                                  | '    | °                                                 | '                                                                                                                             | °                                                 | '                   | °                                                 | '             | °                                                 | '     |         |                |       |                |       |    |
| 0   | 213                                                | 20.7 | 137                                               | 18.8                                                                                                                          | 131                                               | 58.4                | 52                                                | 09.7          | 114                                               | 17.1  |         |                |       |                |       |    |
| 1   | 228                                                | 23.2 | 152                                               | 19.5                                                                                                                          | 146                                               | 59.1                | 67                                                | 12.2          | 129                                               | 19.4  |         |                |       |                |       |    |
| 2   | 243                                                | 25.6 | 167                                               | 20.1                                                                                                                          | 161                                               | 59.9                | 82                                                | 14.8          | 144                                               | 21.6  |         |                |       |                |       |    |
| 3   | 258                                                | 28.1 | 182                                               | 20.7                                                                                                                          | 177                                               | 00.6                | 97                                                | 17.3          | 159                                               | 23.9  |         |                |       |                |       |    |
| 4   | 273                                                | 30.6 | 197                                               | 21.3                                                                                                                          | 192                                               | 01.3                | 112                                               | 19.8          | 174                                               | 26.1  |         |                |       |                |       |    |
| 5   | 288                                                | 33.0 | 212                                               | 21.9                                                                                                                          | 207                                               | 02.0                | 127                                               | 22.4          | 189                                               | 28.4  |         |                |       |                |       |    |
| 6   | 303                                                | 35.5 | 227                                               | 22.5                                                                                                                          | 222                                               | 02.7                | 142                                               | 24.9          | 204                                               | 30.6  |         |                |       |                |       |    |
| 7   | 318                                                | 37.9 | 242                                               | 23.2                                                                                                                          | 237                                               | 03.5                | 157                                               | 27.5          | 219                                               | 32.9  |         |                |       |                |       |    |
| 8   | 333                                                | 40.4 | 257                                               | 23.8                                                                                                                          | 252                                               | 04.2                | 172                                               | 30.0          | 234                                               | 35.1  |         |                |       |                |       |    |
| 9   | 348                                                | 42.9 | 272                                               | 24.4                                                                                                                          | 267                                               | 04.9                | 187                                               | 32.5          | 249                                               | 37.3  |         |                |       |                |       |    |
| 10  | 3                                                  | 45.3 | 287                                               | 25.0                                                                                                                          | 282                                               | 05.6                | 202                                               | 35.1          | 264                                               | 39.6  |         |                |       |                |       |    |
| 11  | 18                                                 | 47.8 | 302                                               | 25.7                                                                                                                          | 297                                               | 06.3                | 217                                               | 37.6          | 279                                               | 41.8  |         |                |       |                |       |    |
| 12  | 33                                                 | 50.3 | 317                                               | 26.3                                                                                                                          | 312                                               | 07.1                | 232                                               | 40.1          | 294                                               | 44.1  |         |                |       |                |       |    |
| 13  | 48                                                 | 52.7 | 332                                               | 26.9                                                                                                                          | 327                                               | 07.8                | 247                                               | 42.7          | 309                                               | 46.3  |         |                |       |                |       |    |
| 14  | 63                                                 | 55.2 | 347                                               | 27.6                                                                                                                          | 342                                               | 08.5                | 262                                               | 45.2          | 324                                               | 48.6  |         |                |       |                |       |    |
| 15  | 78                                                 | 57.7 | 2                                                 | 28.2                                                                                                                          | 357                                               | 09.2                | 277                                               | 47.7          | 339                                               | 50.8  |         |                |       |                |       |    |
| 16  | 94                                                 | 00.1 | 17                                                | 28.9                                                                                                                          | 12                                                | 10.0                | 292                                               | 50.3          | 354                                               | 53.1  |         |                |       |                |       |    |
| 17  | 109                                                | 02.6 | 32                                                | 29.5                                                                                                                          | 27                                                | 10.7                | 307                                               | 52.8          | 9                                                 | 55.3  |         |                |       |                |       |    |
| 18  | 124                                                | 05.0 | 47                                                | 30.2                                                                                                                          | 42                                                | 11.4                | 322                                               | 55.4          | 24                                                | 57.5  |         |                |       |                |       |    |
| 19  | 139                                                | 07.5 | 62                                                | 30.8                                                                                                                          | 57                                                | 12.1                | 337                                               | 57.9          | 39                                                | 59.8  |         |                |       |                |       |    |
| 20  | 154                                                | 10.0 | 77                                                | 31.5                                                                                                                          | 72                                                | 12.8                | 353                                               | 00.4          | 55                                                | 02.0  |         |                |       |                |       |    |
| 21  | 169                                                | 12.4 | 92                                                | 32.1                                                                                                                          | 87                                                | 13.6                | 8                                                 | 03.0          | 70                                                | 04.3  |         |                |       |                |       |    |
| 22  | 184                                                | 14.9 | 107                                               | 32.8                                                                                                                          | 102                                               | 14.3                | 23                                                | 05.5          | 85                                                | 06.5  |         |                |       |                |       |    |
| 23  | 199                                                | 17.4 | 122                                               | 33.4                                                                                                                          | 117                                               | 15.0                | 38                                                | 08.0          | 100                                               | 08.7  |         |                |       |                |       |    |
| 24  | 214                                                | 19.8 | 137                                               | 34.1                                                                                                                          | 132                                               | 15.7                | 53                                                | 10.6          | 115                                               | 11.0  |         |                |       |                |       |    |
| Dif | —                                                  |      | +6                                                |                                                                                                                               | +2                                                |                     | +7                                                |               | +1                                                |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |
|     |                                                    |      |                                                   |                                                                                                                               |                                                   |                     |                                                   |               |                                                   |       |         |                |       |                |       |    |

| UT  | SOL                                                |      |                                                   | LUNA                                                                                                                                                                              |                     |                                                   | Latitud  | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|----------|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 7 |      |                                                   | Edad: 6 <sup>d</sup> 4 PHE {<br>SD: 14'8<br>PMG: 17 <sup>h</sup> 34 <sup>m</sup> R°: 50 <sup>m</sup><br>4 <sup>h</sup> : 54'4<br>12 <sup>h</sup> : 54'6<br>20 <sup>h</sup> : 54'7 |                     |                                                   |          |                          |                                                   |               |                |                                                   |                |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                              | Dif                 | Dec                                               |          | Náutico                  | Civil                                             |               | Hora           | R°                                                | Hora           | R°       |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                                 | '                   | °                                                 | °        | h                        | m                                                 | h             | m              | h                                                 | m              | m        |
| 0   | 180                                                | 32.8 | +13 33.3                                          | 105                                                                                                                                                                               | 23.2                | +27 09.5                                          | 60 N     | 2 07                     | 3 20                                              | 4 11          | 7 11           | 86                                                | 3 11           | 19       |
| 1   | 195                                                | 32.9 | 34.1                                              | 119                                                                                                                                                                               | 52.4 <sup>102</sup> | 06.7 <sup>28</sup>                                | 58       | 29                       | 33                                                | 20            | 7 41           | 79                                                | 2 42           | 25       |
| 2   | 210                                                | 33.0 | 34.9                                              | 134                                                                                                                                                                               | 21.5 <sup>101</sup> | 03.8 <sup>29</sup>                                | 56       | 2 47                     | 44                                                | 27            | 8 03           | 75                                                | 19             | 30       |
| 3   | 225                                                | 33.1 | 35.7                                              | 148                                                                                                                                                                               | 50.7 <sup>102</sup> | +27 00.8 <sup>30</sup>                            | 54       | 3 01                     | 3 53                                              | 34            | 21 72          | 2 00                                              | 33             |          |
| 4   | 240                                                | 33.2 | 36.5                                              | 163                                                                                                                                                                               | 19.9 <sup>102</sup> | +26 57.6 <sup>32</sup>                            | 52       | 13                       | 4 02                                              | 40            | 37 69          | 1 45                                              | 34             |          |
| 5   | 255                                                | 33.3 | +13 37.4                                          | 177                                                                                                                                                                               | 49.1 <sup>102</sup> | +26 54.2 <sup>34</sup>                            | 50       | 3 24                     | 4 09                                              | 4 45          | 8 50           | 68                                                | 1 31           | 37       |
| 6   | 270                                                | 33.4 | +13 38.2                                          | 192                                                                                                                                                                               | 18.4 <sup>103</sup> | +26 50.8 <sup>34</sup>                            | 45       | 3 46                     | 4 25                                              | 4 57          | 9 18           | 63                                                | 1 03           | 40       |
| 7   | 285                                                | 33.5 | 39.0                                              | 206                                                                                                                                                                               | 47.6 <sup>102</sup> | 47.2 <sup>36</sup>                                | 40       | 4 02                     | 37                                                | 5 06          | 39 62          | 0 41                                              | 42             |          |
| 8   | 300                                                | 33.6 | 39.8                                              | 221                                                                                                                                                                               | 16.9 <sup>103</sup> | 43.5 <sup>37</sup>                                | 35       | 16                       | 48                                                | 14            | 9 57           | 59                                                | 23             | 44       |
| 9   | 315                                                | 33.7 | 40.6                                              | 235                                                                                                                                                                               | 46.2 <sup>103</sup> | 39.6 <sup>39</sup>                                | 30       | 27                       | 4 57                                              | 22            | 10 13          | 57                                                | 0 07           | 45       |
| 10  | 330                                                | 33.8 | 41.4                                              | 250                                                                                                                                                                               | 15.5 <sup>103</sup> | 35.7 <sup>39</sup>                                | 20       | 44                       | 5 11                                              | 34            | 10 39          | 55                                                | ** ** *        | **       |
| 11  | 345                                                | 33.9 | +13 42.2                                          | 264                                                                                                                                                                               | 44.8 <sup>103</sup> | +26 31.5 <sup>42</sup>                            | 10 N     | 4 58                     | 5 23                                              | 5 44          | 11 01          | 53                                                | ** ** *        | **       |
| 12  | 0                                                  | 34.0 | +13 43.0                                          | 279                                                                                                                                                                               | 14.2 <sup>104</sup> | +26 27.3 <sup>42</sup>                            | 0        | 5 08                     | 5 33                                              | 5 54          | 11 22          | 50                                                | 23 47          | 49       |
| 13  | 15                                                 | 34.1 | 43.8                                              | 293                                                                                                                                                                               | 43.6 <sup>104</sup> | 22.9 <sup>44</sup>                                | 10 S     | 18                       | 43                                                | 6 04          | 11 43          | 48                                                | 27             | 52       |
| 14  | 30                                                 | 34.2 | 44.6                                              | 308                                                                                                                                                                               | 13.0 <sup>104</sup> | 18.4 <sup>45</sup>                                | 20       | 26                       | 5 52                                              | 14            | 12 05          | 46                                                | 23 05          | 55       |
| 15  | 45                                                 | 34.3 | 45.4                                              | 322                                                                                                                                                                               | 42.4 <sup>104</sup> | 13.8 <sup>46</sup>                                | 30       | 33                       | 6 01                                              | 26            | 31 43          | 22 40                                             | 58             |          |
| 16  | 60                                                 | 34.4 | 46.2                                              | 337                                                                                                                                                                               | 11.9 <sup>105</sup> | 09.1 <sup>47</sup>                                | 35       | 37                       | 07                                                | 33            | 12 47          | 40                                                | 25             | 61       |
| 17  | 75                                                 | 34.5 | +13 47.0                                          | 351                                                                                                                                                                               | 41.3 <sup>104</sup> | +26 04.2 <sup>49</sup>                            | 40       | 5 40                     | 6 12                                              | 6 40          | 13 04          | 39                                                | 22 08          | 63       |
| 18  | 90                                                 | 34.6 | +13 47.8                                          | 6                                                                                                                                                                                 | 10.8 <sup>105</sup> | +25 59.2 <sup>50</sup>                            | 45       | 5 44                     | 6 19                                              | 6 49          | 13 25          | 36                                                | 21 47          | 67       |
| 19  | 105                                                | 34.7 | 48.5                                              | 20                                                                                                                                                                                | 40.4 <sup>106</sup> | 54.0 <sup>52</sup>                                | 50       | 48                       | 26                                                | 7 00          | 13 52          | 32                                                | 21             | 71       |
| 20  | 120                                                | 34.8 | 49.3                                              | 35                                                                                                                                                                                | 09.9 <sup>105</sup> | 48.8 <sup>52</sup>                                | 52       | 49                       | 29                                                | 04            | 14 05          | 30                                                | 21 09          | 72       |
| 21  | 135                                                | 34.9 | 50.1                                              | 49                                                                                                                                                                                | 39.5 <sup>106</sup> | 43.4 <sup>54</sup>                                | 54       | 51                       | 33                                                | 10            | 20 27          | 20                                                | 54             | 75       |
| 22  | 150                                                | 35.0 | 50.9                                              | 64                                                                                                                                                                                | 09.1 <sup>106</sup> | 37.9 <sup>55</sup>                                | 56       | 53                       | 36                                                | 16            | 38 23          | 37                                                | 79             |          |
| 23  | 165                                                | 35.1 | 51.7                                              | 78                                                                                                                                                                                | 38.8 <sup>107</sup> | 32.2 <sup>57</sup>                                | 58       | 54                       | 41                                                | 22            | 14 59          | 19                                                | 20 16          | 84       |
| 24  | 180                                                | 35.2 | +13 52.5                                          | 93                                                                                                                                                                                | 08.5 <sup>107</sup> | +25 26.5 <sup>57</sup>                            | 60 S     | 5 56                     | 6 45                                              | 7 30          | 15 25          | 13                                                | 19 50          | 91       |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                   |                     | MARTE                                             |          |                          | JÚPITER                                           |               |                | SATURNO                                           |                |          |
|     | PMG 9 <sup>h</sup> 41 <sup>m</sup> 1               |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup> |                                                                                                                                                                                   |                     | Mag: +1.6<br>PMG: 15 <sup>h</sup> 10 <sup>m</sup> |          |                          | Mag: -2.3<br>PMG: 20 <sup>h</sup> 24 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 16 <sup>h</sup> 17 <sup>m</sup> |                |          |
|     | hG ♈                                               | Dec  | hG ♀                                              | Dec                                                                                                                                                                               | hG ♂                | Dec                                               | hG ♃     | Dec                      | hG ♄                                              | Dec           | hG ♅           | Dec                                               |                |          |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                                 | '                   | °                                                 | °        | °                        | '                                                 | °             | °              | '                                                 | °              | '        |
| 0   | 214                                                | 19.8 | 137 34.1                                          | +27 27.5                                                                                                                                                                          | 132 15.7            | +24 27.6                                          | 53 10.6  | +9 26.3                  | 115 11.0                                          | +22 46.7      | 115 11.0       | +22 46.7                                          | 115 11.0       | +22 46.7 |
| 1   | 229                                                | 22.3 | 152 34.7                                          | 27.7                                                                                                                                                                              | 147 16.4            | 27.6                                              | 68 13.1  | 26.3                     | 130 13.2                                          | 46.7          | 130 13.2       | 46.7                                              | 130 13.2       | 46.7     |
| 2   | 244                                                | 24.8 | 167 35.4                                          | 27.9                                                                                                                                                                              | 162 17.2            | 27.7                                              | 83 15.6  | 26.3                     | 145 15.5                                          | 46.7          | 145 15.5       | 46.7                                              | 145 15.5       | 46.7     |
| 3   | 259                                                | 27.2 | 182 36.1                                          | 28.1                                                                                                                                                                              | 177 17.9            | 27.8                                              | 98 18.1  | 26.3                     | 160 17.7                                          | 46.7          | 160 17.7       | 46.7                                              | 160 17.7       | 46.7     |
| 4   | 274                                                | 29.7 | 197 36.7                                          | 28.3                                                                                                                                                                              | 192 18.6            | 27.9                                              | 113 20.7 | 26.4                     | 175 20.0                                          | 46.6          | 175 20.0       | 46.6                                              | 175 20.0       | 46.6     |
| 5   | 289                                                | 32.2 | 212 37.4                                          | +27 28.5                                                                                                                                                                          | 207 19.3            | +24 28.0                                          | 128 23.2 | +9 26.4                  | 190 22.2                                          | +22 46.6      | 190 22.2       | +22 46.6                                          | 190 22.2       | +22 46.6 |
| 6   | 304                                                | 34.6 | 227 38.1                                          | +27 28.7                                                                                                                                                                          | 222 20.0            | +24 28.1                                          | 143 25.7 | +9 26.4                  | 205 24.4                                          | +22 46.6      | 205 24.4       | +22 46.6                                          | 205 24.4       | +22 46.6 |
| 7   | 319                                                | 37.1 | 242 38.8                                          | 28.9                                                                                                                                                                              | 237 20.8            | 28.2                                              | 158 28.3 | 26.4                     | 220 26.7                                          | 46.6          | 220 26.7       | 46.6                                              | 220 26.7       | 46.6     |
| 8   | 334                                                | 39.5 | 257 39.4                                          | 29.0                                                                                                                                                                              | 252 21.5            | 28.3                                              | 173 30.8 | 26.4                     | 235 28.9                                          | 46.6          | 235 28.9       | 46.6                                              | 235 28.9       | 46.6     |
| 9   | 349                                                | 42.0 | 272 40.1                                          | 29.2                                                                                                                                                                              | 267 22.2            | 28.4                                              | 188 33.3 | 26.4                     | 250 31.2                                          | 46.6          | 250 31.2       | 46.6                                              | 250 31.2       | 46.6     |
| 10  | 4                                                  | 44.5 | 287 40.8                                          | 29.4                                                                                                                                                                              | 282 22.9            | 28.5                                              | 203 35.9 | 26.5                     | 265 33.4                                          | 46.6          | 265 33.4       | 46.6                                              | 265 33.4       | 46.6     |
| 11  | 19                                                 | 46.9 | 302 41.5                                          | +27 29.6                                                                                                                                                                          | 297 23.6            | +24 28.6                                          | 218 38.4 | +9 26.5                  | 280 35.6                                          | +22 46.6      | 280 35.6       | +22 46.6                                          | 280 35.6       | +22 46.6 |
| 12  | 34                                                 | 49.4 | 317 42.2                                          | +27 29.8                                                                                                                                                                          | 312 24.4            | +24 28.6                                          | 233 40.9 | +9 26.5                  | 295 37.9                                          | +22 46.6      | 295 37.9       | +22 46.6                                          | 295 37.9       | +22 46.6 |
| 13  | 49                                                 | 51.9 | 332 42.8                                          | 29.9                                                                                                                                                                              | 327 25.1            | 28.7                                              | 248 43.5 | 26.5                     | 310 40.1                                          | 46.6          | 310 40.1       | 46.6                                              | 310 40.1       | 46.6     |
| 14  | 64                                                 | 54.3 | 347 43.5                                          | 30.1                                                                                                                                                                              | 342 25.8            | 28.8                                              | 263 46.0 | 26.5                     | 325 42.4                                          | 46.6          | 325 42.4       | 46.6                                              | 325 42.4       | 46.6     |
| 15  | 79                                                 | 56.8 | 2 44.2                                            | 30.3                                                                                                                                                                              | 357 26.5            | 28.9                                              | 278 48.5 | 26.6                     | 340 44.6                                          | 46.6          | 340 44.6       | 46.6                                              | 340 44.6       | 46.6     |
| 16  | 94                                                 | 59.3 | 17 44.9                                           | 30.5                                                                                                                                                                              | 12 27.2             | 29.0                                              | 293 51.0 | 26.6                     | 355 46.8                                          | 46.6          | 355 46.8       | 46.6                                              | 355 46.8       | 46.6     |
| 17  | 110                                                | 01.7 | 32 45.6                                           | +27 30.7                                                                                                                                                                          | 27 28.0             | +24 29.1                                          | 308 53.6 | +9 26.6                  | 10 49.1                                           | +22 46.5      | 10 49.1        | +22 46.5                                          | 10 49.1        | +22 46.5 |
| 18  | 125                                                | 04.2 | 47 46.3                                           | +27 30.8                                                                                                                                                                          | 42 28.7             | +24 29.2                                          | 323 56.1 | +9 26.6                  | 25 51.3                                           | +22 46.5      | 25 51.3        | +22 46.5                                          | 25 51.3        | +22 46.5 |
| 19  | 140                                                | 06.7 | 62 47.0                                           | 31.0                                                                                                                                                                              | 57 29.4             | 29.3                                              | 338 58.6 | 26.6                     | 40 53.6                                           | 46.5          | 40 53.6        | 46.5                                              | 40 53.6        | 46.5     |
| 20  | 155                                                | 09.1 | 77 47.7                                           | 31.2                                                                                                                                                                              | 72 30.1             | 29.3                                              | 354 01.1 | 26.6                     | 55 55.8                                           | 46.5          | 55 55.8        | 46.5                                              | 55 55.8        | 46.5     |
| 21  | 170                                                | 11.6 | 92 48.4                                           | 31.4                                                                                                                                                                              | 87 30.8             | 29.4                                              | 9 03.7   | 26.7                     | 70 58.0                                           | 46.5          | 70 58.0        | 46.5                                              | 70 58.0        | 46.5     |
| 22  | 185                                                | 14.0 | 107 49.1                                          | 31.5                                                                                                                                                                              | 102 31.6            | 29.5                                              | 24 06.2  | 26.7                     | 86 00.3                                           | 46.5          | 86 00.3        | 46.5                                              | 86 00.3        | 46.5     |
| 23  | 200                                                | 16.5 | 122 49.8                                          | 31.7                                                                                                                                                                              | 117 32.3            | 29.6                                              | 39 08.7  | 26.7                     | 101 02.5                                          | 46.5          | 101 02.5       | 46.5                                              | 101 02.5       | 46.5     |
| 24  | 215                                                | 19.0 | 137 50.6                                          | +27 31.9                                                                                                                                                                          | 132 33.0            | +24 29.7                                          | 54 11.2  | +9 26.7                  | 116 04.7                                          | +22 46.5      | 116 04.7       | +22 46.5                                          | 116 04.7       | +22 46.5 |
| Dif | —                                                  |      | +7                                                | +2                                                                                                                                                                                | +7                  | +1                                                | +25      | 0                        | +22                                               | 0             | +22            | 0                                                 | +22            | 0        |



| UT | SOL                                                |      |          |  LUNA                                        |                     |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------------------|------|----------|-------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|---------|---------------|----------------------|-------|----------------|----------|----------------|-------|
|    | SD: 15'9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 6 |      |          | Edad: 7 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54'8<br>12 <sup>h</sup> : 55'0<br>20 <sup>h</sup> : 55'2<br>R°: 49 <sup>m</sup> |                     |          |         |               |                      |       |                |          |                |       |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                          | Dif                 | Dec      |         |               | Dif                  | Civil | Náutico        | Hora     | R°             | Hora  |
| h  | °                                                  | '    | °        | °                                                                                                                             | '                   | °        | '       | °             | h m                  | h m   | h m            | h m m    | h m m          | h m m |
| 0  | 180                                                | 35.2 | +13 52.5 | 93                                                                                                                            | 08.5                | +25 26.5 | 59      | 60 N          | 19 49                | 20 40 | 21 58          | 8 37 93  | 3 30 9         |       |
| 1  | 195                                                | 35.3 | 53.3     | 107                                                                                                                           | 38.2 <sup>107</sup> | 20.6     | 59      | 58            | 40                   | 27    | 33             | 9 00 86  | 3 07 15        |       |
| 2  | 210                                                | 35.4 | 54.1     | 122                                                                                                                           | 07.9 <sup>107</sup> | 14.5     | 61      | 56            | 32                   | 16    | 21 14          | 18 81    | 2 49 19        |       |
| 3  | 225                                                | 35.4 | 54.9     | 136                                                                                                                           | 37.7 <sup>108</sup> | 08.4     | 61      | 54            | 25                   | 20 06 | 20 59          | 33 78    | 33 22          |       |
| 4  | 240                                                | 35.5 | 55.7     | 151                                                                                                                           | 07.5 <sup>108</sup> | +25 02.1 | 63      | 52            | 19                   | 19 57 | 46             | 46 75    | 19 26          |       |
| 5  | 255                                                | 35.6 | +13 56.5 | 165                                                                                                                           | 37.3 <sup>108</sup> | +24 55.7 | 64      | 50            | 19 13                | 19 49 | 20 35          | 9 58 72  | 2 08 28        |       |
| 6  | 270                                                | 35.7 | +13 57.3 | 180                                                                                                                           | 07.2 <sup>109</sup> | +24 49.2 | 65      | 45            | 19 01                | 19 33 | 20 12          | 10 21 68 | 1 43 32        |       |
| 7  | 285                                                | 35.8 | 58.1     | 194                                                                                                                           | 37.1 <sup>109</sup> | 42.6     | 66      | 40            | 18 51                | 20    | 19 55          | 41 64    | 23 36          |       |
| 8  | 300                                                | 35.9 | 58.9     | 209                                                                                                                           | 07.0 <sup>109</sup> | 35.8     | 68      | 35            | 42                   | 09    | 41             | 10 56 62 | 1 07 38        |       |
| 9  | 315                                                | 36.0 | +13 59.7 | 223                                                                                                                           | 37.0 <sup>110</sup> | 28.9     | 69      | 30            | 35                   | 19 00 | 30             | 11 10 59 | 0 52 41        |       |
| 10 | 330                                                | 36.1 | +14 00.5 | 238                                                                                                                           | 07.0 <sup>110</sup> | 21.9     | 70      | 20            | 22                   | 18 45 | 19 12          | 34 55    | 28 44          |       |
| 11 | 345                                                | 36.2 | +14 01.2 | 252                                                                                                                           | 37.0 <sup>110</sup> | +24 14.8 | 71      | 10 N          | 18 11                | 18 33 | 18 58          | 11 54 52 | 0 06 47        |       |
| 12 | 0                                                  | 36.3 | +14 02.0 | 267                                                                                                                           | 07.1 <sup>111</sup> | +24 07.6 | 72      | 0             | 18 01                | 18 22 | 18 47          | 12 12 49 | ** ** *        | **    |
| 13 | 15                                                 | 36.4 | 02.8     | 281                                                                                                                           | 37.2 <sup>111</sup> | +24 00.2 | 74      | 10 S          | 17 51                | 12    | 37             | 31 46    | ** ** *        | **    |
| 14 | 30                                                 | 36.5 | 03.6     | 296                                                                                                                           | 07.3 <sup>111</sup> | +23 52.7 | 75      | 20            | 40                   | 18 03 | 29             | 12 51 42 | ** ** *        | **    |
| 15 | 45                                                 | 36.6 | 04.4     | 310                                                                                                                           | 37.5 <sup>112</sup> | 45.1     | 76      | 30            | 28                   | 17 53 | 21             | 13 14 38 | 23 38 60       |       |
| 16 | 60                                                 | 36.7 | 05.2     | 325                                                                                                                           | 07.7 <sup>112</sup> | 37.4     | 77      | 35            | 21                   | 47    | 17             | 27 36    | 26 62          |       |
| 17 | 75                                                 | 36.8 | +14 06.0 | 339                                                                                                                           | 37.9 <sup>112</sup> | +23 29.6 | 78      | 40            | 17 13                | 17 41 | 18 13          | 13 43 33 | 23 11 66       |       |
| 18 | 90                                                 | 36.9 | +14 06.8 | 354                                                                                                                           | 08.2 <sup>113</sup> | +23 21.6 | 80      | 45            | 17 04                | 17 35 | 18 09          | 14 01 30 | 22 54 69       |       |
| 19 | 105                                                | 37.0 | 07.6     | 8                                                                                                                             | 38.5 <sup>113</sup> | 13.6     | 80      | 50            | 16 53                | 27    | 05             | 24 25    | 32 74          |       |
| 20 | 120                                                | 37.1 | 08.3     | 23                                                                                                                            | 08.9 <sup>114</sup> | +23 05.4 | 82      | 52            | 48                   | 24    | 04             | 35 22    | 21 77          |       |
| 21 | 135                                                | 37.1 | 09.1     | 37                                                                                                                            | 39.3 <sup>114</sup> | +22 57.1 | 83      | 54            | 43                   | 20    | 02             | 14 47 20 | 22 09 80       |       |
| 22 | 150                                                | 37.2 | 09.9     | 52                                                                                                                            | 09.7 <sup>114</sup> | 48.6     | 85      | 56            | 37                   | 16    | 18 00          | 15 01 16 | 21 56 83       |       |
| 23 | 165                                                | 37.3 | 10.7     | 66                                                                                                                            | 40.1 <sup>114</sup> | 40.1     | 85      | 58            | 30                   | 12    | 17 58          | 18 12    | 40 88          |       |
| 24 | 180                                                | 37.4 | +14 11.5 | 81                                                                                                                            | 10.6 <sup>115</sup> | +22 31.5 | 86      | 60 S          | 16 22                | 17 07 | 17 56          | 15 38 6  | 21 21 94       |       |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 9 <sup>h</sup> 37 <sup>m</sup> 2 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 09 <sup>m</sup> |     | Mag: -2.3<br>PMG: 20 <sup>h</sup> 20 <sup>m</sup> |          | Mag: +0.1<br>PMG: 16 <sup>h</sup> 13 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 215                                   | 19.0 | 137                                               | 50.6 | +27 31.9                                          | 132 | 33.0                                              | +24 29.7 | 54                                                | 11.2 | +9 26.7 | 116 | 04.7 | +22 46.5 |
| 1   | 230                                   | 21.4 | 152                                               | 51.3 | 32.0                                              | 147 | 33.7                                              | 29.8     | 69                                                | 13.8 | 26.7    | 131 | 07.0 | 46.5     |
| 2   | 245                                   | 23.9 | 167                                               | 52.0 | 32.2                                              | 162 | 34.4                                              | 29.8     | 84                                                | 16.3 | 26.7    | 146 | 09.2 | 46.5     |
| 3   | 260                                   | 26.4 | 182                                               | 52.7 | 32.4                                              | 177 | 35.2                                              | 29.9     | 99                                                | 18.8 | 26.8    | 161 | 11.5 | 46.5     |
| 4   | 275                                   | 28.8 | 197                                               | 53.4 | 32.5                                              | 192 | 35.9                                              | 30.0     | 114                                               | 21.3 | 26.8    | 176 | 13.7 | 46.5     |
| 5   | 290                                   | 31.3 | 212                                               | 54.2 | +27 32.7                                          | 207 | 36.6                                              | +24 30.1 | 129                                               | 23.9 | +9 26.8 | 191 | 15.9 | +22 46.4 |
| 6   | 305                                   | 33.8 | 227                                               | 54.9 | +27 32.9                                          | 222 | 37.3                                              | +24 30.2 | 144                                               | 26.4 | +9 26.8 | 206 | 18.2 | +22 46.4 |
| 7   | 320                                   | 36.2 | 242                                               | 55.6 | 33.0                                              | 237 | 38.0                                              | 30.3     | 159                                               | 28.9 | 26.8    | 221 | 20.4 | 46.4     |
| 8   | 335                                   | 38.7 | 257                                               | 56.3 | 33.2                                              | 252 | 38.8                                              | 30.3     | 174                                               | 31.4 | 26.8    | 236 | 22.6 | 46.4     |
| 9   | 350                                   | 41.2 | 272                                               | 57.1 | 33.4                                              | 267 | 39.5                                              | 30.4     | 189                                               | 34.0 | 26.9    | 251 | 24.9 | 46.4     |
| 10  | 5                                     | 43.6 | 287                                               | 57.8 | 33.5                                              | 282 | 40.2                                              | 30.5     | 204                                               | 36.5 | 26.9    | 266 | 27.1 | 46.4     |
| 11  | 20                                    | 46.1 | 302                                               | 58.5 | +27 33.7                                          | 297 | 40.9                                              | +24 30.6 | 219                                               | 39.0 | +9 26.9 | 281 | 29.4 | +22 46.4 |
| 12  | 35                                    | 48.5 | 317                                               | 59.3 | +27 33.9                                          | 312 | 41.6                                              | +24 30.7 | 234                                               | 41.5 | +9 26.9 | 296 | 31.6 | +22 46.4 |
| 13  | 50                                    | 51.0 | 333                                               | 00.0 | 34.0                                              | 327 | 42.4                                              | 30.8     | 249                                               | 44.1 | 26.9    | 311 | 33.8 | 46.4     |
| 14  | 65                                    | 53.5 | 348                                               | 00.8 | 34.2                                              | 342 | 43.1                                              | 30.8     | 264                                               | 46.6 | 26.9    | 326 | 36.1 | 46.4     |
| 15  | 80                                    | 55.9 | 3                                                 | 01.5 | 34.3                                              | 357 | 43.8                                              | 30.9     | 279                                               | 49.1 | 26.9    | 341 | 38.3 | 46.4     |
| 16  | 95                                    | 58.4 | 18                                                | 02.3 | 34.5                                              | 12  | 44.5                                              | 31.0     | 294                                               | 51.6 | 27.0    | 356 | 40.5 | 46.4     |
| 17  | 111                                   | 00.9 | 33                                                | 03.0 | +27 34.6                                          | 27  | 45.2                                              | +24 31.1 | 309                                               | 54.1 | +9 27.0 | 11  | 42.8 | +22 46.4 |
| 18  | 126                                   | 03.3 | 48                                                | 03.8 | +27 34.8                                          | 42  | 46.0                                              | +24 31.2 | 324                                               | 56.7 | +9 27.0 | 26  | 45.0 | +22 46.3 |
| 19  | 141                                   | 05.8 | 63                                                | 04.5 | 35.0                                              | 57  | 46.7                                              | 31.2     | 339                                               | 59.2 | 27.0    | 41  | 47.2 | 46.3     |
| 20  | 156                                   | 08.3 | 78                                                | 05.3 | 35.1                                              | 72  | 47.4                                              | 31.3     | 355                                               | 01.7 | 27.0    | 56  | 49.5 | 46.3     |
| 21  | 171                                   | 10.7 | 93                                                | 06.1 | 35.3                                              | 87  | 48.1                                              | 31.4     | 10                                                | 04.2 | 27.0    | 71  | 51.7 | 46.3     |
| 22  | 186                                   | 13.2 | 108                                               | 06.8 | 35.4                                              | 102 | 48.8                                              | 31.5     | 25                                                | 06.7 | 27.0    | 86  | 53.9 | 46.3     |
| 23  | 201                                   | 15.6 | 123                                               | 07.6 | 35.6                                              | 117 | 49.6                                              | 31.5     | 40                                                | 09.3 | 27.1    | 101 | 56.2 | 46.3     |
| 24  | 216                                   | 18.1 | 138                                               | 08.3 | +27 35.7                                          | 132 | 50.3                                              | +24 31.6 | 55                                                | 11.8 | +9 27.1 | 116 | 58.4 | +22 46.3 |
| Dif | —                                     |      | +7                                                |      | +2                                                | +7  |                                                   | +1       | +25                                               |      | 0       | +22 |      | 0        |

| UT  | SOL                                                |      |     |                                                   | ☾ LUNA                                                                                                                           |                     |     |                                                   | Latitud | Principio del crepúsculo |     | Salida de Sol                                     | Salida de Luna |       | Puesta de Luna |                                                   |      |      |     |  |
|-----|----------------------------------------------------|------|-----|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------------------------------------|---------|--------------------------|-----|---------------------------------------------------|----------------|-------|----------------|---------------------------------------------------|------|------|-----|--|
|     | SD: 15:9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 4 |      |     |                                                   | Edad: 8 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 55:4<br>12 <sup>h</sup> : 55:7<br>20 <sup>h</sup> : 55:9<br>Rº: 47 <sup>m</sup> |                     |     |                                                   |         |                          |     |                                                   |                |       |                |                                                   |      |      |     |  |
|     | hG ☉                                               |      | Dec |                                                   | hG ☾                                                                                                                             |                     | Dif |                                                   |         | Dif                      |     |                                                   | Náutico        | Civil | Hora           | Rº                                                | Hora | Rº   |     |  |
| h   | °                                                  | '    | °   | '                                                 | °                                                                                                                                | '                   | °   | '                                                 | °       | '                        | h   | m                                                 | h              | m     | h              | m                                                 | h    | m    |     |  |
| 0   | 180                                                | 37.4 | +14 | 11.5                                              | 81                                                                                                                               | 10.6                | +22 | 31.5                                              | 60 N    | 1                        | 57  | 3                                                 | 14             | 4     | 05             | 10                                                | 10   | 94   |     |  |
| 1   | 195                                                | 37.5 |     | 12.3                                              | 95                                                                                                                               | 41.2 <sup>116</sup> |     | 22.7 <sup>88</sup>                                | 58      | 2                        | 21  |                                                   | 27             |       | 14             |                                                   | 26   | 89   |     |  |
| 2   | 210                                                | 37.6 |     | 13.1                                              | 110                                                                                                                              | 11.7 <sup>115</sup> |     | 13.8 <sup>89</sup>                                | 56      |                          | 40  |                                                   | 39             |       | 22             |                                                   | 39   | 85   |     |  |
| 3   | 225                                                | 37.7 |     | 13.8                                              | 124                                                                                                                              | 42.3 <sup>116</sup> | +22 | 04.9 <sup>89</sup>                                | 54      | 2                        | 55  |                                                   | 49             |       | 29             | 10                                                | 51   | 81   |     |  |
| 4   | 240                                                | 37.8 |     | 14.6                                              | 139                                                                                                                              | 13.0 <sup>117</sup> | +21 | 55.8 <sup>91</sup>                                | 52      | 3                        | 08  | 3                                                 | 57             | 36    | 11             | 01                                                | 78   | 45   |     |  |
| 5   | 255                                                | 37.9 | +14 | 15.4                                              | 153                                                                                                                              | 43.7 <sup>117</sup> | +21 | 46.5 <sup>93</sup>                                | 50      | 3                        | 19  | 4                                                 | 05             | 4     | 41             | 11                                                | 10   | 76   |     |  |
| 6   | 270                                                | 38.0 | +14 | 16.2                                              | 168                                                                                                                              | 14.4 <sup>117</sup> | +21 | 37.2 <sup>93</sup>                                | 45      | 3                        | 42  | 4                                                 | 22             | 4     | 54             | 11                                                | 29   | 71   |     |  |
| 7   | 285                                                | 38.1 |     | 17.0                                              | 182                                                                                                                              | 45.1 <sup>117</sup> |     | 27.8 <sup>94</sup>                                | 40      | 3                        | 59  |                                                   | 35             | 5     | 04             |                                                   | 45   | 66   |     |  |
| 8   | 300                                                | 38.2 |     | 17.8                                              | 197                                                                                                                              | 15.9 <sup>118</sup> |     | 18.3 <sup>95</sup>                                | 35      | 4                        | 13  |                                                   | 45             | 12    | 11             | 58                                                | 63   | 45   |     |  |
| 9   | 315                                                | 38.2 |     | 18.5                                              | 211                                                                                                                              | 46.7 <sup>118</sup> | +21 | 08.6 <sup>97</sup>                                | 30      |                          | 25  | 4                                                 | 55             | 20    | 12             | 09                                                | 60   | 33   |     |  |
| 10  | 330                                                | 38.3 |     | 19.3                                              | 226                                                                                                                              | 17.6 <sup>119</sup> | +20 | 58.9 <sup>97</sup>                                | 20      |                          | 43  | 5                                                 | 10             | 33    |                | 29                                                | 55   | 1    |     |  |
| 11  | 345                                                | 38.4 | +14 | 20.1                                              | 240                                                                                                                              | 48.5 <sup>119</sup> | +20 | 49.0 <sup>99</sup>                                | 10 N    | 4                        | 57  | 5                                                 | 22             | 5     | 44             | 12                                                | 46   | 51   |     |  |
| 12  | 0                                                  | 38.5 | +14 | 20.9                                              | 255                                                                                                                              | 19.4 <sup>119</sup> | +20 | 39.0 <sup>100</sup>                               | 0       | 5                        | 08  | 5                                                 | 33             | 5     | 54             | 13                                                | 01   | 47   |     |  |
| 13  | 15                                                 | 38.6 |     | 21.7                                              | 269                                                                                                                              | 50.4 <sup>120</sup> |     | 29.0 <sup>100</sup>                               | 10 S    |                          | 18  | 43                                                | 6              | 04    |                | 17                                                | 43   |      |     |  |
| 14  | 30                                                 | 38.7 |     | 22.4                                              | 284                                                                                                                              | 21.4 <sup>120</sup> |     | 18.8 <sup>102</sup>                               | 20      |                          | 26  | 5                                                 | 52             | 15    |                | 33                                                | 40   |      |     |  |
| 15  | 45                                                 | 38.8 |     | 23.2                                              | 298                                                                                                                              | 52.4 <sup>120</sup> | +20 | 08.5 <sup>103</sup>                               | 30      |                          | 34  | 6                                                 | 03             | 27    | 13             | 52                                                | 35   | ***  |     |  |
| 16  | 60                                                 | 38.9 |     | 24.0                                              | 313                                                                                                                              | 23.5 <sup>121</sup> | +19 | 58.1 <sup>104</sup>                               | 35      |                          | 38  |                                                   | 08             | 34    | 14             | 03                                                | 32   | ***  |     |  |
| 17  | 75                                                 | 39.0 | +14 | 24.8                                              | 327                                                                                                                              | 54.6 <sup>121</sup> | +19 | 47.6 <sup>105</sup>                               | 40      | 5                        | 42  | 6                                                 | 14             | 6     | 42             | 14                                                | 16   | 29   |     |  |
| 18  | 90                                                 | 39.0 | +14 | 25.6                                              | 342                                                                                                                              | 25.7 <sup>121</sup> | +19 | 37.0 <sup>106</sup>                               | 45      | 5                        | 46  | 6                                                 | 21             | 6     | 51             | 14                                                | 31   | 24   |     |  |
| 19  | 105                                                | 39.1 |     | 26.3                                              | 356                                                                                                                              | 56.9 <sup>122</sup> |     | 26.3 <sup>107</sup>                               | 50      |                          | 50  | 29                                                | 7              | 03    |                | 49                                                | 20   | ***  |     |  |
| 20  | 120                                                | 39.2 |     | 27.1                                              | 11                                                                                                                               | 28.1 <sup>122</sup> |     | 15.5 <sup>108</sup>                               | 52      |                          | 52  | 32                                                |                | 08    |                | 23                                                | 46   | 77   |     |  |
| 21  | 135                                                | 39.3 |     | 27.9                                              | 25                                                                                                                               | 59.3 <sup>122</sup> | +19 | 04.6 <sup>109</sup>                               | 54      |                          | 54  | 36                                                | 13             |       | 14             | 57                                                | 18   | 38   |     |  |
| 22  | 150                                                | 39.4 |     | 28.7                                              | 40                                                                                                                               | 30.6 <sup>123</sup> | +18 | 53.6 <sup>110</sup>                               | 56      |                          | 56  | 40                                                | 20             |       | 15             | 07                                                | 14   | 29   |     |  |
| 23  | 165                                                | 39.5 |     | 29.4                                              | 55                                                                                                                               | 01.9 <sup>123</sup> |     | 42.5 <sup>111</sup>                               | 58      | 5                        | 58  | 44                                                | 27             |       | 17             | 12                                                |      | 19   |     |  |
| 24  | 180                                                | 39.6 | +14 | 30.2                                              | 69                                                                                                                               | 33.2 <sup>123</sup> | +18 | 31.3 <sup>112</sup>                               | 60 S    | 6                        | 00  | 6                                                 | 50             | 7     | 35             | 30                                                | 7    | 23   |     |  |
|     |                                                    |      |     |                                                   |                                                                                                                                  |                     |     |                                                   |         |                          |     |                                                   |                |       |                |                                                   |      |      |     |  |
| UT  | ARIES                                              |      |     | VENUS                                             |                                                                                                                                  |                     |     | MARTE                                             |         |                          |     | JÚPITER                                           |                |       |                | SATURNO                                           |      |      |     |  |
|     | PMG: 9 <sup>h</sup> 33 <sup>m</sup> 2              |      |     | Mag: -4.7<br>PMG: 14 <sup>h</sup> 47 <sup>m</sup> |                                                                                                                                  |                     |     | Mag: +1.6<br>PMG: 15 <sup>h</sup> 08 <sup>m</sup> |         |                          |     | Mag: -2.3<br>PMG: 20 <sup>h</sup> 16 <sup>m</sup> |                |       |                | Mag: +0.1<br>PMG: 16 <sup>h</sup> 10 <sup>m</sup> |      |      |     |  |
| h   | hG ♈                                               |      | Dec |                                                   | hG ♀                                                                                                                             |                     | Dec |                                                   | hG ♂    |                          | Dec |                                                   | hG ♃           |       | Dec            |                                                   | hG ♄ |      | Dec |  |
| 0   | 216                                                | 18.1 | 138 | 08.3                                              | +27                                                                                                                              | 35.7                | 132 | 50.3                                              | +24     | 31.6                     | 55  | 11.8                                              | +9             | 27.1  | 116            | 58.4                                              | +22  | 46.3 |     |  |
| 1   | 231                                                | 20.6 | 153 | 09.1                                              |                                                                                                                                  | 35.9                | 147 | 51.0                                              |         | 31.7                     | 70  | 14.3                                              |                | 27.1  | 132            | 00.7                                              |      | 46.3 |     |  |
| 2   | 246                                                | 23.0 | 168 | 09.9                                              |                                                                                                                                  | 36.0                | 162 | 51.7                                              |         | 31.8                     | 85  | 16.8                                              |                | 27.1  | 147            | 02.9                                              |      | 46.3 |     |  |
| 3   | 261                                                | 25.5 | 183 | 10.7                                              |                                                                                                                                  | 36.2                | 177 | 52.4                                              |         | 31.8                     | 100 | 19.3                                              |                | 27.1  | 162            | 05.1                                              |      | 46.3 |     |  |
| 4   | 276                                                | 28.0 | 198 | 11.4                                              |                                                                                                                                  | 36.3                | 192 | 53.2                                              |         | 31.9                     | 115 | 21.8                                              |                | 27.1  | 177            | 07.4                                              |      | 46.3 |     |  |
| 5   | 291                                                | 30.4 | 213 | 12.2                                              | +27                                                                                                                              | 36.4                | 207 | 53.9                                              | +24     | 32.0                     | 130 | 24.4                                              | +9             | 27.1  | 192            | 09.6                                              | +22  | 46.3 |     |  |
| 6   | 306                                                | 32.9 | 228 | 13.0                                              | +27                                                                                                                              | 36.6                | 222 | 54.6                                              | +24     | 32.1                     | 145 | 26.9                                              | +9             | 27.2  | 207            | 11.8                                              | +22  | 46.2 |     |  |
| 7   | 321                                                | 35.4 | 243 | 13.8                                              |                                                                                                                                  | 36.7                | 237 | 55.3                                              |         | 32.1                     | 160 | 29.4                                              |                | 27.2  | 222            | 14.1                                              |      | 46.2 |     |  |
| 8   | 336                                                | 37.8 | 258 | 14.6                                              |                                                                                                                                  | 36.9                | 252 | 56.0                                              |         | 32.2                     | 175 | 31.9                                              |                | 27.2  | 237            | 16.3                                              |      | 46.2 |     |  |
| 9   | 351                                                | 40.3 | 273 | 15.4                                              |                                                                                                                                  | 37.0                | 267 | 56.8                                              |         | 32.3                     | 190 | 34.4                                              |                | 27.2  | 252            | 18.5                                              |      | 46.2 |     |  |
| 10  | 6                                                  | 42.8 | 288 | 16.2                                              |                                                                                                                                  | 37.2                | 282 | 57.5                                              |         | 32.4                     | 205 | 36.9                                              |                | 27.2  | 267            | 20.8                                              |      | 46.2 |     |  |
| 11  | 21                                                 | 45.2 | 303 | 17.0                                              | +27                                                                                                                              | 37.3                | 297 | 58.2                                              | +24     | 32.4                     | 220 | 39.5                                              | +9             | 27.2  | 282            | 23.0                                              | +22  | 46.2 |     |  |
| 12  | 36                                                 | 47.7 | 318 | 17.8                                              | +27                                                                                                                              | 37.4                | 312 | 58.9                                              | +24     | 32.5                     | 235 | 42.0                                              | +9             | 27.2  | 297            | 25.2                                              | +22  | 46.2 |     |  |
| 13  | 51                                                 | 50.1 | 333 | 18.6                                              |                                                                                                                                  | 37.6                | 327 | 59.6                                              |         | 32.6                     | 250 | 44.5                                              |                | 27.2  | 312            | 27.5                                              |      | 46.2 |     |  |
| 14  | 66                                                 | 52.6 | 348 | 19.4                                              |                                                                                                                                  | 37.7                | 343 | 00.3                                              |         | 32.7                     | 265 | 47.0                                              |                | 27.3  | 327            | 29.7                                              |      | 46.2 |     |  |
| 15  | 81                                                 | 55.1 | 3   | 20.2                                              |                                                                                                                                  | 37.9                | 358 | 01.1                                              |         | 32.7                     | 280 | 49.5                                              |                | 27.3  | 342            | 31.9                                              |      | 46.2 |     |  |
| 16  | 96                                                 | 57.5 | 18  | 21.0                                              |                                                                                                                                  | 38.0                | 13  | 01.8                                              |         | 32.8                     | 295 | 52.0                                              |                | 27.3  | 357            | 34.2                                              |      | 46.2 |     |  |
| 17  | 112                                                | 00.0 | 33  | 21.8                                              | +27                                                                                                                              | 38.1                | 28  | 02.5                                              | +24     | 32.9                     | 310 | 54.5                                              | +9             | 27.3  | 12             | 36.4                                              | +22  | 46.1 |     |  |
| 18  | 127                                                | 02.5 | 48  | 22.6                                              | +27                                                                                                                              | 38.3                | 43  | 03.2                                              | +24     | 32.9                     | 325 | 57.1                                              | +9             | 27.3  | 27             | 38.6                                              | +22  | 46.1 |     |  |
| 19  | 142                                                | 04.9 | 63  | 23.4                                              |                                                                                                                                  | 38.4                | 58  | 03.9                                              |         | 33.0                     | 340 | 59.6                                              |                | 27.3  | 42             | 40.9                                              |      | 46.1 |     |  |
| 20  | 157                                                | 07.4 | 78  | 24.2                                              |                                                                                                                                  | 38.5                | 73  | 04.7                                              |         | 33.1                     | 356 | 02.1                                              |                | 27.3  | 57             | 43.1                                              |      | 46.1 |     |  |
| 21  | 172                                                | 09.9 | 93  | 25.0                                              |                                                                                                                                  | 38.7                | 88  | 05.4                                              |         | 33.2                     | 11  | 04.6                                              |                | 27.3  | 72             | 45.3                                              |      | 46.1 |     |  |
| 22  | 187                                                | 12.3 | 108 | 25.9                                              |                                                                                                                                  | 38.8                | 103 | 06.1                                              |         | 33.2                     | 26  | 07.1                                              |                | 27.3  | 87             | 47.5                                              |      | 46.1 |     |  |
| 23  | 202                                                | 14.8 | 123 | 26.7                                              |                                                                                                                                  | 38.9                | 118 | 06.8                                              |         | 33.3                     | 41  | 09.6                                              |                | 27.4  | 102            | 49.8                                              |      | 46.1 |     |  |
| 24  | 217                                                | 17.3 | 138 | 27.5                                              | +27                                                                                                                              | 39.0                | 133 | 07.5                                              | +24     | 33.4                     | 56  | 12.1                                              | +9             | 27.4  | 117            | 52.0                                              | +22  | 46.1 |     |  |
| Dif | —                                                  |      | +8  |                                                   | +1                                                                                                                               |                     | +7  |                                                   | +1      |                          | +25 |                                                   | 0              |       | +22            |                                                   |      |      |     |  |

| UT | SOL                                     |      |     | LUNA                    |                                                                                    |                     | Latitud | Puesta de Sol       | Final del crepúsculo |                      | Salida de Luna |                                      | Puesta de Luna |                     |         |
|----|-----------------------------------------|------|-----|-------------------------|------------------------------------------------------------------------------------|---------------------|---------|---------------------|----------------------|----------------------|----------------|--------------------------------------|----------------|---------------------|---------|
|    | SD: 15°9                                |      |     | Edad: 9 <sup>d</sup> .4 | PHE {<br>4 <sup>h</sup> : 56'2<br>12 <sup>h</sup> : 56'4<br>20 <sup>h</sup> : 56'7 | Latitud             |         |                     | Puesta de Sol        | Final del crepúsculo |                | Salida de Luna                       |                | Puesta de Luna      |         |
|    | PMG: 11 <sup>h</sup> 57 <sup>m</sup> .3 |      |     |                         |                                                                                    |                     |         |                     |                      | SD: 15'3             |                | PMG: 20 <sup>h</sup> 00 <sup>m</sup> |                | R°: 46 <sup>m</sup> |         |
|    | hG ☉                                    | Dec  |     | hG ☾                    | Dif                                                                                | Dec                 | Dif     |                     |                      | Civil                | Náutico        | Hora                                 | R°             | Hora                | R°      |
| h  | °                                       | '    | °   | '                       | °                                                                                  | '                   | °       | '                   | °                    | h m                  | h m            | h m                                  | h m            | m                   | m       |
| 0  | 180                                     | 39.6 | +14 | 30.2                    | 69                                                                                 | 33.2                | +18     | 31.3                | 60 N                 | 19 54                | 20 46          | 22 07                                | 11 44          | 94                  | 3 43 2  |
| 1  | 195                                     | 39.7 |     | 31.0                    | 84                                                                                 | 04.6 <sup>124</sup> |         | 20.0 <sup>113</sup> | 58                   | 44                   | 32             | 21 41                                | 11 55          | 89                  | 32 6    |
| 2  | 210                                     | 39.7 |     | 31.8                    | 98                                                                                 | 36.0 <sup>124</sup> | +18     | 08.6 <sup>114</sup> | 56                   | 36                   | 20             | 21                                   | 12 04          | 86                  | 22 9    |
| 3  | 225                                     | 39.8 |     | 32.5                    | 113                                                                                | 07.4 <sup>124</sup> | +17     | 57.1 <sup>115</sup> | 54                   | 29                   | 10             | 21 04                                | 12             | 83                  | 13 13   |
| 4  | 240                                     | 39.9 |     | 33.3                    | 127                                                                                | 38.9 <sup>125</sup> |         | 45.5 <sup>116</sup> | 52                   | 22                   | 20 01          | 20 51                                | 19             | 80                  | 3 05 15 |
| 5  | 255                                     | 40.0 | +14 | 34.1                    | 142                                                                                | 10.4 <sup>125</sup> | +17     | 33.9 <sup>116</sup> | 50                   | 19 16                | 19 53          | 20 39                                | 12 26          | 77                  | 2 58 17 |
| 6  | 270                                     | 40.1 | +14 | 34.9                    | 156                                                                                | 41.9 <sup>125</sup> | +17     | 22.1 <sup>118</sup> | 45                   | 19 03                | 19 36          | 20 16                                | 12 40          | 72                  | 2 42 23 |
| 7  | 285                                     | 40.2 |     | 35.6                    | 171                                                                                | 13.4 <sup>125</sup> | +17     | 10.2 <sup>119</sup> | 40                   | 18 53                | 22             | 19 58                                | 12 51          | 68                  | 29 27   |
| 8  | 300                                     | 40.3 |     | 36.4                    | 185                                                                                | 45.0 <sup>126</sup> | +16     | 58.2 <sup>120</sup> | 35                   | 44                   | 11             | 43                                   | 13 01          | 64                  | 18 31   |
| 9  | 315                                     | 40.3 |     | 37.2                    | 200                                                                                | 16.6 <sup>126</sup> |         | 46.2 <sup>120</sup> | 30                   | 36                   | 19 02          | 32                                   | 09             | 61                  | 2 09 33 |
| 10 | 330                                     | 40.4 |     | 38.0                    | 214                                                                                | 48.2 <sup>126</sup> |         | 34.0 <sup>122</sup> | 20                   | 23                   | 18 46          | 19 13                                | 24             | 55                  | 1 52 39 |
| 11 | 345                                     | 40.5 | +14 | 38.7                    | 229                                                                                | 19.9 <sup>127</sup> | +16     | 21.8 <sup>122</sup> | 10 N                 | 18 11                | 18 33          | 18 59                                | 13 37          | 50                  | 1 38 42 |
| 12 | 0                                       | 40.6 | +14 | 39.5                    | 243                                                                                | 51.5 <sup>126</sup> | +16     | 09.5 <sup>123</sup> | 0                    | 18 01                | 18 22          | 18 47                                | 13 48          | 47                  | 1 24 47 |
| 13 | 15                                      | 40.7 |     | 40.3                    | 258                                                                                | 23.2 <sup>127</sup> | +15     | 57.0 <sup>125</sup> | 10 S                 | 17 50                | 12             | 37                                   | 14 00          | 42                  | 1 10 51 |
| 14 | 30                                      | 40.8 |     | 41.0                    | 272                                                                                | 55.0 <sup>128</sup> |         | 44.5 <sup>125</sup> | 20                   | 39                   | 18 02          | 28                                   | 13             | 37                  | 0 55 55 |
| 15 | 45                                      | 40.8 |     | 41.8                    | 287                                                                                | 26.7 <sup>127</sup> |         | 31.9 <sup>126</sup> | 30                   | 26                   | 17 51          | 19                                   | 27             | 32                  | 38 60   |
| 16 | 60                                      | 40.9 |     | 42.6                    | 301                                                                                | 58.5 <sup>128</sup> |         | 19.3 <sup>126</sup> | 35                   | 19                   | 45             | 15                                   | 35             | 29                  | 28 63   |
| 17 | 75                                      | 41.0 | +14 | 43.3                    | 316                                                                                | 30.3 <sup>128</sup> | +15     | 06.5 <sup>128</sup> | 40                   | 17 11                | 17 39          | 18 11                                | 14 45          | 25                  | 0 17 66 |
| 18 | 90                                      | 41.1 | +14 | 44.1                    | 331                                                                                | 02.1 <sup>128</sup> | +14     | 53.6 <sup>129</sup> | 45                   | 17 01                | 17 32          | 18 07                                | 14 55          | 22                  | 0 03 71 |
| 19 | 105                                     | 41.2 |     | 44.9                    | 345                                                                                | 33.9 <sup>128</sup> |         | 40.7 <sup>129</sup> | 50                   | 16 50                | 24             | 02                                   | 15 09          | 16                  | ** ** * |
| 20 | 120                                     | 41.3 |     | 45.6                    | 0                                                                                  | 05.8 <sup>129</sup> |         | 27.7 <sup>130</sup> | 52                   | 45                   | 20             | 18 00                                | 15             | 14                  | ** ** * |
| 21 | 135                                     | 41.3 |     | 46.4                    | 14                                                                                 | 37.7 <sup>129</sup> |         | 14.6 <sup>131</sup> | 54                   | 39                   | 16             | 17 58                                | 21             | 12                  | ** ** * |
| 22 | 150                                     | 41.4 |     | 47.2                    | 29                                                                                 | 09.6 <sup>129</sup> | +14     | 01.4 <sup>132</sup> | 56                   | 32                   | 12             | 56                                   | 29             | 8                   | ** ** * |
| 23 | 165                                     | 41.5 |     | 47.9                    | 43                                                                                 | 41.5 <sup>129</sup> | +13     | 48.1 <sup>133</sup> | 58                   | 25                   | 07             | 54                                   | 37             | 5                   | ** ** * |
| 24 | 180                                     | 41.6 | +14 | 48.7                    | 58                                                                                 | 13.4 <sup>129</sup> | +13     | 34.7 <sup>134</sup> | 60 S                 | 16 17                | 17 02          | 17 51                                | 15 47          | 1                   | ** ** * |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 9 <sup>h</sup> 29 <sup>m</sup> .3 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 45 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 07 <sup>m</sup> |      | Mag: -2.3<br>PMG: 20 <sup>h</sup> 12 <sup>m</sup> |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 06 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 217                                    | 17.3 | 138                                               | 27.5 | +27                                               | 39.0 | 133                                               | 07.5 | +24                                               | 33.4 | 56  | 12.1 | +9 | 27.4 | 117 | 52.0 | +22 | 46.1 |
| 1   | 232                                    | 19.7 | 153                                               | 28.3 |                                                   | 39.2 | 148                                               | 08.3 |                                                   | 33.4 | 71  | 14.6 |    | 27.4 | 132 | 54.2 |     | 46.1 |
| 2   | 247                                    | 22.2 | 168                                               | 29.2 |                                                   | 39.3 | 163                                               | 09.0 |                                                   | 33.5 | 86  | 17.1 |    | 27.4 | 147 | 56.5 |     | 46.1 |
| 3   | 262                                    | 24.6 | 183                                               | 30.0 |                                                   | 39.4 | 178                                               | 09.7 |                                                   | 33.6 | 101 | 19.7 |    | 27.4 | 162 | 58.7 |     | 46.1 |
| 4   | 277                                    | 27.1 | 198                                               | 30.8 |                                                   | 39.6 | 193                                               | 10.4 |                                                   | 33.6 | 116 | 22.2 |    | 27.4 | 178 | 00.9 |     | 46.1 |
| 5   | 292                                    | 29.6 | 213                                               | 31.7 | +27                                               | 39.7 | 208                                               | 11.1 | +24                                               | 33.7 | 131 | 24.7 | +9 | 27.4 | 193 | 03.2 | +22 | 46.0 |
| 6   | 307                                    | 32.0 | 228                                               | 32.5 | +27                                               | 39.8 | 223                                               | 11.9 | +24                                               | 33.8 | 146 | 27.2 | +9 | 27.4 | 208 | 05.4 | +22 | 46.0 |
| 7   | 322                                    | 34.5 | 243                                               | 33.4 |                                                   | 39.9 | 238                                               | 12.6 |                                                   | 33.8 | 161 | 29.7 |    | 27.4 | 223 | 07.6 |     | 46.0 |
| 8   | 337                                    | 37.0 | 258                                               | 34.2 |                                                   | 40.1 | 253                                               | 13.3 |                                                   | 33.9 | 176 | 32.2 |    | 27.4 | 238 | 09.9 |     | 46.0 |
| 9   | 352                                    | 39.4 | 273                                               | 35.1 |                                                   | 40.2 | 268                                               | 14.0 |                                                   | 34.0 | 191 | 34.7 |    | 27.5 | 253 | 12.1 |     | 46.0 |
| 10  | 7                                      | 41.9 | 288                                               | 35.9 |                                                   | 40.3 | 283                                               | 14.7 |                                                   | 34.0 | 206 | 37.2 |    | 27.5 | 268 | 14.3 |     | 46.0 |
| 11  | 22                                     | 44.4 | 303                                               | 36.8 | +27                                               | 40.4 | 298                                               | 15.5 | +24                                               | 34.1 | 221 | 39.7 | +9 | 27.5 | 283 | 16.5 | +22 | 46.0 |
| 12  | 37                                     | 46.8 | 318                                               | 37.6 | +27                                               | 40.5 | 313                                               | 16.2 | +24                                               | 34.2 | 236 | 42.2 | +9 | 27.5 | 298 | 18.8 | +22 | 46.0 |
| 13  | 52                                     | 49.3 | 333                                               | 38.5 |                                                   | 40.7 | 328                                               | 16.9 |                                                   | 34.2 | 251 | 44.7 |    | 27.5 | 313 | 21.0 |     | 46.0 |
| 14  | 67                                     | 51.7 | 348                                               | 39.3 |                                                   | 40.8 | 343                                               | 17.6 |                                                   | 34.3 | 266 | 47.3 |    | 27.5 | 328 | 23.2 |     | 46.0 |
| 15  | 82                                     | 54.2 | 3                                                 | 40.2 |                                                   | 40.9 | 358                                               | 18.3 |                                                   | 34.4 | 281 | 49.8 |    | 27.5 | 343 | 25.5 |     | 46.0 |
| 16  | 97                                     | 56.7 | 18                                                | 41.1 |                                                   | 41.0 | 13                                                | 19.0 |                                                   | 34.4 | 296 | 52.3 |    | 27.5 | 358 | 27.7 |     | 45.9 |
| 17  | 112                                    | 59.1 | 33                                                | 41.9 | +27                                               | 41.1 | 28                                                | 19.8 | +24                                               | 34.5 | 311 | 54.8 | +9 | 27.5 | 13  | 29.9 | +22 | 45.9 |
| 18  | 128                                    | 01.6 | 48                                                | 42.8 | +27                                               | 41.2 | 43                                                | 20.5 | +24                                               | 34.6 | 326 | 57.3 | +9 | 27.5 | 28  | 32.2 | +22 | 45.9 |
| 19  | 143                                    | 04.1 | 63                                                | 43.7 |                                                   | 41.3 | 58                                                | 21.2 |                                                   | 34.6 | 341 | 59.8 |    | 27.5 | 43  | 34.4 |     | 45.9 |
| 20  | 158                                    | 06.5 | 78                                                | 44.6 |                                                   | 41.5 | 73                                                | 21.9 |                                                   | 34.7 | 357 | 02.3 |    | 27.6 | 58  | 36.6 |     | 45.9 |
| 21  | 173                                    | 09.0 | 93                                                | 45.4 |                                                   | 41.6 | 88                                                | 22.6 |                                                   | 34.7 | 12  | 04.8 |    | 27.6 | 73  | 38.8 |     | 45.9 |
| 22  | 188                                    | 11.5 | 108                                               | 46.3 |                                                   | 41.7 | 103                                               | 23.4 |                                                   | 34.8 | 27  | 07.3 |    | 27.6 | 88  | 41.1 |     | 45.9 |
| 23  | 203                                    | 13.9 | 123                                               | 47.2 |                                                   | 41.8 | 118                                               | 24.1 |                                                   | 34.9 | 42  | 09.8 |    | 27.6 | 103 | 43.3 |     | 45.9 |
| 24  | 218                                    | 16.4 | 138                                               | 48.1 | +27                                               | 41.9 | 133                                               | 24.8 | +24                                               | 34.9 | 57  | 12.3 | +9 | 27.6 | 118 | 45.5 | +22 | 45.9 |
| Dif | —                                      |      | +9                                                |      | +1                                                |      | +7                                                |      | +1                                                |      | +25 |      | 0  |      | +22 |      |     | 0    |

| UT  | SOL                                                             |      |                                                   |      | LUNA                                                                                                                                                                                                                                   |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |     |  |  |  |   |  |  |  |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|-----|--|--|--|---|--|--|--|
|     | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 2 |      |                                                   |      | Edad: 10 <sup>d</sup> 4 PHE {<br>SD: 15 <sup>h</sup> 5<br>PMG: 20 <sup>h</sup> 46 <sup>m</sup> 4 <sup>h</sup> : 57 <sup>h</sup> 0<br>12 <sup>h</sup> : 57 <sup>h</sup> 3<br>20 <sup>h</sup> : 57 <sup>h</sup> 6<br>R°: 46 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |      |                                                   |      |     |      |     |  |  |  |   |  |  |  |
|     | hG ☉                                                            | Dec  |                                                   |      | hG ☾                                                                                                                                                                                                                                   | Dif    Dec    Dif   |                                                   |                     |         | Náutico                  | Civil                                             |               | Hora           | R°   | Hora                                              | R°   |     |      |     |  |  |  |   |  |  |  |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                      | '                   | °                                                 | '                   | °       | h                        | m                                                 | h             | m              | h    | m                                                 | h    | m   |      |     |  |  |  |   |  |  |  |
| 0   | 180                                                             | 41.6 | +14                                               | 48.7 | 58                                                                                                                                                                                                                                     | 13.4                | +13                                               | 34.7                | 60 N    | 1 46                     | 3 07                                              | 4 00          | 13 18          | 95   | 3 45                                              | 1    |     |      |     |  |  |  |   |  |  |  |
| 1   | 195                                                             | 41.7 |                                                   | 49.5 | 72                                                                                                                                                                                                                                     | 45.3 <sup>129</sup> |                                                   | 21.3 <sup>134</sup> | 58      | 2 13                     | 21                                                | 09            | 24             | 91   | 38                                                | 5    |     |      |     |  |  |  |   |  |  |  |
| 2   | 210                                                             | 41.7 |                                                   | 50.2 | 87                                                                                                                                                                                                                                     | 17.3 <sup>130</sup> | +13                                               | 07.8 <sup>135</sup> | 56      | 33                       | 34                                                | 18            | 30             | 87   | 31                                                | 8    |     |      |     |  |  |  |   |  |  |  |
| 3   | 225                                                             | 41.8 |                                                   | 51.0 | 101                                                                                                                                                                                                                                    | 49.3 <sup>130</sup> | +12                                               | 54.2 <sup>136</sup> | 54      | 2 49                     | 44                                                | 25            | 35             | 84   | 26                                                | 10   |     |      |     |  |  |  |   |  |  |  |
| 4   | 240                                                             | 41.9 |                                                   | 51.8 | 116                                                                                                                                                                                                                                    | 21.3 <sup>130</sup> |                                                   | 40.5 <sup>137</sup> | 52      | 3 03                     | 3 53                                              | 32            | 39             | 81   | 20                                                | 14   |     |      |     |  |  |  |   |  |  |  |
| 5   | 255                                                             | 42.0 | +14                                               | 52.5 | 130                                                                                                                                                                                                                                    | 53.3 <sup>130</sup> | +12                                               | 26.8 <sup>137</sup> | 50      | 3 15                     | 4 01                                              | 4 38          | 13 43          | 79   | 3 15                                              | 16   |     |      |     |  |  |  |   |  |  |  |
| 6   | 270                                                             | 42.1 | +14                                               | 53.3 | 145                                                                                                                                                                                                                                    | 25.3 <sup>130</sup> | +12                                               | 13.0 <sup>138</sup> | 45      | 3 38                     | 4 18                                              | 4 51          | 13 52          | 73   | 3 05                                              | 21   |     |      |     |  |  |  |   |  |  |  |
| 7   | 285                                                             | 42.1 |                                                   | 54.1 | 159                                                                                                                                                                                                                                    | 57.3 <sup>130</sup> | +11                                               | 59.1 <sup>139</sup> | 40      | 3 56                     | 32                                                | 5 01          | 13 59          | 68   | 2 56                                              | 25   |     |      |     |  |  |  |   |  |  |  |
| 8   | 300                                                             | 42.2 |                                                   | 54.8 | 174                                                                                                                                                                                                                                    | 29.3 <sup>130</sup> |                                                   | 45.1 <sup>140</sup> | 35      | 4 11                     | 43                                                | 10            | 14 05          | 65   | 49                                                | 28   |     |      |     |  |  |  |   |  |  |  |
| 9   | 315                                                             | 42.3 |                                                   | 55.6 | 189                                                                                                                                                                                                                                    | 01.4 <sup>131</sup> |                                                   | 31.1 <sup>140</sup> | 30      | 22                       | 4 53                                              | 18            | 10             | 62   | 42                                                | 32   |     |      |     |  |  |  |   |  |  |  |
| 10  | 330                                                             | 42.4 |                                                   | 56.3 | 203                                                                                                                                                                                                                                    | 33.4 <sup>130</sup> |                                                   | 17.0 <sup>141</sup> | 20      | 41                       | 5 08                                              | 31            | 19             | 56   | 31                                                | 36   |     |      |     |  |  |  |   |  |  |  |
| 11  | 345                                                             | 42.5 | +14                                               | 57.1 | 218                                                                                                                                                                                                                                    | 05.5 <sup>131</sup> | +11                                               | 02.8 <sup>142</sup> | 10 N    | 4 56                     | 5 21                                              | 5 43          | 14 27          | 51   | 2 20                                              | 42   |     |      |     |  |  |  |   |  |  |  |
| 12  | 0                                                               | 42.5 | +14                                               | 57.9 | 232                                                                                                                                                                                                                                    | 37.6 <sup>131</sup> | +10                                               | 48.5 <sup>143</sup> | 0       | 5 08                     | 5 32                                              | 5 54          | 14 35          | 46   | 2 11                                              | 46   |     |      |     |  |  |  |   |  |  |  |
| 13  | 15                                                              | 42.6 |                                                   | 58.6 | 247                                                                                                                                                                                                                                    | 09.6 <sup>130</sup> |                                                   | 34.2 <sup>143</sup> | 10 S    | 18                       | 43                                                | 6 04          | 42             | 42   | 2 01                                              | 51   |     |      |     |  |  |  |   |  |  |  |
| 14  | 30                                                              | 42.7 | +14                                               | 59.4 | 261                                                                                                                                                                                                                                    | 41.7 <sup>131</sup> |                                                   | 19.8 <sup>144</sup> | 20      | 27                       | 5 53                                              | 16            | 50             | 37   | 1 50                                              | 56   |     |      |     |  |  |  |   |  |  |  |
| 15  | 45                                                              | 42.8 | +15                                               | 00.1 | 276                                                                                                                                                                                                                                    | 13.8 <sup>131</sup> | +10                                               | 05.3 <sup>145</sup> | 30      | 35                       | 6 04                                              | 29            | 14 59          | 31   | 38                                                | 61   |     |      |     |  |  |  |   |  |  |  |
| 16  | 60                                                              | 42.9 |                                                   | 00.9 | 290                                                                                                                                                                                                                                    | 45.9 <sup>131</sup> | +9                                                | 50.8 <sup>145</sup> | 35      | 40                       | 10                                                | 36            | 15 04          | 28   | 31                                                | 65   |     |      |     |  |  |  |   |  |  |  |
| 17  | 75                                                              | 42.9 | +15                                               | 01.7 | 305                                                                                                                                                                                                                                    | 18.0 <sup>131</sup> | +9                                                | 36.2 <sup>146</sup> | 40      | 5 44                     | 6 16                                              | 6 44          | 15 10          | 25   | 1 23                                              | 68   |     |      |     |  |  |  |   |  |  |  |
| 18  | 90                                                              | 43.0 | +15                                               | 02.4 | 319                                                                                                                                                                                                                                    | 50.1 <sup>131</sup> | +9                                                | 21.6 <sup>146</sup> | 45      | 5 48                     | 6 23                                              | 6 54          | 15 17          | 20   | 1 14                                              | 72   |     |      |     |  |  |  |   |  |  |  |
| 19  | 105                                                             | 43.1 |                                                   | 03.2 | 334                                                                                                                                                                                                                                    | 22.1 <sup>130</sup> | +9                                                | 06.8 <sup>148</sup> | 50      | 53                       | 31                                                | 7 06          | 25             | 15   | 1 03                                              | 77   |     |      |     |  |  |  |   |  |  |  |
| 20  | 120                                                             | 43.2 |                                                   | 03.9 | 348                                                                                                                                                                                                                                    | 54.2 <sup>131</sup> | +8                                                | 52.1 <sup>147</sup> | 52      | 55                       | 35                                                | 11            | 29             | 13   | 0 57                                              | 80   |     |      |     |  |  |  |   |  |  |  |
| 21  | 135                                                             | 43.2 |                                                   | 04.7 | 3                                                                                                                                                                                                                                      | 26.3 <sup>131</sup> |                                                   | 37.2 <sup>149</sup> | 54      | 57                       | 39                                                | 17            | 33             | 10   | 51                                                | 83   |     |      |     |  |  |  |   |  |  |  |
| 22  | 150                                                             | 43.3 |                                                   | 05.4 | 17                                                                                                                                                                                                                                     | 58.4 <sup>131</sup> |                                                   | 22.3 <sup>149</sup> | 56      | 5 59                     | 44                                                | 23            | 37             | 8    | 45                                                | 86   |     |      |     |  |  |  |   |  |  |  |
| 23  | 165                                                             | 43.4 |                                                   | 06.2 | 32                                                                                                                                                                                                                                     | 30.5 <sup>131</sup> | +8                                                | 07.3 <sup>150</sup> | 58      | 6 02                     | 48                                                | 31            | 42             | 5    | 37                                                | 90   |     |      |     |  |  |  |   |  |  |  |
| 24  | 180                                                             | 43.5 | +15                                               | 06.9 | 47                                                                                                                                                                                                                                     | 02.6 <sup>131</sup> | +7                                                | 52.3 <sup>150</sup> | 60 S    | 6 04                     | 6 54                                              | 7 39          | 15 48          | 1    | 0 29                                              | 94   |     |      |     |  |  |  |   |  |  |  |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                                                        |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |      | SATURNO                                           |      |     |      |     |  |  |  |   |  |  |  |
|     | PMG 9 <sup>h</sup> 25 <sup>m</sup> 4                            |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup> |      |                                                                                                                                                                                                                                        |                     | Mag: +1.6<br>PMG: 15 <sup>h</sup> 06 <sup>m</sup> |                     |         |                          | Mag: -2.3<br>PMG: 20 <sup>h</sup> 08 <sup>m</sup> |               |                |      | Mag: +0.1<br>PMG: 16 <sup>h</sup> 03 <sup>m</sup> |      |     |      |     |  |  |  |   |  |  |  |
|     | hG ♈                                                            |      | hG ♀                                              | Dec  |                                                                                                                                                                                                                                        |                     | hG ♂                                              | Dec                 |         |                          | hG ♃                                              | Dec           |                |      | hG ♄                                              | Dec  |     |      |     |  |  |  |   |  |  |  |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                      | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '    | °                                                 | '    | °   | '    |     |  |  |  |   |  |  |  |
| 0   | 218                                                             | 16.4 | 138                                               | 48.1 | +27                                                                                                                                                                                                                                    | 41.9                | 133                                               | 24.8                | +24     | 34.9                     | 57                                                | 12.3          | +9             | 27.6 | 118                                               | 45.5 | +22 | 45.9 |     |  |  |  |   |  |  |  |
| 1   | 233                                                             | 18.9 | 153                                               | 49.0 |                                                                                                                                                                                                                                        | 42.0                | 148                                               | 25.5                |         | 35.0                     | 72                                                | 14.8          |                | 27.6 | 133                                               | 47.7 |     | 45.9 |     |  |  |  |   |  |  |  |
| 2   | 248                                                             | 21.3 | 168                                               | 49.9 |                                                                                                                                                                                                                                        | 42.1                | 163                                               | 26.2                |         | 35.0                     | 87                                                | 17.3          |                | 27.6 | 148                                               | 50.0 |     | 45.9 |     |  |  |  |   |  |  |  |
| 3   | 263                                                             | 23.8 | 183                                               | 50.8 |                                                                                                                                                                                                                                        | 42.2                | 178                                               | 27.0                |         | 35.1                     | 102                                               | 19.8          |                | 27.6 | 163                                               | 52.2 |     | 45.8 |     |  |  |  |   |  |  |  |
| 4   | 278                                                             | 26.2 | 198                                               | 51.7 |                                                                                                                                                                                                                                        | 42.3                | 193                                               | 27.7                |         | 35.2                     | 117                                               | 22.3          |                | 27.6 | 178                                               | 54.4 |     | 45.8 |     |  |  |  |   |  |  |  |
| 5   | 293                                                             | 28.7 | 213                                               | 52.6 | +27                                                                                                                                                                                                                                    | 42.4                | 208                                               | 28.4                | +24     | 35.2                     | 132                                               | 24.8          | +9             | 27.6 | 193                                               | 56.7 | +22 | 45.8 |     |  |  |  |   |  |  |  |
| 6   | 308                                                             | 31.2 | 228                                               | 53.5 | +27                                                                                                                                                                                                                                    | 42.5                | 223                                               | 29.1                | +24     | 35.3                     | 147                                               | 27.3          | +9             | 27.6 | 208                                               | 58.9 | +22 | 45.8 |     |  |  |  |   |  |  |  |
| 7   | 323                                                             | 33.6 | 243                                               | 54.4 |                                                                                                                                                                                                                                        | 42.6                | 238                                               | 29.8                |         | 35.3                     | 162                                               | 29.8          |                | 27.6 | 224                                               | 01.1 |     | 45.8 |     |  |  |  |   |  |  |  |
| 8   | 338                                                             | 36.1 | 258                                               | 55.3 |                                                                                                                                                                                                                                        | 42.7                | 253                                               | 30.6                |         | 35.4                     | 177                                               | 32.3          |                | 27.6 | 239                                               | 03.3 |     | 45.8 |     |  |  |  |   |  |  |  |
| 9   | 353                                                             | 38.6 | 273                                               | 56.2 |                                                                                                                                                                                                                                        | 42.8                | 268                                               | 31.3                |         | 35.5                     | 192                                               | 34.8          |                | 27.7 | 254                                               | 05.6 |     | 45.8 |     |  |  |  |   |  |  |  |
| 10  | 8                                                               | 41.0 | 288                                               | 57.1 |                                                                                                                                                                                                                                        | 42.9                | 283                                               | 32.0                |         | 35.5                     | 207                                               | 37.3          |                | 27.7 | 269                                               | 07.8 |     | 45.8 |     |  |  |  |   |  |  |  |
| 11  | 23                                                              | 43.5 | 303                                               | 58.0 | +27                                                                                                                                                                                                                                    | 43.0                | 298                                               | 32.7                | +24     | 35.6                     | 222                                               | 39.8          | +9             | 27.7 | 284                                               | 10.0 | +22 | 45.8 |     |  |  |  |   |  |  |  |
| 12  | 38                                                              | 46.0 | 318                                               | 59.0 | +27                                                                                                                                                                                                                                    | 43.1                | 313                                               | 33.4                | +24     | 35.6                     | 237                                               | 42.3          | +9             | 27.7 | 299                                               | 12.2 | +22 | 45.8 |     |  |  |  |   |  |  |  |
| 13  | 53                                                              | 48.4 | 333                                               | 59.9 |                                                                                                                                                                                                                                        | 43.2                | 328                                               | 34.2                |         | 35.7                     | 252                                               | 44.8          |                | 27.7 | 314                                               | 14.5 |     | 45.8 |     |  |  |  |   |  |  |  |
| 14  | 68                                                              | 50.9 | 349                                               | 00.8 |                                                                                                                                                                                                                                        | 43.3                | 343                                               | 34.9                |         | 35.7                     | 267                                               | 47.3          |                | 27.7 | 329                                               | 16.7 |     | 45.7 |     |  |  |  |   |  |  |  |
| 15  | 83                                                              | 53.4 | 4                                                 | 01.7 |                                                                                                                                                                                                                                        | 43.4                | 358                                               | 35.6                |         | 35.8                     | 282                                               | 49.8          |                | 27.7 | 344                                               | 18.9 |     | 45.7 |     |  |  |  |   |  |  |  |
| 16  | 98                                                              | 55.8 | 19                                                | 02.7 |                                                                                                                                                                                                                                        | 43.5                | 13                                                | 36.3                |         | 35.9                     | 297                                               | 52.3          |                | 27.7 | 359                                               | 21.2 |     | 45.7 |     |  |  |  |   |  |  |  |
| 17  | 113                                                             | 58.3 | 34                                                | 03.6 | +27                                                                                                                                                                                                                                    | 43.6                | 28                                                | 37.0                | +24     | 35.9                     | 312                                               | 54.8          | +9             | 27.7 | 14                                                | 23.4 | +22 | 45.7 |     |  |  |  |   |  |  |  |
| 18  | 129                                                             | 00.7 | 49                                                | 04.5 | +27                                                                                                                                                                                                                                    | 43.7                | 43                                                | 37.7                | +24     | 36.0                     | 327                                               | 57.3          | +9             | 27.7 | 29                                                | 25.6 | +22 | 45.7 |     |  |  |  |   |  |  |  |
| 19  | 144                                                             | 03.2 | 64                                                | 05.5 |                                                                                                                                                                                                                                        | 43.8                | 58                                                | 38.5                |         | 36.0                     | 342                                               | 59.8          |                | 27.7 | 44                                                | 27.8 |     | 45.7 |     |  |  |  |   |  |  |  |
| 20  | 159                                                             | 05.7 | 79                                                | 06.4 |                                                                                                                                                                                                                                        | 43.9                | 73                                                | 39.2                |         | 36.1                     | 358                                               | 02.3          |                | 27.7 | 59                                                | 30.1 |     | 45.7 |     |  |  |  |   |  |  |  |
| 21  | 174                                                             | 08.1 | 94                                                | 07.4 |                                                                                                                                                                                                                                        | 44.0                | 88                                                | 39.9                |         | 36.1                     | 13                                                | 04.8          |                | 27.7 | 74                                                | 32.3 |     | 45.7 |     |  |  |  |   |  |  |  |
| 22  | 189                                                             | 10.6 | 109                                               | 08.3 |                                                                                                                                                                                                                                        | 44.1                | 103                                               | 40.6                |         | 36.2                     | 28                                                | 07.3          |                | 27.7 | 89                                                | 34.5 |     | 45.7 |     |  |  |  |   |  |  |  |
| 23  | 204                                                             | 13.1 | 124                                               | 09.2 |                                                                                                                                                                                                                                        | 44.2                | 118                                               | 41.3                |         | 36.2                     | 43                                                | 09.8          |                | 27.7 | 104                                               | 36.7 |     | 45.7 |     |  |  |  |   |  |  |  |
| 24  | 219                                                             | 15.5 | 139                                               | 10.2 | +27                                                                                                                                                                                                                                    | 44.2                | 133                                               | 42.1                | +24     | 36.3                     | 58                                                | 12.3          | +9             | 27.7 | 119                                               | 39.0 | +22 | 45.7 |     |  |  |  |   |  |  |  |
| Dif | —                                                               |      | +9                                                |      |                                                                                                                                                                                                                                        |                     | +1                                                |                     |         |                          | +25                                               |               |                |      | 0                                                 |      |     |      | +22 |  |  |  | 0 |  |  |  |

| UT | SOL                                    |                                      | LUNA                        |          |     |                                                                                                  | Latitud                | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |         |    |
|----|----------------------------------------|--------------------------------------|-----------------------------|----------|-----|--------------------------------------------------------------------------------------------------|------------------------|---------------|----------------------|-------|----------------|-------|----------------|---------|----|
|    | SD: 15:9                               |                                      | Edad: 11 <sup>d</sup> 4 PHE | SD: 15:7 |     | 4 <sup>h</sup> : 57:9<br>12 <sup>h</sup> : 58:2<br>20 <sup>h</sup> : 58:5<br>R°: 48 <sup>m</sup> |                        |               | Civil                |       | Náutico        | Hora  | R°             | Hora    | R° |
|    | PMG: 11 <sup>h</sup> 57 <sup>m</sup> 0 | PMG: 21 <sup>h</sup> 32 <sup>m</sup> |                             |          |     |                                                                                                  |                        |               |                      |       |                |       |                |         |    |
|    | hG ☉                                   | Dec                                  | hG ☾                        | Dif      | Dec | Dif                                                                                              |                        |               |                      |       |                |       |                |         |    |
| h  | °                                      | '                                    | °                           | '        | °   | '                                                                                                | °                      | h m           | h m                  | h m   | h m            | h m   | h m            | m       |    |
| 0  | 180                                    | 43.5                                 | +15                         | 06.9     | 47  | 02.6                                                                                             | +7 52.3                | 60 N          | 19 59                | 20 53 | 22 18          | 14 53 | 97             | 3 46 1  |    |
| 1  | 195                                    | 43.5                                 |                             | 07.7     | 61  | 34.6 <sup>130</sup>                                                                              | 37.2 <sup>151</sup>    | 58            | 49                   | 38    | 21 49          | 55    | 93             | 43 4    |    |
| 2  | 210                                    | 43.6                                 |                             | 08.5     | 76  | 06.7 <sup>131</sup>                                                                              | 22.1 <sup>151</sup>    | 56            | 40                   | 25    | 27             | 57    | 89             | 39 7    |    |
| 3  | 225                                    | 43.7                                 |                             | 09.2     | 90  | 38.7 <sup>130</sup>                                                                              | +7 06.9 <sup>152</sup> | 54            | 32                   | 14    | 21 10          | 14 59 | 86             | 36 10   |    |
| 4  | 240                                    | 43.8                                 |                             | 10.0     | 105 | 10.8 <sup>131</sup>                                                                              | +6 51.6 <sup>153</sup> | 52            | 25                   | 20 04 | 20 55          | 15 00 | 84             | 34 12   |    |
| 5  | 255                                    | 43.8                                 | +15                         | 10.7     | 119 | 42.8 <sup>130</sup>                                                                              | +6 36.3 <sup>153</sup> | 50            | 19 19                | 19 56 | 20 43          | 15 02 | 81             | 3 31 15 |    |
| 6  | 270                                    | 43.9                                 | +15                         | 11.5     | 134 | 14.8 <sup>130</sup>                                                                              | +6 21.0 <sup>153</sup> | 45            | 19 06                | 19 38 | 20 19          | 15 05 | 75             | 3 26 20 |    |
| 7  | 285                                    | 44.0                                 |                             | 12.2     | 148 | 46.8 <sup>130</sup>                                                                              | +6 05.6 <sup>154</sup> | 40            | 18 55                | 24    | 20 00          | 07    | 71             | 21 24   |    |
| 8  | 300                                    | 44.1                                 |                             | 13.0     | 163 | 18.8 <sup>130</sup>                                                                              | +5 50.1 <sup>155</sup> | 35            | 46                   | 13    | 19 45          | 10    | 67             | 17 28   |    |
| 9  | 315                                    | 44.1                                 |                             | 13.7     | 177 | 50.8 <sup>130</sup>                                                                              | 34.6 <sup>155</sup>    | 30            | 38                   | 19 03 | 33             | 12    | 63             | 14 31   |    |
| 10 | 330                                    | 44.2                                 |                             | 14.5     | 192 | 22.8 <sup>130</sup>                                                                              | 19.1 <sup>155</sup>    | 20            | 24                   | 18 47 | 19 14          | 15    | 58             | 07 37   |    |
| 11 | 345                                    | 44.3                                 | +15                         | 15.2     | 206 | 54.7 <sup>129</sup>                                                                              | +5 03.5 <sup>156</sup> | 10 N          | 18 12                | 18 33 | 18 59          | 15 18 | 52             | 3 02 42 |    |
| 12 | 0                                      | 44.4                                 | +15                         | 16.0     | 221 | 26.6 <sup>129</sup>                                                                              | +4 47.8 <sup>157</sup> | 0             | 18 00                | 18 22 | 18 47          | 15 21 | 47             | 2 57 46 |    |
| 13 | 15                                     | 44.4                                 |                             | 16.7     | 235 | 58.6 <sup>130</sup>                                                                              | 32.1 <sup>157</sup>    | 10 S          | 17 49                | 11    | 36             | 24    | 42             | 52 51   |    |
| 14 | 30                                     | 44.5                                 |                             | 17.5     | 250 | 30.4 <sup>128</sup>                                                                              | 16.4 <sup>157</sup>    | 20            | 38                   | 18 01 | 27             | 27    | 37             | 46 56   |    |
| 15 | 45                                     | 44.6                                 |                             | 18.2     | 265 | 02.3 <sup>129</sup>                                                                              | +4 00.6 <sup>158</sup> | 30            | 25                   | 17 49 | 18             | 30    | 32             | 39 63   |    |
| 16 | 60                                     | 44.7                                 |                             | 19.0     | 279 | 34.1 <sup>128</sup>                                                                              | +3 44.8 <sup>158</sup> | 35            | 17                   | 43    | 13             | 32    | 29             | 36 65   |    |
| 17 | 75                                     | 44.7                                 | +15                         | 19.7     | 294 | 06.0 <sup>129</sup>                                                                              | +3 28.9 <sup>159</sup> | 40            | 17 08                | 17 37 | 18 09          | 15 35 | 24             | 2 31 70 |    |
| 18 | 90                                     | 44.8                                 | +15                         | 20.5     | 308 | 37.8 <sup>128</sup>                                                                              | +3 13.0 <sup>159</sup> | 45            | 16 58                | 17 29 | 18 04          | 15 37 | 20             | 2 26 74 |    |
| 19 | 105                                    | 44.9                                 |                             | 21.2     | 323 | 09.5 <sup>127</sup>                                                                              | +2 57.1 <sup>159</sup> | 50            | 46                   | 21    | 17 59          | 40    | 15             | 20 80   |    |
| 20 | 120                                    | 44.9                                 |                             | 22.0     | 337 | 41.3 <sup>128</sup>                                                                              | 41.1 <sup>160</sup>    | 52            | 41                   | 17    | 57             | 42    | 12             | 17 83   |    |
| 21 | 135                                    | 45.0                                 |                             | 22.7     | 352 | 13.0 <sup>127</sup>                                                                              | 25.1 <sup>160</sup>    | 54            | 35                   | 13    | 55             | 43    | 10             | 14 85   |    |
| 22 | 150                                    | 45.1                                 |                             | 23.4     | 6   | 44.7 <sup>127</sup>                                                                              | +2 09.1 <sup>160</sup> | 56            | 28                   | 08    | 52             | 45    | 7              | 11 88   |    |
| 23 | 165                                    | 45.2                                 |                             | 24.2     | 21  | 16.3 <sup>126</sup>                                                                              | +1 53.0 <sup>161</sup> | 58            | 20                   | 17 03 | 50             | 47    | 4              | 07 92   |    |
| 24 | 180                                    | 45.2                                 | +15                         | 24.9     | 35  | 47.9 <sup>126</sup>                                                                              | +1 36.9 <sup>161</sup> | 60 S          | 16 12                | 16 57 | 17 47          | 15 49 | 1              | 2 03 95 |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 9 <sup>h</sup> 21 <sup>m</sup> 4 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 42 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 04 <sup>m</sup> |      | Mag: -2.3<br>PMG: 20 <sup>h</sup> 04 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 59 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 219                                   | 15.5 | 139                                               | 10.2 | 133                                               | 42.1 | 58                                                | 12.3 | 119                                               | 39.0 |
| 1   | 234                                   | 18.0 | 154                                               | 11.2 | 148                                               | 42.8 | 73                                                | 14.8 | 134                                               | 41.2 |
| 2   | 249                                   | 20.5 | 169                                               | 12.1 | 163                                               | 43.5 | 88                                                | 17.3 | 149                                               | 43.4 |
| 3   | 264                                   | 22.9 | 184                                               | 13.1 | 178                                               | 44.2 | 103                                               | 19.8 | 164                                               | 45.6 |
| 4   | 279                                   | 25.4 | 199                                               | 14.0 | 193                                               | 44.9 | 118                                               | 22.3 | 179                                               | 47.8 |
| 5   | 294                                   | 27.8 | 214                                               | 15.0 | 208                                               | 45.7 | 133                                               | 24.8 | 194                                               | 50.1 |
| 6   | 309                                   | 30.3 | 229                                               | 16.0 | 223                                               | 46.4 | 148                                               | 27.3 | 209                                               | 52.3 |
| 7   | 324                                   | 32.8 | 244                                               | 16.9 | 238                                               | 47.1 | 163                                               | 29.8 | 224                                               | 54.5 |
| 8   | 339                                   | 35.2 | 259                                               | 17.9 | 253                                               | 47.8 | 178                                               | 32.3 | 239                                               | 56.7 |
| 9   | 354                                   | 37.7 | 274                                               | 18.9 | 268                                               | 48.5 | 193                                               | 34.8 | 254                                               | 59.0 |
| 10  | 9                                     | 40.2 | 289                                               | 19.9 | 283                                               | 49.2 | 208                                               | 37.3 | 270                                               | 01.2 |
| 11  | 24                                    | 42.6 | 304                                               | 20.8 | 298                                               | 50.0 | 223                                               | 39.8 | 285                                               | 03.4 |
| 12  | 39                                    | 45.1 | 319                                               | 21.8 | 313                                               | 50.7 | 238                                               | 42.3 | 300                                               | 05.6 |
| 13  | 54                                    | 47.6 | 334                                               | 22.8 | 328                                               | 51.4 | 253                                               | 44.7 | 315                                               | 07.9 |
| 14  | 69                                    | 50.0 | 349                                               | 23.8 | 343                                               | 52.1 | 268                                               | 47.2 | 330                                               | 10.1 |
| 15  | 84                                    | 52.5 | 4                                                 | 24.8 | 358                                               | 52.8 | 283                                               | 49.7 | 345                                               | 12.3 |
| 16  | 99                                    | 55.0 | 19                                                | 25.8 | 13                                                | 53.6 | 298                                               | 52.2 | 0                                                 | 14.5 |
| 17  | 114                                   | 57.4 | 34                                                | 26.8 | 28                                                | 54.3 | 313                                               | 54.7 | 15                                                | 16.8 |
| 18  | 129                                   | 59.9 | 49                                                | 27.8 | 43                                                | 55.0 | 328                                               | 57.2 | 30                                                | 19.0 |
| 19  | 145                                   | 02.3 | 64                                                | 28.8 | 45                                                | 55.7 | 343                                               | 59.7 | 45                                                | 21.2 |
| 20  | 160                                   | 04.8 | 79                                                | 29.8 | 58                                                | 56.4 | 359                                               | 02.2 | 60                                                | 23.4 |
| 21  | 175                                   | 07.3 | 94                                                | 30.8 | 88                                                | 57.2 | 14                                                | 04.7 | 75                                                | 25.6 |
| 22  | 190                                   | 09.7 | 109                                               | 31.8 | 103                                               | 57.9 | 29                                                | 07.2 | 90                                                | 27.9 |
| 23  | 205                                   | 12.2 | 124                                               | 32.8 | 118                                               | 58.6 | 44                                                | 09.7 | 105                                               | 30.1 |
| 24  | 220                                   | 14.7 | 139                                               | 33.9 | 133                                               | 59.3 | 59                                                | 12.2 | 120                                               | 32.3 |
| Dif | —                                     |      | +10                                               | +1   | +7                                                | 0    | +25                                               | 0    | +22                                               | 0    |

| UT | SOL                                                             |      |     |      | LUNA                                                                                                                                                                                                       |                     |         |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |     | Puesta de Luna |    |   |
|----|-----------------------------------------------------------------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|---------------------|---------|--------------------------|-------|---------------|----------------|-----|----------------|----|---|
|    | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 9 |      |     |      | Edad: 12 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 8<br>12 <sup>h</sup> : 59 <sup>m</sup> 1<br>20 <sup>h</sup> : 59 <sup>m</sup> 4<br>PMG: 22 <sup>h</sup> 20 <sup>m</sup> R°: 50 <sup>m</sup> |                     |         |                     |         |                          |       |               |                |     |                |    |   |
|    | hG ☉                                                            |      | Dec |      | hG ☾ Dif                                                                                                                                                                                                   |                     | Dec Dif |                     |         | Náutico                  | Civil |               | Hora           | R°  | Hora           | R° |   |
| h  | °                                                               | '    | °   | '    | °                                                                                                                                                                                                          | '                   | °       | '                   | °       | h                        | m     | h             | m              | h   | m              | h  | m |
| 0  | 180                                                             | 45.2 | +15 | 24.9 | 35                                                                                                                                                                                                         | 47.9                | +1      | 36.9                | 60 N    | 1 35                     | 3 01  | 3 54          | 16 30          | 101 | 3 47           | 1  |   |
| 1  | 195                                                             | 45.3 |     | 25.7 | 50                                                                                                                                                                                                         | 19.5 <sup>126</sup> |         | 20.8 <sup>161</sup> | 58      | 2 05                     | 16    | 4 04          | 28 97          |     | 47             | 4  |   |
| 2  | 210                                                             | 45.4 |     | 26.4 | 64                                                                                                                                                                                                         | 51.0 <sup>125</sup> | +1      | 04.6 <sup>162</sup> | 56      | 26                       | 28    | 13            | 26 94          |     | 46             | 8  |   |
| 3  | 225                                                             | 45.4 |     | 27.2 | 79                                                                                                                                                                                                         | 22.6 <sup>126</sup> | +0      | 48.4 <sup>162</sup> | 54      | 44                       | 39    | 21            | 25 90          |     | 46             | 1  |   |
| 4  | 240                                                             | 45.5 |     | 27.9 | 93                                                                                                                                                                                                         | 54.0 <sup>124</sup> |         | 32.2 <sup>162</sup> | 52      | 2 58                     | 49    | 28            | 24 87          |     | 46             | 13 |   |
| 5  | 255                                                             | 45.6 | +15 | 28.7 | 108                                                                                                                                                                                                        | 25.5 <sup>125</sup> | +0      | 16.0 <sup>162</sup> | 50      | 3 10                     | 3 57  | 4 34          | 16 23          | 84  | 3 46           | 15 |   |
| 6  | 270                                                             | 45.6 | +15 | 29.4 | 122                                                                                                                                                                                                        | 56.9 <sup>124</sup> | -0      | 00.3 <sup>163</sup> | 45      | 3 35                     | 4 15  | 4 48          | 16 20          | 79  | 3 46           | 20 |   |
| 7  | 285                                                             | 45.7 |     | 30.1 | 137                                                                                                                                                                                                        | 28.2 <sup>123</sup> |         | 16.6 <sup>163</sup> | 40      | 3 53                     | 29    | 4 59          | 18 74          |     | 45             | 25 |   |
| 8  | 300                                                             | 45.8 |     | 30.9 | 151                                                                                                                                                                                                        | 59.5 <sup>123</sup> |         | 32.9 <sup>163</sup> | 35      | 4 08                     | 41    | 5 08          | 17 69          |     | 45             | 29 |   |
| 9  | 315                                                             | 45.9 |     | 31.6 | 166                                                                                                                                                                                                        | 30.8 <sup>123</sup> | -0      | 49.2 <sup>163</sup> | 30      | 20                       | 4 51  | 16            | 15 66          |     | 45             | 32 |   |
| 10 | 330                                                             | 45.9 |     | 32.4 | 181                                                                                                                                                                                                        | 02.0 <sup>122</sup> | -1      | 05.5 <sup>163</sup> | 20      | 40                       | 5 07  | 30            | 13 60          |     | 44             | 38 |   |
| 11 | 345                                                             | 46.0 | +15 | 33.1 | 195                                                                                                                                                                                                        | 33.2 <sup>122</sup> | -1      | 21.9 <sup>164</sup> | 10 N    | 4 55                     | 5 20  | 5 42          | 16 10          | 55  | 3 44           | 43 |   |
| 12 | 0                                                               | 46.1 | +15 | 33.8 | 210                                                                                                                                                                                                        | 04.3 <sup>121</sup> | -1      | 38.3 <sup>164</sup> | 0       | 5 07                     | 5 32  | 5 53          | 16 08          | 50  | 3 43           | 48 |   |
| 13 | 15                                                              | 46.1 |     | 34.6 | 224                                                                                                                                                                                                        | 35.4 <sup>121</sup> | -1      | 54.6 <sup>163</sup> | 10 S    | 18                       | 43    | 6 05          | 06 45          |     | 43             | 53 |   |
| 14 | 30                                                              | 46.2 |     | 35.3 | 239                                                                                                                                                                                                        | 06.4 <sup>120</sup> | -2      | 11.0 <sup>164</sup> | 20      | 27                       | 5 54  | 16            | 04 40          |     | 42             | 59 |   |
| 15 | 45                                                              | 46.3 |     | 36.1 | 253                                                                                                                                                                                                        | 37.4 <sup>120</sup> |         | 27.4 <sup>164</sup> | 30      | 36                       | 6 05  | 30            | 02 33          |     | 42             | 64 |   |
| 16 | 60                                                              | 46.3 |     | 36.8 | 268                                                                                                                                                                                                        | 08.3 <sup>119</sup> | -2      | 43.8 <sup>164</sup> | 35      | 41                       | 11    | 37            | 16 01          | 29  | 41             | 68 |   |
| 17 | 75                                                              | 46.4 | +15 | 37.5 | 282                                                                                                                                                                                                        | 39.2 <sup>119</sup> | -3      | 00.3 <sup>165</sup> | 40      | 5 46                     | 6 18  | 6 46          | 15 59          | 26  | 3 41           | 72 |   |
| 18 | 90                                                              | 46.5 | +15 | 38.3 | 297                                                                                                                                                                                                        | 10.0 <sup>118</sup> | -3      | 16.7 <sup>164</sup> | 45      | 5 51                     | 6 25  | 6 56          | 15 57          | 22  | 3 40           | 77 |   |
| 19 | 105                                                             | 46.5 |     | 39.0 | 311                                                                                                                                                                                                        | 40.8 <sup>118</sup> |         | 33.1 <sup>164</sup> | 50      | 56                       | 34    | 7 08          | 55 17          |     | 40             | 82 |   |
| 20 | 120                                                             | 46.6 |     | 39.7 | 326                                                                                                                                                                                                        | 11.5 <sup>117</sup> | -3      | 49.5 <sup>164</sup> | 52      | 5 58                     | 38    | 14            | 54 14          |     | 40             | 85 |   |
| 21 | 135                                                             | 46.7 |     | 40.5 | 340                                                                                                                                                                                                        | 42.1 <sup>116</sup> | -4      | 06.0 <sup>165</sup> | 54      | 6 00                     | 42    | 20            | 53 12          |     | 39             | 88 |   |
| 22 | 150                                                             | 46.7 |     | 41.2 | 355                                                                                                                                                                                                        | 12.7 <sup>116</sup> |         | 22.4 <sup>164</sup> | 56      | 03                       | 47    | 27            | 52 8           |     | 39             | 91 |   |
| 23 | 165                                                             | 46.8 |     | 41.9 | 9                                                                                                                                                                                                          | 43.2 <sup>115</sup> |         | 38.8 <sup>164</sup> | 58      | 05                       | 52    | 35            | 51 5           |     | 39             | 94 |   |
| 24 | 180                                                             | 46.8 | +15 | 42.7 | 24                                                                                                                                                                                                         | 13.7 <sup>115</sup> | -4      | 55.2 <sup>164</sup> | 60 S    | 6 08                     | 6 58  | 7 44          | 15 50          | 1   | 3 38           | 99 |   |

| UT  | ARIES                                |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |     | SATURNO                                           |      |    |     |      |     |      |
|-----|--------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|-----|---------------------------------------------------|------|----|-----|------|-----|------|
|     | PMG 9 <sup>h</sup> 17 <sup>m</sup> 5 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 41 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 03 <sup>m</sup> |     | Mag: -2.3<br>PMG: 20 <sup>h</sup> 00 <sup>m</sup> |     | Mag: +0.1<br>PMG: 15 <sup>h</sup> 55 <sup>m</sup> |      |    |     |      |     |      |
|     | hG ♈                                 |      | hG ♀ Dec                                          |      | hG ♂ Dec                                          |     | hG ♃ Dec                                          |     | hG ♄ Dec                                          |      |    |     |      |     |      |
| h   | °                                    | '    | °                                                 | '    | °                                                 | '   | °                                                 | '   | °                                                 | '    |    |     |      |     |      |
| 0   | 220                                  | 14.7 | 139                                               | 33.9 | +27                                               | 133 | 59.3                                              | +24 | 59                                                | 12.2 | +9 | 120 | 32.3 | +22 | 45.4 |
| 1   | 235                                  | 17.1 | 154                                               | 34.9 |                                                   | 149 | 00.0                                              |     | 74                                                | 14.6 |    | 135 | 34.5 |     | 45.4 |
| 2   | 250                                  | 19.6 | 169                                               | 35.9 |                                                   | 164 | 00.8                                              |     | 89                                                | 17.1 |    | 150 | 36.7 |     | 45.4 |
| 3   | 265                                  | 22.1 | 184                                               | 36.9 |                                                   | 179 | 01.5                                              |     | 104                                               | 19.6 |    | 165 | 39.0 |     | 45.4 |
| 4   | 280                                  | 24.5 | 199                                               | 38.0 |                                                   | 194 | 02.2                                              |     | 119                                               | 22.1 |    | 180 | 41.2 |     | 45.4 |
| 5   | 295                                  | 27.0 | 214                                               | 39.0 | +27                                               | 209 | 02.9                                              | +24 | 134                                               | 24.6 | +9 | 195 | 43.4 | +22 | 45.4 |
| 6   | 310                                  | 29.4 | 229                                               | 40.0 | +27                                               | 224 | 03.6                                              | +24 | 149                                               | 27.1 | +9 | 210 | 45.6 | +22 | 45.4 |
| 7   | 325                                  | 31.9 | 244                                               | 41.1 |                                                   | 239 | 04.3                                              |     | 164                                               | 29.6 |    | 225 | 47.9 |     | 45.4 |
| 8   | 340                                  | 34.4 | 259                                               | 42.1 |                                                   | 254 | 05.1                                              |     | 179                                               | 32.1 |    | 240 | 50.1 |     | 45.3 |
| 9   | 355                                  | 36.8 | 274                                               | 43.2 |                                                   | 269 | 05.8                                              |     | 194                                               | 34.5 |    | 255 | 52.3 |     | 45.3 |
| 10  | 10                                   | 39.3 | 289                                               | 44.2 |                                                   | 284 | 06.5                                              |     | 209                                               | 37.0 |    | 270 | 54.5 |     | 45.3 |
| 11  | 25                                   | 41.8 | 304                                               | 45.3 | +27                                               | 299 | 07.2                                              | +24 | 224                                               | 39.5 | +9 | 285 | 56.7 | +22 | 45.3 |
| 12  | 40                                   | 44.2 | 319                                               | 46.3 | +27                                               | 314 | 07.9                                              | +24 | 239                                               | 42.0 | +9 | 300 | 59.0 | +22 | 45.3 |
| 13  | 55                                   | 46.7 | 334                                               | 47.4 |                                                   | 329 | 08.7                                              |     | 254                                               | 44.5 |    | 316 | 01.2 |     | 45.3 |
| 14  | 70                                   | 49.2 | 349                                               | 48.4 |                                                   | 344 | 09.4                                              |     | 269                                               | 47.0 |    | 331 | 03.4 |     | 45.3 |
| 15  | 85                                   | 51.6 | 4                                                 | 49.5 |                                                   | 359 | 10.1                                              |     | 284                                               | 49.5 |    | 346 | 05.6 |     | 45.3 |
| 16  | 100                                  | 54.1 | 19                                                | 50.5 |                                                   | 14  | 10.8                                              |     | 299                                               | 51.9 |    | 1   | 07.8 |     | 45.3 |
| 17  | 115                                  | 56.6 | 34                                                | 51.6 | +27                                               | 29  | 11.5                                              | +24 | 314                                               | 54.4 | +9 | 16  | 10.1 | +22 | 45.2 |
| 18  | 130                                  | 59.0 | 49                                                | 52.7 | +27                                               | 44  | 12.3                                              | +24 | 329                                               | 56.9 | +9 | 31  | 12.3 | +22 | 45.2 |
| 19  | 146                                  | 01.5 | 64                                                | 53.8 |                                                   | 59  | 13.0                                              |     | 344                                               | 59.4 |    | 46  | 14.5 |     | 45.2 |
| 20  | 161                                  | 03.9 | 79                                                | 54.8 |                                                   | 74  | 13.7                                              |     | 0                                                 | 01.9 |    | 61  | 16.7 |     | 45.2 |
| 21  | 176                                  | 06.4 | 94                                                | 55.9 |                                                   | 89  | 14.4                                              |     | 15                                                | 04.4 |    | 76  | 18.9 |     | 45.2 |
| 22  | 191                                  | 08.9 | 109                                               | 57.0 |                                                   | 104 | 15.1                                              |     | 30                                                | 06.8 |    | 91  | 21.1 |     | 45.2 |
| 23  | 206                                  | 11.3 | 124                                               | 58.1 |                                                   | 119 | 15.9                                              |     | 45                                                | 09.3 |    | 106 | 23.4 |     | 45.2 |
| 24  | 221                                  | 13.8 | 139                                               | 59.2 | +27                                               | 134 | 16.6                                              | +24 | 60                                                | 11.8 | +9 | 121 | 25.6 | +22 | 45.2 |
| Dif | —                                    |      | +11                                               |      | +1                                                | +7  |                                                   | 0   | +25                                               |      | 0  | +22 |      |     |      |

| UT | SOL                                    |      |          | ☉ LUNA                  |                     |                                                                                                         | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |      |    |      |
|----|----------------------------------------|------|----------|-------------------------|---------------------|---------------------------------------------------------------------------------------------------------|---------|---------------|----------------------|-------|----------------|----------|----------------|------|----|------|
|    | SD: 15 <sup>h</sup> 9                  |      |          | Edad: 13 <sup>d</sup> 4 | PHE                 | $\left\{ \begin{array}{l} 4^h: 59.7 \\ 12^h: 59.9 \\ 20^h: 60.1 \\ R^{\circ}: 54^m \end{array} \right.$ |         |               |                      |       |                |          |                |      |    |      |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 8 |      |          |                         |                     |                                                                                                         |         |               |                      |       |                |          |                |      |    |      |
|    | hG ☉                                   | Dec  |          |                         |                     | hG ☾                                                                                                    |         |               | Dif                  | Dec   | Dif            | Civil    | Náutico        | Hora | R° | Hora |
| h  | °                                      | '    | °        | '                       | °                   | '                                                                                                       | °       | h m           | h m                  | h m   | h m m          | h m m    | h m m          |      |    |      |
| 0  | 180                                    | 46.8 | +15 42.7 | 24                      | 13.7                | -4 55.2                                                                                                 | 60 N    | 20 04         | 20 59                | 22 30 | 18 11 108      | 3 48 1   |                |      |    |      |
| 1  | 195                                    | 46.9 | 43.4     | 38                      | 44.1 <sup>114</sup> | -5 11.6 <sup>164</sup>                                                                                  | 58      | 19 53         | 43                   | 21 57 | 05 103         | 51 5     |                |      |    |      |
| 2  | 210                                    | 47.0 | 44.1     | 53                      | 14.4 <sup>113</sup> | 28.0 <sup>164</sup>                                                                                     | 56      | 44            | 30                   | 34    | 18 00 99       | 54 9     |                |      |    |      |
| 3  | 225                                    | 47.0 | 44.9     | 67                      | 44.7 <sup>113</sup> | -5 44.4 <sup>164</sup>                                                                                  | 54      | 36            | 18                   | 15    | 17 55 95       | 57 11    |                |      |    |      |
| 4  | 240                                    | 47.1 | 45.6     | 82                      | 14.9 <sup>112</sup> | -6 00.8 <sup>164</sup>                                                                                  | 52      | 29            | 20 08                | 21 00 | 51 92          | 3 59 15  |                |      |    |      |
| 5  | 255                                    | 47.2 | +15 46.3 | 96                      | 45.0 <sup>111</sup> | -6 17.2 <sup>164</sup>                                                                                  | 50      | 19 22         | 19 59                | 20 47 | 17 47 89       | 4 01 17  |                |      |    |      |
| 6  | 270                                    | 47.2 | +15 47.1 | 111                     | 15.1 <sup>111</sup> | -6 33.6 <sup>164</sup>                                                                                  | 45      | 19 08         | 19 41                | 20 22 | 17 39 82       | 4 06 23  |                |      |    |      |
| 7  | 285                                    | 47.3 | 47.8     | 125                     | 45.1 <sup>110</sup> | -6 49.9 <sup>163</sup>                                                                                  | 40      | 18 57         | 27                   | 20 03 | 32 78          | 10 27    |                |      |    |      |
| 8  | 300                                    | 47.4 | 48.5     | 140                     | 15.0 <sup>109</sup> | -7 06.2 <sup>163</sup>                                                                                  | 35      | 47            | 15                   | 19 47 | 26 74          | 14 31    |                |      |    |      |
| 9  | 315                                    | 47.4 | 49.3     | 154                     | 44.8 <sup>108</sup> | 22.5 <sup>163</sup>                                                                                     | 30      | 39            | 19 04                | 35    | 21 70          | 17 34    |                |      |    |      |
| 10 | 330                                    | 47.5 | 50.0     | 169                     | 14.6 <sup>108</sup> | 38.8 <sup>163</sup>                                                                                     | 20      | 24            | 18 48                | 19 15 | 13 63          | 22 41    |                |      |    |      |
| 11 | 345                                    | 47.5 | +15 50.7 | 183                     | 44.3 <sup>107</sup> | -7 55.0 <sup>162</sup>                                                                                  | 10 N    | 18 12         | 18 34                | 18 59 | 17 05 58       | 4 27 46  |                |      |    |      |
| 12 | 0                                      | 47.6 | +15 51.4 | 198                     | 13.9 <sup>106</sup> | -8 11.3 <sup>163</sup>                                                                                  | 0       | 18 00         | 18 22                | 18 47 | 16 58 53       | 4 31 52  |                |      |    |      |
| 13 | 15                                     | 47.7 | 52.2     | 212                     | 43.4 <sup>105</sup> | 27.5 <sup>162</sup>                                                                                     | 10 S    | 17 49         | 11                   | 36    | 51 48          | 36 56    |                |      |    |      |
| 14 | 30                                     | 47.7 | 52.9     | 227                     | 12.9 <sup>105</sup> | 43.7 <sup>162</sup>                                                                                     | 20      | 37            | 18 00                | 26    | 44 42          | 41 61    |                |      |    |      |
| 15 | 45                                     | 47.8 | 53.6     | 241                     | 42.2 <sup>103</sup> | -8 59.8 <sup>161</sup>                                                                                  | 30      | 23            | 17 48                | 16    | 35 37          | 46 68    |                |      |    |      |
| 16 | 60                                     | 47.9 | 54.3     | 256                     | 11.5 <sup>103</sup> | -9 15.9 <sup>161</sup>                                                                                  | 35      | 15            | 41                   | 11    | 30 34          | 49 72    |                |      |    |      |
| 17 | 75                                     | 47.9 | +15 55.1 | 270                     | 40.7 <sup>102</sup> | -9 32.0 <sup>161</sup>                                                                                  | 40      | 17 06         | 17 34                | 18 07 | 16 25 30       | 4 53 76  |                |      |    |      |
| 18 | 90                                     | 48.0 | +15 55.8 | 285                     | 09.8 <sup>101</sup> | -9 48.0 <sup>160</sup>                                                                                  | 45      | 16 56         | 17 27                | 18 01 | 16 19 25       | 4 57 81  |                |      |    |      |
| 19 | 105                                    | 48.0 | 56.5     | 299                     | 38.9 <sup>101</sup> | -10 04.0 <sup>160</sup>                                                                                 | 50      | 43            | 17                   | 17 56 | 12 19          | 5 02 87  |                |      |    |      |
| 20 | 120                                    | 48.1 | 57.2     | 314                     | 07.8 <sup>99</sup>  | 20.0 <sup>160</sup>                                                                                     | 52      | 37            | 13                   | 54    | 08 17          | 05 89    |                |      |    |      |
| 21 | 135                                    | 48.2 | 58.0     | 328                     | 36.7 <sup>99</sup>  | 35.9 <sup>159</sup>                                                                                     | 54      | 31            | 09                   | 51    | 05 13          | 07 93    |                |      |    |      |
| 22 | 150                                    | 48.2 | 58.7     | 343                     | 05.5 <sup>98</sup>  | -10 51.7 <sup>158</sup>                                                                                 | 56      | 24            | 17 04                | 48    | 16 00 11       | 10 96    |                |      |    |      |
| 23 | 165                                    | 48.3 | +15 59.4 | 357                     | 34.1 <sup>96</sup>  | -11 07.6 <sup>159</sup>                                                                                 | 58      | 16            | 16 59                | 46    | 15 56 7        | 13 100   |                |      |    |      |
| 24 | 180                                    | 48.3 | +16 00.1 | 12                      | 02.7 <sup>96</sup>  | -11 23.3 <sup>157</sup>                                                                                 | 60 S    | 16 06         | 16 53                | 17 43 | 15 51 2        | 5 17 104 |                |      |    |      |

| UT  | ARIES                            |      | VENUS                                |          | MARTE                                |          | JÚPITER                              |         | SATURNO                              |          |
|-----|----------------------------------|------|--------------------------------------|----------|--------------------------------------|----------|--------------------------------------|---------|--------------------------------------|----------|
|     | PMG                              |      | Mag: -4.7                            |          | Mag: +1.6                            |          | Mag: -2.3                            |         | Mag: +0.1                            |          |
|     | 9 <sup>h</sup> 13 <sup>m</sup> 6 |      | PMG: 14 <sup>h</sup> 39 <sup>m</sup> |          | PMG: 15 <sup>h</sup> 02 <sup>m</sup> |          | PMG: 19 <sup>h</sup> 56 <sup>m</sup> |         | PMG: 15 <sup>h</sup> 52 <sup>m</sup> |          |
|     | hG ♈                             | hG ♀ | Dec                                  | hG ♂     | Dec                                  | hG ♃     | Dec                                  | hG ♄    | Dec                                  |          |
| h   | °                                | '    | °                                    | '        | °                                    | '        | °                                    | '       | °                                    | '        |
| 0   | 221                              | 13.8 | 139 59.2                             | +27 47.5 | 134 16.6                             | +24 38.5 | 60 11.8                              | +9 27.8 | 121 25.6                             | +22 45.2 |
| 1   | 236                              | 16.3 | 155 00.3                             | 47.5     | 149 17.3                             | 38.5     | 75 14.3                              | 27.8    | 136 27.8                             | 45.2     |
| 2   | 251                              | 18.7 | 170 01.3                             | 47.6     | 164 18.0                             | 38.5     | 90 16.8                              | 27.8    | 151 30.0                             | 45.2     |
| 3   | 266                              | 21.2 | 185 02.4                             | 47.6     | 179 18.7                             | 38.6     | 105 19.3                             | 27.8    | 166 32.2                             | 45.1     |
| 4   | 281                              | 23.7 | 200 03.5                             | 47.7     | 194 19.4                             | 38.6     | 120 21.7                             | 27.8    | 181 34.5                             | 45.1     |
| 5   | 296                              | 26.1 | 215 04.6                             | +27 47.7 | 209 20.2                             | +24 38.6 | 135 24.2                             | +9 27.8 | 196 36.7                             | +22 45.1 |
| 6   | 311                              | 28.6 | 230 05.8                             | +27 47.8 | 224 20.9                             | +24 38.7 | 150 26.7                             | +9 27.8 | 211 38.9                             | +22 45.1 |
| 7   | 326                              | 31.1 | 245 06.9                             | 47.8     | 239 21.6                             | 38.7     | 165 29.2                             | 27.8    | 226 41.1                             | 45.1     |
| 8   | 341                              | 33.5 | 260 08.0                             | 47.8     | 254 22.3                             | 38.8     | 180 31.7                             | 27.8    | 241 43.3                             | 45.1     |
| 9   | 356                              | 36.0 | 275 09.1                             | 47.9     | 269 23.0                             | 38.8     | 195 34.1                             | 27.8    | 256 45.5                             | 45.1     |
| 10  | 11                               | 38.4 | 290 10.2                             | 47.9     | 284 23.8                             | 38.8     | 210 36.6                             | 27.8    | 271 47.8                             | 45.1     |
| 11  | 26                               | 40.9 | 305 11.3                             | +27 48.0 | 299 24.5                             | +24 38.9 | 225 39.1                             | +9 27.8 | 286 50.0                             | +22 45.1 |
| 12  | 41                               | 43.4 | 320 12.4                             | +27 48.0 | 314 25.2                             | +24 38.9 | 240 41.6                             | +9 27.8 | 301 52.2                             | +22 45.1 |
| 13  | 56                               | 45.8 | 335 13.6                             | 48.0     | 329 25.9                             | 38.9     | 255 44.1                             | 27.8    | 316 54.4                             | 45.0     |
| 14  | 71                               | 48.3 | 350 14.7                             | 48.1     | 344 26.6                             | 39.0     | 270 46.5                             | 27.8    | 331 56.6                             | 45.0     |
| 15  | 86                               | 50.8 | 5 15.8                               | 48.1     | 359 27.4                             | 39.0     | 285 49.0                             | 27.8    | 346 58.8                             | 45.0     |
| 16  | 101                              | 53.2 | 20 17.0                              | 48.1     | 14 28.1                              | 39.0     | 300 51.5                             | 27.8    | 2 01.1                               | 45.0     |
| 17  | 116                              | 55.7 | 35 18.1                              | +27 48.2 | 29 28.8                              | +24 39.1 | 315 54.0                             | +9 27.8 | 17 03.3                              | +22 45.0 |
| 18  | 131                              | 58.2 | 50 19.3                              | +27 48.2 | 44 29.5                              | +24 39.1 | 330 56.4                             | +9 27.8 | 32 05.5                              | +22 45.0 |
| 19  | 147                              | 00.6 | 65 20.4                              | 48.2     | 59 30.2                              | 39.1     | 345 58.9                             | 27.8    | 47 07.7                              | 45.0     |
| 20  | 162                              | 03.1 | 80 21.5                              | 48.3     | 74 31.0                              | 39.1     | 1 01.4                               | 27.8    | 62 09.9                              | 45.0     |
| 21  | 177                              | 05.5 | 95 22.7                              | 48.3     | 89 31.7                              | 39.2     | 16 03.9                              | 27.8    | 77 12.1                              | 45.0     |
| 22  | 192                              | 08.0 | 110 23.9                             | 48.3     | 104 32.4                             | 39.2     | 31 06.4                              | 27.8    | 92 14.4                              | 44.9     |
| 23  | 207                              | 10.5 | 125 25.0                             | 48.4     | 119 33.1                             | 39.2     | 46 08.8                              | 27.8    | 107 16.6                             | 44.9     |
| 24  | 222                              | 12.9 | 140 26.2                             | +27 48.4 | 134 33.8                             | +24 39.3 | 61 11.3                              | +9 27.8 | 122 18.8                             | +22 44.9 |
| Dif | —                                | +11  | 0                                    | +7       | 0                                    | +25      | 0                                    | +22     | 0                                    |          |

| UT | SOL                   |      |     |      | LUNA                    |      |                       |                         | Latitud | Principio del crepúsculo |     | Salida de Sol | Salida de Luna |         | Puesta de Luna |      |         |
|----|-----------------------|------|-----|------|-------------------------|------|-----------------------|-------------------------|---------|--------------------------|-----|---------------|----------------|---------|----------------|------|---------|
|    | SD: 15 <sup>h</sup> 9 |      |     |      | Edad: 14 <sup>d</sup> 4 | PHE  | SD: 16 <sup>d</sup> 4 | PMG: **h **m            |         |                          |     |               |                |         |                |      | R°: **m |
|    | hG ☉                  | Dec  |     |      |                         |      |                       |                         |         | hG ☾                     | Dif |               |                | Náutico | Civil          | Hora |         |
| h  | °                     | '    | °   | '    | °                       | '    | °                     | '                       | °       | h                        | m   | h             | m              | h       | m              | h    | m       |
| 0  | 180                   | 48.3 | +16 | 00.1 | 12                      | 02.7 | -11                   | 23.3                    | 60 N    | 1                        | 23  | 2             | 54             | 3       | 49             | 19   | 59      |
| 1  | 195                   | 48.4 |     | 00.9 | 26                      | 31.2 | 95                    | 39.0 <sup>157</sup>     | 58      | 1                        | 56  | 3             | 10             | 4       | 00             | 48   | 109     |
| 2  | 210                   | 48.5 |     | 01.6 | 40                      | 59.6 | 94                    | -11 54.7 <sup>157</sup> | 56      | 2                        | 19  |               | 23             |         | 09             | 39   | 103     |
| 3  | 225                   | 48.5 |     | 02.3 | 55                      | 28.0 | 94                    | -12 10.3 <sup>156</sup> | 54      |                          | 38  |               | 35             |         | 17             | 30   | 99      |
| 4  | 240                   | 48.6 |     | 03.0 | 69                      | 56.2 | 92                    | 25.9 <sup>156</sup>     | 52      | 2                        | 53  |               | 45             |         | 24             | 23   | 94      |
| 5  | 255                   | 48.6 | +16 | 03.7 | 84                      | 24.3 | 91                    | -12 41.4 <sup>155</sup> | 50      | 3                        | 06  | 3             | 54             | 4       | 31             | 19   | 16      |
| 6  | 270                   | 48.7 | +16 | 04.5 | 98                      | 52.3 | 90                    | -12 56.8 <sup>154</sup> | 45      | 3                        | 31  | 4             | 12             | 4       | 45             | 19   | 01      |
| 7  | 285                   | 48.7 |     | 05.2 | 113                     | 20.3 | 90                    | -13 12.2 <sup>154</sup> | 40      | 3                        | 50  |               | 27             | 4       | 56             | 18   | 50      |
| 8  | 300                   | 48.8 |     | 05.9 | 127                     | 48.1 | 88                    | 27.5 <sup>153</sup>     | 35      | 4                        | 06  |               | 39             | 5       | 06             | 40   | 76      |
| 9  | 315                   | 48.9 |     | 06.6 | 142                     | 15.8 | 87                    | 42.7 <sup>152</sup>     | 30      |                          | 18  | 4             | 49             |         | 14             | 31   | 73      |
| 10 | 330                   | 48.9 |     | 07.3 | 156                     | 43.4 | 86                    | -13 57.9 <sup>152</sup> | 20      |                          | 38  | 5             | 06             |         | 29             | 16   | 67      |
| 11 | 345                   | 49.0 | +16 | 08.1 | 171                     | 11.0 | 86                    | -14 13.0 <sup>151</sup> | 10 N    | 4                        | 54  | 5             | 20             | 5       | 42             | 18   | 03      |
| 12 | 0                     | 49.0 | +16 | 08.8 | 185                     | 38.4 | 84                    | -14 28.0 <sup>150</sup> | 0       | 5                        | 07  | 5             | 32             | 5       | 53             | 17   | 51      |
| 13 | 15                    | 49.1 |     | 09.5 | 200                     | 05.7 | 83                    | 42.9 <sup>149</sup>     | 10 S    |                          | 18  |               | 43             | 6       | 05             | 39   | 53      |
| 14 | 30                    | 49.1 |     | 10.2 | 214                     | 32.9 | 82                    | -14 57.8 <sup>149</sup> | 20      |                          | 28  | 5             | 54             |         | 17             | 26   | 49      |
| 15 | 45                    | 49.2 |     | 10.9 | 229                     | 00.0 | 81                    | -15 12.6 <sup>148</sup> | 30      |                          | 38  | 6             | 06             |         | 31             | 12   | 43      |
| 16 | 60                    | 49.3 |     | 11.6 | 243                     | 27.1 | 81                    | 27.3 <sup>147</sup>     | 35      |                          | 42  |               | 13             | 39      |                | 17   | 04      |
| 17 | 75                    | 49.3 | +16 | 12.4 | 257                     | 54.0 | 79                    | -15 41.9 <sup>146</sup> | 40      | 5                        | 47  | 6             | 20             | 6       | 48             | 16   | 55      |
| 18 | 90                    | 49.4 | +16 | 13.1 | 272                     | 20.8 | 78                    | -15 56.4 <sup>145</sup> | 45      | 5                        | 53  | 6             | 28             | 6       | 59             | 16   | 44      |
| 19 | 105                   | 49.4 |     | 13.8 | 286                     | 47.5 | 77                    | -16 10.8 <sup>144</sup> | 50      | 5                        | 58  | 37            |                | 7       | 11             | 31   | 25      |
| 20 | 120                   | 49.5 |     | 14.5 | 301                     | 14.0 | 75                    | 25.2 <sup>144</sup>     | 52      | 6                        | 01  |               | 41             | 17      |                | 25   | 22      |
| 21 | 135                   | 49.5 |     | 15.2 | 315                     | 40.5 | 75                    | 39.4 <sup>142</sup>     | 54      |                          | 03  |               | 46             | 24      |                | 18   | 19      |
| 22 | 150                   | 49.6 |     | 15.9 | 330                     | 06.9 | 74                    | -16 53.6 <sup>142</sup> | 56      |                          | 06  |               | 51             | 31      |                | 11   | 15      |
| 23 | 165                   | 49.6 |     | 16.6 | 344                     | 33.1 | 72                    | -17 07.7 <sup>141</sup> | 58      | 09                       |     | 6             | 56             | 39      |                | 16   | 03      |
| 24 | 180                   | 49.7 | +16 | 17.3 | 358                     | 59.3 | 72                    | -17 21.6 <sup>139</sup> | 60 S    | 6                        | 12  | 7             | 02             | 7       | 49             | 15   | 53      |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 9 <sup>h</sup> 09 <sup>m</sup> 6 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 37 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 01 <sup>m</sup> |      | Mag: -2.3<br>PMG: 19 <sup>h</sup> 52 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 48 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 222                                   | 12.9 | 140                                               | 26.2 | 134                                               | 33.8 | 61                                                | 11.3 | 122                                               | 18.8 |
| 1   | 237                                   | 15.4 | 155                                               | 27.3 | 149                                               | 34.5 | 76                                                | 13.8 | 137                                               | 21.0 |
| 2   | 252                                   | 17.9 | 170                                               | 28.5 | 164                                               | 35.3 | 91                                                | 16.3 | 152                                               | 23.2 |
| 3   | 267                                   | 20.3 | 185                                               | 29.7 | 179                                               | 36.0 | 106                                               | 18.7 | 167                                               | 25.4 |
| 4   | 282                                   | 22.8 | 200                                               | 30.8 | 194                                               | 36.7 | 121                                               | 21.2 | 182                                               | 27.6 |
| 5   | 297                                   | 25.3 | 215                                               | 32.0 | 209                                               | 37.4 | 136                                               | 23.7 | 197                                               | 29.9 |
| 6   | 312                                   | 27.7 | 230                                               | 33.2 | 224                                               | 38.1 | 151                                               | 26.1 | 212                                               | 32.1 |
| 7   | 327                                   | 30.2 | 245                                               | 34.4 | 239                                               | 38.9 | 166                                               | 28.6 | 227                                               | 34.3 |
| 8   | 342                                   | 32.7 | 260                                               | 35.6 | 254                                               | 39.6 | 181                                               | 31.1 | 242                                               | 36.5 |
| 9   | 357                                   | 35.1 | 275                                               | 36.8 | 269                                               | 40.3 | 196                                               | 33.6 | 257                                               | 38.7 |
| 10  | 12                                    | 37.6 | 290                                               | 37.9 | 284                                               | 41.0 | 211                                               | 36.0 | 272                                               | 40.9 |
| 11  | 27                                    | 40.0 | 305                                               | 39.1 | 299                                               | 41.7 | 226                                               | 38.5 | 287                                               | 43.1 |
| 12  | 42                                    | 42.5 | 320                                               | 40.3 | 314                                               | 42.5 | 241                                               | 41.0 | 302                                               | 45.4 |
| 13  | 57                                    | 45.0 | 335                                               | 41.5 | 329                                               | 43.2 | 256                                               | 43.5 | 317                                               | 47.6 |
| 14  | 72                                    | 47.4 | 350                                               | 42.7 | 344                                               | 43.9 | 271                                               | 45.9 | 332                                               | 49.8 |
| 15  | 87                                    | 49.9 | 5                                                 | 43.9 | 359                                               | 44.6 | 286                                               | 48.4 | 347                                               | 52.0 |
| 16  | 102                                   | 52.4 | 20                                                | 45.2 | 14                                                | 45.3 | 301                                               | 50.9 | 2                                                 | 54.2 |
| 17  | 117                                   | 54.8 | 35                                                | 46.4 | 29                                                | 46.1 | 316                                               | 53.3 | 17                                                | 56.4 |
| 18  | 132                                   | 57.3 | 50                                                | 47.6 | 44                                                | 46.8 | 331                                               | 55.8 | 32                                                | 58.6 |
| 19  | 147                                   | 59.8 | 65                                                | 48.8 | 59                                                | 47.5 | 346                                               | 58.3 | 48                                                | 00.8 |
| 20  | 163                                   | 02.2 | 80                                                | 50.0 | 74                                                | 48.2 | 2                                                 | 00.7 | 63                                                | 03.1 |
| 21  | 178                                   | 04.7 | 95                                                | 51.3 | 89                                                | 48.9 | 17                                                | 03.2 | 78                                                | 05.3 |
| 22  | 193                                   | 07.2 | 110                                               | 52.5 | 104                                               | 49.7 | 32                                                | 05.7 | 93                                                | 07.5 |
| 23  | 208                                   | 09.6 | 125                                               | 53.7 | 119                                               | 50.4 | 47                                                | 08.2 | 108                                               | 09.7 |
| 24  | 223                                   | 12.1 | 140                                               | 55.0 | 134                                               | 51.1 | 62                                                | 10.6 | 123                                               | 11.9 |
| Dif | —                                     |      | +12                                               |      | +7                                                |      | +25                                               |      | +22                                               |      |

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| UT | SOL                                    |      |          | ☾ LUNA                                                                                                                                                                |         |              | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |           | Puesta de Luna |          |       |
|----|----------------------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------|---------|---------------|----------------------|-------|----------------|-----------|----------------|----------|-------|
|    | SD: 15 <sup>h</sup> 9                  |      |          | Edad: 15 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 60 <sup>m</sup> 8<br>12 <sup>h</sup> : 60 <sup>m</sup> 9<br>20 <sup>h</sup> : 60 <sup>m</sup> 9<br>R°: 59 <sup>m</sup> |         |              |         |               |                      |       |                |           |                |          |       |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 6 |      |          | SD: 16 <sup>h</sup> 5<br>PMG: 0 <sup>h</sup> 04 <sup>m</sup>                                                                                                          |         |              |         |               |                      |       |                |           |                |          |       |
|    | hG ☉                                   |      | Dec      | hG ☾                                                                                                                                                                  |         | Dif          | Dec     | Dif           |                      | Civil | Náutico        | Hora      | R°             | Hora     | R°    |
| h  | °                                      | '    | °        | °                                                                                                                                                                     | '       | °            | °       | '             | °                    | h m   | h m            | h m       | h m m          | h m m    | h m m |
| 0  | 180                                    | 49.7 | +16 17.3 | 358                                                                                                                                                                   | 59.3    | -17 21.6     | 60 N    |               | 20 09                | 21 05 | 22 43          | 21 55 116 |                | 3 52 6   |       |
| 1  | 195                                    | 49.7 | 18.1     | 13                                                                                                                                                                    | 25.3 70 | 35.5 139     | 58      |               | 19 58                | 20 48 | 22 06          | 37 107    |                | 4 04 13  |       |
| 2  | 210                                    | 49.8 | 18.8     | 27                                                                                                                                                                    | 51.3 70 | -17 49.2 137 | 56      |               | 48                   | 34    | 21 40          | 22 101    |                | 15 18    |       |
| 3  | 225                                    | 49.8 | 19.5     | 42                                                                                                                                                                    | 17.1 68 | -18 02.8 136 | 54      |               | 40                   | 22    | 21             | 21 09 96  |                | 24 22    |       |
| 4  | 240                                    | 49.9 | 20.2     | 56                                                                                                                                                                    | 42.8 67 | 16.4 136     | 52      |               | 32                   | 12    | 21 05          | 20 57 93  |                | 32 26    |       |
| 5  | 255                                    | 50.0 | +16 20.9 | 71                                                                                                                                                                    | 08.4 66 | -18 29.8 134 | 50      |               | 19 25                | 20 03 | 20 52          | 20 47 90  |                | 4 40 29  |       |
| 6  | 270                                    | 50.0 | +16 21.6 | 85                                                                                                                                                                    | 33.9 65 | -18 43.1 133 | 45      |               | 19 11                | 19 44 | 20 25          | 20 27 84  |                | 4 56 35  |       |
| 7  | 285                                    | 50.1 | 22.3     | 99                                                                                                                                                                    | 59.3 64 | -18 56.3 132 | 40      |               | 18 59                | 29    | 20 05          | 20 10 80  |                | 5 09 40  |       |
| 8  | 300                                    | 50.1 | 23.0     | 114                                                                                                                                                                   | 24.6 63 | -19 09.4 131 | 35      |               | 49                   | 16    | 19 49          | 19 56 77  |                | 21 43    |       |
| 9  | 315                                    | 50.2 | 23.7     | 128                                                                                                                                                                   | 49.7 61 | 22.3 129     | 30      |               | 40                   | 19 06 | 36             | 44 74     |                | 31 46    |       |
| 10 | 330                                    | 50.2 | 24.4     | 143                                                                                                                                                                   | 14.8 61 | 35.1 128     | 20      |               | 25                   | 18 48 | 16             | 23 69     |                | 5 48 52  |       |
| 11 | 345                                    | 50.3 | +16 25.1 | 157                                                                                                                                                                   | 39.7 59 | -19 47.8 127 | 10 N    |               | 18 12                | 18 34 | 19 00          | 19 05 66  |                | 6 03 56  |       |
| 12 | 0                                      | 50.3 | +16 25.8 | 172                                                                                                                                                                   | 04.6 59 | -20 00.4 126 | 0       |               | 18 00                | 18 22 | 18 47          | 18 49 62  |                | 6 18 60  |       |
| 13 | 15                                     | 50.4 | 26.6     | 186                                                                                                                                                                   | 29.3 57 | 12.8 124     | 10 S    |               | 17 48                | 18 10 | 35             | 32 59     |                | 32 64    |       |
| 14 | 30                                     | 50.4 | 27.3     | 200                                                                                                                                                                   | 53.9 56 | 25.2 124     | 20      |               | 36                   | 17 59 | 25             | 18 15 54  |                | 6 47 69  |       |
| 15 | 45                                     | 50.5 | 28.0     | 215                                                                                                                                                                   | 18.4 55 | 37.3 121     | 30      |               | 21                   | 46    | 15             | 17 55 50  |                | 7 05 74  |       |
| 16 | 60                                     | 50.5 | 28.7     | 229                                                                                                                                                                   | 42.8 54 | -20 49.4 121 | 35      |               | 13                   | 40    | 10             | 43 48     |                | 16 76    |       |
| 17 | 75                                     | 50.6 | +16 29.4 | 244                                                                                                                                                                   | 07.1 53 | -21 01.3 119 | 40      |               | 17 04                | 17 32 | 18 05          | 17 30 44  |                | 7 27 81  |       |
| 18 | 90                                     | 50.6 | +16 30.1 | 258                                                                                                                                                                   | 31.3 52 | -21 13.0 117 | 45      |               | 16 53                | 17 24 | 17 59          | 17 15 39  |                | 7 42 85  |       |
| 19 | 105                                    | 50.7 | 30.8     | 272                                                                                                                                                                   | 55.4 51 | 24.7 117     | 50      |               | 40                   | 14    | 53             | 16 56 34  |                | 7 59 91  |       |
| 20 | 120                                    | 50.7 | 31.5     | 287                                                                                                                                                                   | 19.3 49 | 36.1 114     | 52      |               | 34                   | 10    | 50             | 47 31     |                | 8 07 94  |       |
| 21 | 135                                    | 50.8 | 32.2     | 301                                                                                                                                                                   | 43.2 49 | 47.5 114     | 54      |               | 27                   | 05    | 48             | 37 28     |                | 16 98    |       |
| 22 | 150                                    | 50.8 | 32.9     | 316                                                                                                                                                                   | 06.9 47 | -21 58.6 111 | 56      |               | 19                   | 17 00 | 45             | 26 23     |                | 27 102   |       |
| 23 | 165                                    | 50.9 | 33.6     | 330                                                                                                                                                                   | 30.6 47 | -22 09.7 111 | 58      |               | 11                   | 16 54 | 42             | 16 13 18  |                | 38 109   |       |
| 24 | 180                                    | 50.9 | +16 34.3 | 344                                                                                                                                                                   | 54.1 45 | -22 20.5 108 | 60 S    |               | 16 01                | 16 48 | 17 38          | 15 58 11  |                | 8 52 116 |       |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 9 <sup>h</sup> 05 <sup>m</sup> 7 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 35 <sup>m</sup> |      | Mag: +1.6<br>PMG: 15 <sup>h</sup> 00 <sup>m</sup> |      | Mag: -2.3<br>PMG: 19 <sup>h</sup> 48 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 45 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 223                                   | 12.1 | 140                                               | 55.0 | 134                                               | 51.1 | 62                                                | 10.6 | 123                                               | 11.9 |
| 1   | 238                                   | 14.5 | 155                                               | 56.2 | 149                                               | 51.8 | 77                                                | 13.1 | 138                                               | 14.1 |
| 2   | 253                                   | 17.0 | 170                                               | 57.4 | 164                                               | 52.5 | 92                                                | 15.6 | 153                                               | 16.3 |
| 3   | 268                                   | 19.5 | 185                                               | 58.7 | 179                                               | 53.2 | 107                                               | 18.0 | 168                                               | 18.5 |
| 4   | 283                                   | 21.9 | 200                                               | 59.9 | 194                                               | 54.0 | 122                                               | 20.5 | 183                                               | 20.8 |
| 5   | 298                                   | 24.4 | 216                                               | 01.2 | 209                                               | 54.7 | 137                                               | 23.0 | 198                                               | 23.0 |
| 6   | 313                                   | 26.9 | 231                                               | 02.4 | 224                                               | 55.4 | 152                                               | 25.4 | 213                                               | 25.2 |
| 7   | 328                                   | 29.3 | 246                                               | 03.7 | 239                                               | 56.1 | 167                                               | 27.9 | 228                                               | 27.4 |
| 8   | 343                                   | 31.8 | 261                                               | 05.0 | 254                                               | 56.8 | 182                                               | 30.4 | 243                                               | 29.6 |
| 9   | 358                                   | 34.3 | 276                                               | 06.2 | 269                                               | 57.6 | 197                                               | 32.8 | 258                                               | 31.8 |
| 10  | 13                                    | 36.7 | 291                                               | 07.5 | 284                                               | 58.3 | 212                                               | 35.3 | 273                                               | 34.0 |
| 11  | 28                                    | 39.2 | 306                                               | 08.8 | 299                                               | 59.0 | 227                                               | 37.8 | 288                                               | 36.2 |
| 12  | 43                                    | 41.6 | 321                                               | 10.0 | 314                                               | 59.7 | 242                                               | 40.2 | 303                                               | 38.4 |
| 13  | 58                                    | 44.1 | 336                                               | 11.3 | 330                                               | 00.4 | 257                                               | 42.7 | 318                                               | 40.7 |
| 14  | 73                                    | 46.6 | 351                                               | 12.6 | 345                                               | 01.2 | 272                                               | 45.1 | 333                                               | 42.9 |
| 15  | 88                                    | 49.0 | 6                                                 | 13.9 | 0                                                 | 01.9 | 287                                               | 47.6 | 348                                               | 45.1 |
| 16  | 103                                   | 51.5 | 21                                                | 15.2 | 15                                                | 02.6 | 302                                               | 50.1 | 3                                                 | 47.3 |
| 17  | 118                                   | 54.0 | 36                                                | 16.4 | 30                                                | 03.3 | 317                                               | 52.5 | 18                                                | 49.5 |
| 18  | 133                                   | 56.4 | 51                                                | 17.7 | 45                                                | 04.0 | 332                                               | 55.0 | 33                                                | 51.7 |
| 19  | 148                                   | 58.9 | 66                                                | 19.0 | 60                                                | 04.8 | 347                                               | 57.5 | 48                                                | 53.9 |
| 20  | 164                                   | 01.4 | 81                                                | 20.3 | 75                                                | 05.5 | 2                                                 | 59.9 | 63                                                | 56.1 |
| 21  | 179                                   | 03.8 | 96                                                | 21.6 | 90                                                | 06.2 | 18                                                | 02.4 | 78                                                | 58.3 |
| 22  | 194                                   | 06.3 | 111                                               | 22.9 | 105                                               | 06.9 | 33                                                | 04.8 | 94                                                | 00.5 |
| 23  | 209                                   | 08.8 | 126                                               | 24.3 | 120                                               | 07.6 | 48                                                | 07.3 | 109                                               | 02.7 |
| 24  | 224                                   | 11.2 | 141                                               | 25.6 | 135                                               | 08.4 | 63                                                | 09.8 | 124                                               | 05.0 |
| Dif | —                                     |      | +13                                               |      | +7                                                |      | +25                                               |      | +22                                               |      |
|     |                                       |      | 0                                                 |      | 0                                                 |      | 0                                                 |      | 0                                                 |      |

| UT | SOL                                                             |      |     |      | LUNA                                                                                                                                                                                                                                     |      |     |      |      |     | Latitud | Principio del crepúsculo |    | Salida de Sol | Salida de Luna |       |      | Puesta de Luna |      |    |    |     |    |     |
|----|-----------------------------------------------------------------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|------|-----|---------|--------------------------|----|---------------|----------------|-------|------|----------------|------|----|----|-----|----|-----|
|    | SD: 15 <sup>h</sup> 9<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 6 |      |     |      | Edad: 16 <sup>d</sup> 4 PHE {<br>SD: 16 <sup>h</sup> 6<br>PMG: 1 <sup>h</sup> 03 <sup>m</sup><br>4 <sup>h</sup> : 60 <sup>h</sup> 9<br>12 <sup>h</sup> : 60 <sup>h</sup> 9<br>20 <sup>h</sup> : 60 <sup>h</sup> 9<br>R°: 63 <sup>m</sup> |      |     |      |      |     |         |                          |    |               |                |       |      |                |      |    |    |     |    |     |
|    | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                                                     |      | Dif |      | Dec  |     |         | Dif                      |    |               | Náutico        | Civil | Hora | R°             | Hora | R° |    |     |    |     |
| h  | °                                                               | '    | °   | '    | °                                                                                                                                                                                                                                        | '    | °   | '    | °    | '   | °       | '                        | h  | m             | h              | m     | h    | m              | h    | m  | m  |     |    |     |
| 0  | 180                                                             | 50.9 | +16 | 34.3 | 344                                                                                                                                                                                                                                      | 54.1 | -22 | 20.5 | 108  | 58  | 60 N    | 1                        | 10 | 2             | 47             | 3     | 44   | 23             | 51   | 98 | 3  | 58  | 15 |     |
| 1  | 195                                                             | 50.9 |     | 35.0 | 359                                                                                                                                                                                                                                      | 17.6 | 45  | 31.3 | 105  | 58  | 58      | 1                        | 47 | 3             | 04             | 3     | 55   |                | 24   | 90 |    | 4   | 17 | 24  |
| 2  | 210                                                             | 51.0 |     | 35.7 | 13                                                                                                                                                                                                                                       | 40.9 | 43  | 41.8 | 105  | 56  | 56      | 2                        | 12 |               | 18             | 4     | 05   | 23             | 03   | 86 |    | 33  | 29 |     |
| 3  | 225                                                             | 51.0 |     | 36.4 | 28                                                                                                                                                                                                                                       | 04.2 | 43  | -22  | 52.2 | 104 | 54      |                          | 32 |               | 30             | 13    |      | 22             | 45   | 83 |    | 46  | 34 |     |
| 4  | 240                                                             | 51.1 |     | 37.1 | 42                                                                                                                                                                                                                                       | 27.3 | 41  | -23  | 02.5 | 103 | 52      | 2                        | 48 |               | 41             | 21    |      | 30             | 81   |    | 4  | 58  | 37 |     |
| 5  | 255                                                             | 51.1 | +16 | 37.8 | 56                                                                                                                                                                                                                                       | 50.4 | 41  | -23  | 12.6 | 101 | 50      | 3                        | 01 | 3             | 50             | 4     | 27   | 22             | 17   | 80 |    | 5   | 09 | 40  |
| 6  | 270                                                             | 51.2 | +16 | 38.5 | 71                                                                                                                                                                                                                                       | 13.3 | 39  | -23  | 22.5 | 99  | 45      | 3                        | 28 | 4             | 09             | 4     | 42   | 21             | 51   | 76 |    | 5   | 31 | 45  |
| 7  | 285                                                             | 51.2 |     | 39.2 | 85                                                                                                                                                                                                                                       | 36.2 | 39  |      | 32.2 | 97  | 40      | 3                        | 48 |               | 24             | 4     | 54   |                | 30   | 74 |    | 5   | 49 | 49  |
| 8  | 300                                                             | 51.3 |     | 39.9 | 99                                                                                                                                                                                                                                       | 59.0 | 38  |      | 41.8 | 96  | 35      | 4                        | 03 |               | 37             | 5     | 04   | 21             | 13   | 72 |    | 6   | 04 | 52  |
| 9  | 315                                                             | 51.3 |     | 40.6 | 114                                                                                                                                                                                                                                      | 21.6 | 36  | -23  | 51.2 | 94  | 30      |                          | 17 | 4             | 47             | 13    |      | 20             | 58   | 71 |    | 17  | 54 |     |
| 10 | 330                                                             | 51.4 |     | 41.3 | 128                                                                                                                                                                                                                                      | 44.2 | 36  | -24  | 00.5 | 93  | 20      |                          | 37 | 5             | 05             | 28    |      | 32             | 69   |    | 40 | 57  |    |     |
| 11 | 345                                                             | 51.4 | +16 | 42.0 | 143                                                                                                                                                                                                                                      | 06.7 | 35  | -24  | 09.5 | 90  | 10 N    | 4                        | 53 | 5             | 19             | 5     | 41   | 20             | 11   | 67 |    | 6   | 59 | 61  |
| 12 | 0                                                               | 51.5 | +16 | 42.6 | 157                                                                                                                                                                                                                                      | 29.1 | 34  | -24  | 18.4 | 89  | 0       | 5                        | 06 | 5             | 32             | 5     | 53   | 19             | 51   | 65 |    | 7   | 18 | 63  |
| 13 | 15                                                              | 51.5 |     | 43.3 | 171                                                                                                                                                                                                                                      | 51.4 | 33  |      | 27.1 | 87  | 10 S    |                          | 18 |               | 43             | 6     | 05   |                | 31   | 63 |    | 36  | 67 |     |
| 14 | 30                                                              | 51.5 |     | 44.0 | 186                                                                                                                                                                                                                                      | 13.7 | 33  |      | 35.7 | 86  | 20      |                          | 29 | 5             | 55             | 18    |      | 19             | 09   | 61 |    | 7   | 56 | 69  |
| 15 | 45                                                              | 51.6 |     | 44.7 | 200                                                                                                                                                                                                                                      | 35.8 | 31  |      | 44.0 | 83  | 30      |                          | 39 | 6             | 07             | 32    |      | 18             | 45   | 58 |    | 8   | 19 | 73  |
| 16 | 60                                                              | 51.6 |     | 45.4 | 214                                                                                                                                                                                                                                      | 57.9 | 31  | -24  | 52.2 | 82  | 35      |                          | 44 |               | 14             | 41    |      | 31             | 56   |    | 32 | 76  |    |     |
| 17 | 75                                                              | 51.7 | +16 | 46.1 | 229                                                                                                                                                                                                                                      | 19.9 | 30  | -25  | 00.2 | 80  | 40      | 5                        | 49 | 6             | 21             | 6     | 50   | 18             | 14   | 55 |    | 8   | 48 | 78  |
| 18 | 90                                                              | 51.7 | +16 | 46.8 | 243                                                                                                                                                                                                                                      | 41.8 | 29  | -25  | 08.0 | 78  | 45      | 5                        | 55 | 6             | 30             | 7     | 01   | 17             | 54   | 52 |    | 9   | 07 | 81  |
| 19 | 105                                                             | 51.8 |     | 47.5 | 258                                                                                                                                                                                                                                      | 03.7 | 29  |      | 15.6 | 76  | 50      | 6                        | 01 |               | 40             | 14    |      |                | 30   | 48 |    | 30  | 86 |     |
| 20 | 120                                                             | 51.8 |     | 48.2 | 272                                                                                                                                                                                                                                      | 25.4 | 27  |      | 23.0 | 74  | 52      |                          | 03 |               | 44             | 21    |      | 18             | 46   |    | 41 | 88  |    |     |
| 21 | 135                                                             | 51.8 |     | 48.9 | 286                                                                                                                                                                                                                                      | 47.1 | 27  |      | 30.3 | 73  | 54      |                          | 06 |               | 49             | 27    |      | 17             | 05   | 43 |    | 9   | 54 | 91  |
| 22 | 150                                                             | 51.9 |     | 49.6 | 301                                                                                                                                                                                                                                      | 08.8 | 27  |      | 37.3 | 70  | 56      |                          | 09 | 6             | 54             | 35    |      | 16             | 49   | 40 |    | 10  | 09 | 95  |
| 23 | 165                                                             | 51.9 |     | 50.3 | 315                                                                                                                                                                                                                                      | 30.3 | 25  |      | 44.2 | 69  | 58      |                          | 12 | 7             | 00             | 44    |      | 31             | 35   |    | 27 | 100 |    |     |
| 24 | 180                                                             | 52.0 | +16 | 50.9 | 329                                                                                                                                                                                                                                      | 51.8 | 25  | -25  | 50.9 | 67  | 60 S    | 6                        | 16 | 7             | 06             | 7     | 53   | 16             | 09   | 26 |    | 10  | 48 | 109 |

| UT  | ARIES                                 |      | VENUS                                             |      |     |      | MARTE                                             |      |     |      | JÚPITER                                           |      |     |      | SATURNO                                           |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|-----|------|---------------------------------------------------|------|-----|------|---------------------------------------------------|------|-----|------|---------------------------------------------------|------|-----|------|
|     | PMG: 9 <sup>h</sup> 01 <sup>m</sup> 8 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 33 <sup>m</sup> |      |     |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      |     |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 44 <sup>m</sup> |      |     |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 41 <sup>m</sup> |      |     |      |
|     | hG ♈                                  |      | hG ♀                                              |      | Dec |      | hG ♂                                              |      | Dec |      | hG ♃                                              |      | Dec |      | hG ♄                                              |      | Dec |      |
| h   | °                                     | '    | °                                                 | '    | °   | '    | °                                                 | '    | °   | '    | °                                                 | '    | °   | '    | °                                                 | '    | °   | '    |
| 0   | 224                                   | 11.2 | 141                                               | 25.6 | +27 | 48.7 | 135                                               | 08.4 | +24 | 40.3 | 63                                                | 09.8 | +9  | 27.4 | 124                                               | 05.0 | +22 | 44.4 |
| 1   | 239                                   | 13.7 | 156                                               | 26.9 |     | 48.7 | 150                                               | 09.1 |     | 40.3 | 78                                                | 12.2 |     | 27.4 | 139                                               | 07.2 |     | 44.4 |
| 2   | 254                                   | 16.1 | 171                                               | 28.2 |     | 48.7 | 165                                               | 09.8 |     | 40.3 | 93                                                | 14.7 |     | 27.4 | 154                                               | 09.4 |     | 44.4 |
| 3   | 269                                   | 18.6 | 186                                               | 29.5 |     | 48.7 | 180                                               | 10.5 |     | 40.3 | 108                                               | 17.2 |     | 27.4 | 169                                               | 11.6 |     | 44.4 |
| 4   | 284                                   | 21.1 | 201                                               | 30.9 |     | 48.7 | 195                                               | 11.2 |     | 40.4 | 123                                               | 19.6 |     | 27.4 | 184                                               | 13.8 |     | 44.3 |
| 5   | 299                                   | 23.5 | 216                                               | 32.2 | +27 | 48.7 | 210                                               | 12.0 | +24 | 40.4 | 138                                               | 22.1 | +9  | 27.4 | 199                                               | 16.0 | +22 | 44.3 |
| 6   | 314                                   | 26.0 | 231                                               | 33.5 | +27 | 48.6 | 225                                               | 12.7 | +24 | 40.4 | 153                                               | 24.5 | +9  | 27.4 | 214                                               | 18.2 | +22 | 44.3 |
| 7   | 329                                   | 28.5 | 246                                               | 34.9 |     | 48.6 | 240                                               | 13.4 |     | 40.4 | 168                                               | 27.0 |     | 27.4 | 229                                               | 20.4 |     | 44.3 |
| 8   | 344                                   | 30.9 | 261                                               | 36.2 |     | 48.6 | 255                                               | 14.1 |     | 40.4 | 183                                               | 29.4 |     | 27.4 | 244                                               | 22.6 |     | 44.3 |
| 9   | 359                                   | 33.4 | 276                                               | 37.5 |     | 48.6 | 270                                               | 14.8 |     | 40.4 | 198                                               | 31.9 |     | 27.3 | 259                                               | 24.8 |     | 44.3 |
| 10  | 14                                    | 35.9 | 291                                               | 38.9 |     | 48.6 | 285                                               | 15.6 |     | 40.4 | 213                                               | 34.4 |     | 27.3 | 274                                               | 27.0 |     | 44.3 |
| 11  | 29                                    | 38.3 | 306                                               | 40.2 | +27 | 48.5 | 300                                               | 16.3 | +24 | 40.4 | 228                                               | 36.8 | +9  | 27.3 | 289                                               | 29.2 | +22 | 44.3 |
| 12  | 44                                    | 40.8 | 321                                               | 41.6 | +27 | 48.5 | 315                                               | 17.0 | +24 | 40.4 | 243                                               | 39.3 | +9  | 27.3 | 304                                               | 31.5 | +22 | 44.3 |
| 13  | 59                                    | 43.3 | 336                                               | 43.0 |     | 48.5 | 330                                               | 17.7 |     | 40.5 | 258                                               | 41.7 |     | 27.3 | 319                                               | 33.7 |     | 44.2 |
| 14  | 74                                    | 45.7 | 351                                               | 44.3 |     | 48.5 | 345                                               | 18.4 |     | 40.5 | 273                                               | 44.2 |     | 27.3 | 334                                               | 35.9 |     | 44.2 |
| 15  | 89                                    | 48.2 | 6                                                 | 45.7 |     | 48.4 | 0                                                 | 19.2 |     | 40.5 | 288                                               | 46.7 |     | 27.3 | 349                                               | 38.1 |     | 44.2 |
| 16  | 104                                   | 50.6 | 21                                                | 47.0 |     | 48.4 | 15                                                | 19.9 |     | 40.5 | 303                                               | 49.1 |     | 27.3 | 4                                                 | 40.3 |     | 44.2 |
| 17  | 119                                   | 53.1 | 36                                                | 48.4 | +27 | 48.4 | 30                                                | 20.6 | +24 | 40.5 | 318                                               | 51.6 | +9  | 27.3 | 19                                                | 42.5 | +22 | 44.2 |
| 18  | 134                                   | 55.6 | 51                                                | 49.8 | +27 | 48.4 | 45                                                | 21.3 | +24 | 40.5 | 333                                               | 54.0 | +9  | 27.2 | 34                                                | 44.7 | +22 | 44.2 |
| 19  | 149                                   | 58.0 | 66                                                | 51.2 |     | 48.3 | 60                                                | 22.0 |     | 40.5 | 348                                               | 56.5 |     | 27.2 | 49                                                | 46.9 |     | 44.2 |
| 20  | 165                                   | 00.5 | 81                                                | 52.5 |     | 48.3 | 75                                                | 22.8 |     | 40.5 | 3                                                 | 58.9 |     | 27.2 | 64                                                | 49.1 |     | 44.2 |
| 21  | 180                                   | 03.0 | 96                                                | 53.9 |     | 48.3 | 90                                                | 23.5 |     | 40.5 | 19                                                | 01.4 |     | 27.2 | 79                                                | 51.3 |     | 44.2 |
| 22  | 195                                   | 05.4 | 111                                               | 55.3 |     | 48.2 | 105                                               | 24.2 |     | 40.5 | 34                                                | 03.8 |     | 27.2 | 94                                                | 53.5 |     | 44.1 |
| 23  | 210                                   | 07.9 | 126                                               | 56.7 |     | 48.2 | 120                                               | 24.9 |     | 40.5 | 49                                                | 06.3 |     | 27.2 | 109                                               | 55.7 |     | 44.1 |
| 24  | 225                                   | 10.4 | 141                                               | 58.1 | +27 | 48.2 | 135                                               | 25.6 | +24 | 40.5 | 64                                                | 08.7 | +9  | 27.2 | 124                                               | 57.9 | +22 | 44.1 |
| Dif | —                                     |      | +14                                               |      | 0   |      | +7                                                |      | 0   |      | +25                                               |      | 0   |      | +22                                               |      | 0   |      |

| UT | SOL                                    |      |          | LUNA                                                                                                    |      |          |     | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |         | Puesta de Luna |    |
|----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------|------|----------|-----|---------|---------------|----------------------|-------|---------|----------------|---------|----------------|----|
|    | SD: 15'8                               |      |          | Edad: 17 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 60'8<br>12 <sup>h</sup> : 60'7<br>20 <sup>h</sup> : 60'6 |      |          |     |         |               | Civil                |       |         | Náutico        |         | Hora R°        |    |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 5 |      |          | PMG: 2 <sup>h</sup> 06 <sup>m</sup> R°: 65 <sup>m</sup>                                                 |      |          |     |         |               |                      |       |         |                |         |                |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                    | Dif  | Dec      | Dif |         |               |                      |       |         |                |         |                |    |
| h  | °                                      | '    | °        | '                                                                                                       | °    | '        | °   | h       | m             | h                    | m     | h       | m              | h       | m              |    |
| 0  | 180                                    | 52.0 | +16 50.9 | 329                                                                                                     | 51.8 | -25 50.9 | 64  | 60 N    | 20 13         | 21 11                | 22 59 | ** ** * | ** ** *        | 4 13    | 39             |    |
| 1  | 195                                    | 52.0 |          | 51.6                                                                                                    | 344  | 13.3     | 25  | 58      | 20 02         | 20 54                | 22 15 | ** ** * | ** ** *        | 4 41    | 46             |    |
| 2  | 210                                    | 52.1 |          | 52.3                                                                                                    | 358  | 34.7     | 24  | 56      | 19 52         |                      | 39    | 21 47   | ** ** *        | ** ** * | 5 02           | 51 |
| 3  | 225                                    | 52.1 |          | 53.0                                                                                                    | 12   | 56.0     | 23  | 54      |               | 43                   | 27    | 26      | ** ** *        | ** ** * | 20             | 53 |
| 4  | 240                                    | 52.1 |          | 53.7                                                                                                    | 27   | 17.3     | 23  | 52      |               | 35                   | 16    | 21 10   | 23 51          | 62      | 35             | 55 |
| 5  | 255                                    | 52.2 | +16 54.4 | 41                                                                                                      | 38.5 | -26 21.3 | 57  | 50      | 19 28         | 20 06                | 20 56 | 23 37   | 62             | 5 49    | 56             |    |
| 6  | 270                                    | 52.2 | +16 55.1 | 55                                                                                                      | 59.7 | -26 26.7 | 54  | 45      | 19 13         | 19 46                | 20 28 | 23 07   | 63             | 6 16    | 58             |    |
| 7  | 285                                    | 52.3 |          | 55.8                                                                                                    | 70   | 20.8     | 21  | 40      | 19 01         | 31                   | 20 08 | 22 44   | 64             | 38      | 60             |    |
| 8  | 300                                    | 52.3 |          | 56.4                                                                                                    | 84   | 41.9     | 21  | 35      | 18 51         | 18                   | 19 51 | 25      | 64             | 6 56    | 61             |    |
| 9  | 315                                    | 52.3 |          | 57.1                                                                                                    | 99   | 03.0     | 21  | 30      | 41            | 19 07                | 38    | 22 09   | 64             | 7 11    | 62             |    |
| 10 | 330                                    | 52.4 |          | 57.8                                                                                                    | 113  | 24.0     | 20  | 20      | 26            | 18 49                | 17    | 21 41   | 65             | 7 37    | 64             |    |
| 11 | 345                                    | 52.4 | +16 58.5 | 127                                                                                                     | 45.0 | -26 51.1 | 44  | 10 N    | 18 12         | 18 35                | 19 00 | 21 18   | 64             | 8 00    | 65             |    |
| 12 | 0                                      | 52.4 | +16 59.2 | 142                                                                                                     | 05.9 | -26 55.4 | 43  | 0       | 18 00         | 18 22                | 18 47 | 20 56   | 65             | 8 21    | 66             |    |
| 13 | 15                                     | 52.5 | +16 59.9 | 156                                                                                                     | 26.9 | -26 59.5 | 41  | 10 S    | 17 48         | 18 10                | 35    | 34      | 65             | 8 43    | 66             |    |
| 14 | 30                                     | 52.5 | +17 00.5 | 170                                                                                                     | 47.8 | -27 03.3 | 38  | 20      | 35            | 17 58                | 24    | 20 10   | 65             | 9 05    | 68             |    |
| 15 | 45                                     | 52.6 |          | 01.2                                                                                                    | 185  | 08.6     | 18  | 30      | 20            | 45                   | 13    | 19 43   | 65             | 32      | 68             |    |
| 16 | 60                                     | 52.6 |          | 01.9                                                                                                    | 199  | 29.5     | 19  | 35      | 11            | 38                   | 08    | 27      | 65             | 9 48    | 68             |    |
| 17 | 75                                     | 52.6 | +17 02.6 | 213                                                                                                     | 50.3 | -27 13.7 | 33  | 40      | 17 02         | 17 30                | 18 03 | 19 09   | 64             | 10 06   | 69             |    |
| 18 | 90                                     | 52.7 | +17 03.3 | 228                                                                                                     | 11.2 | -27 16.7 | 30  | 45      | 16 50         | 17 22                | 17 57 | 18 46   | 65             | 10 28   | 70             |    |
| 19 | 105                                    | 52.7 |          | 03.9                                                                                                    | 242  | 32.0     | 18  | 50      | 37            | 11                   | 50    | 18      | 64             | 10 56   | 71             |    |
| 20 | 120                                    | 52.7 |          | 04.6                                                                                                    | 256  | 52.8     | 18  | 52      | 30            | 07                   | 47    | 18 04   | 64             | 11 09   | 72             |    |
| 21 | 135                                    | 52.8 |          | 05.3                                                                                                    | 271  | 13.6     | 18  | 54      | 23            | 17 02                | 45    | 17 48   | 63             | 25      | 73             |    |
| 22 | 150                                    | 52.8 |          | 06.0                                                                                                    | 285  | 34.4     | 18  | 56      | 15            | 16 56                | 41    | 29      | 63             | 11 44   | 74             |    |
| 23 | 165                                    | 52.9 |          | 06.6                                                                                                    | 299  | 55.2     | 18  | 58      | 16 07         | 50                   | 38    | 17 06   | 62             | 12 07   | 75             |    |
| 24 | 180                                    | 52.9 | +17 07.3 | 314                                                                                                     | 16.0 | -27 30.5 | 17  | 60 S    | 15 56         | 16 44                | 17 34 | 16 35   | 60             | 12 37   | 78             |    |

| UT  | ARIES                                 |      | VENUS                                          |      | MARTE                                          |      | JÚPITER                                        |      | SATURNO                                        |      |
|-----|---------------------------------------|------|------------------------------------------------|------|------------------------------------------------|------|------------------------------------------------|------|------------------------------------------------|------|
|     | PMG: 8 <sup>h</sup> 57 <sup>m</sup> 8 |      | Mag: -4.7 PMG: 14 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +1.7 PMG: 14 <sup>h</sup> 58 <sup>m</sup> |      | Mag: -2.2 PMG: 19 <sup>h</sup> 40 <sup>m</sup> |      | Mag: +0.1 PMG: 15 <sup>h</sup> 38 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                           | Dec  | hG ♂                                           | Dec  | hG ♃                                           | Dec  | hG ♄                                           | Dec  |
| h   | °                                     | '    | °                                              | '    | °                                              | '    | °                                              | '    | °                                              | '    |
| 0   | 225                                   | 10.4 | 141                                            | 58.1 | 135                                            | 25.6 | 64                                             | 08.7 | 124                                            | 57.9 |
| 1   | 240                                   | 12.8 | 156                                            | 59.5 | 150                                            | 26.4 | 79                                             | 11.2 | 140                                            | 00.1 |
| 2   | 255                                   | 15.3 | 172                                            | 00.9 | 165                                            | 27.1 | 94                                             | 13.7 | 155                                            | 02.3 |
| 3   | 270                                   | 17.8 | 187                                            | 02.3 | 180                                            | 27.8 | 109                                            | 16.1 | 170                                            | 04.6 |
| 4   | 285                                   | 20.2 | 202                                            | 03.7 | 195                                            | 28.5 | 124                                            | 18.6 | 185                                            | 06.8 |
| 5   | 300                                   | 22.7 | 217                                            | 05.1 | 210                                            | 29.2 | 139                                            | 21.0 | 200                                            | 09.0 |
| 6   | 315                                   | 25.1 | 232                                            | 06.5 | 225                                            | 30.0 | 154                                            | 23.5 | 215                                            | 11.2 |
| 7   | 330                                   | 27.6 | 247                                            | 08.0 | 240                                            | 30.7 | 169                                            | 25.9 | 230                                            | 13.4 |
| 8   | 345                                   | 30.1 | 262                                            | 09.4 | 255                                            | 31.4 | 184                                            | 28.4 | 245                                            | 15.6 |
| 9   | 0                                     | 32.5 | 277                                            | 10.8 | 270                                            | 32.1 | 199                                            | 30.8 | 260                                            | 17.8 |
| 10  | 15                                    | 35.0 | 292                                            | 12.2 | 285                                            | 32.8 | 214                                            | 33.3 | 275                                            | 20.0 |
| 11  | 30                                    | 37.5 | 307                                            | 13.7 | 300                                            | 33.6 | 229                                            | 35.7 | 290                                            | 22.2 |
| 12  | 45                                    | 39.9 | 322                                            | 15.1 | 315                                            | 34.3 | 244                                            | 38.2 | 305                                            | 24.4 |
| 13  | 60                                    | 42.4 | 337                                            | 16.5 | 330                                            | 35.0 | 259                                            | 40.6 | 320                                            | 26.6 |
| 14  | 75                                    | 44.9 | 352                                            | 18.0 | 345                                            | 35.7 | 274                                            | 43.1 | 335                                            | 28.8 |
| 15  | 90                                    | 47.3 | 7                                              | 19.4 | 0                                              | 36.4 | 289                                            | 45.5 | 350                                            | 31.0 |
| 16  | 105                                   | 49.8 | 22                                             | 20.9 | 15                                             | 37.2 | 304                                            | 48.0 | 5                                              | 33.2 |
| 17  | 120                                   | 52.3 | 37                                             | 22.3 | 30                                             | 37.9 | 319                                            | 50.4 | 20                                             | 35.4 |
| 18  | 135                                   | 54.7 | 52                                             | 23.8 | 45                                             | 38.6 | 334                                            | 52.9 | 35                                             | 37.6 |
| 19  | 150                                   | 57.2 | 67                                             | 25.3 | 60                                             | 39.3 | 349                                            | 55.3 | 50                                             | 39.8 |
| 20  | 165                                   | 59.6 | 82                                             | 26.7 | 75                                             | 40.0 | 4                                              | 57.8 | 65                                             | 42.0 |
| 21  | 181                                   | 02.1 | 97                                             | 28.2 | 90                                             | 40.8 | 20                                             | 00.2 | 80                                             | 44.2 |
| 22  | 196                                   | 04.6 | 112                                            | 29.7 | 105                                            | 41.5 | 35                                             | 02.7 | 95                                             | 46.4 |
| 23  | 211                                   | 07.0 | 127                                            | 31.1 | 120                                            | 42.2 | 50                                             | 05.1 | 110                                            | 48.6 |
| 24  | 226                                   | 09.5 | 142                                            | 32.6 | 135                                            | 42.9 | 65                                             | 07.6 | 125                                            | 50.8 |
| Dif | —                                     |      | +14                                            | 0    | +7                                             | 0    | +25                                            | 0    | +22                                            | 0    |

| UT | SOL                                                             |      |     | LUNA                                                                                                                                                                               |     |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |                | Puesta de Luna |                |   |
|----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|-------|---------------|----------------|----------------|----------------|----------------|---|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 4 |      |     | Edad: 18 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 60 <sup>h</sup> 4<br>12 <sup>h</sup> : 60 <sup>h</sup> 2<br>20 <sup>h</sup> : 60 <sup>h</sup> 0<br>R <sup>o</sup> : 65 <sup>m</sup> |     |      |     |      |         |                          |       |               |                |                |                |                |   |
|    | hG ☉                                                            |      | Dec | hG ☾                                                                                                                                                                               |     | Dif  | Dec | Dif  |         | Náutico                  | Civil |               | Hora           | R <sup>o</sup> | Hora           | R <sup>o</sup> |   |
| h  | °                                                               | '    | °   | '                                                                                                                                                                                  | °   | '    | °   | '    | °       | h                        | m     | h             | m              | h              | m              | h              | m |
| 0  | 180                                                             | 52.9 | +17 | 07.3                                                                                                                                                                               | 314 | 16.0 | -27 | 30.5 | 60 N    | 0 54                     | 2 41  | 3 39          | 1 29           | 54             | 4 52           | 81             |   |
| 1  | 195                                                             | 52.9 |     | 08.0                                                                                                                                                                               | 328 | 36.8 | 18  | 32.1 | 58      | 1 38                     | 2 59  | 3 50          | 0 54           | 58             | 5 27           | 77             |   |
| 2  | 210                                                             | 53.0 |     | 08.7                                                                                                                                                                               | 342 | 57.7 | 19  | 33.5 | 56      | 2 05                     | 3 13  | 4 00          | 29             | 59             | 5 53           | 75             |   |
| 3  | 225                                                             | 53.0 |     | 09.4                                                                                                                                                                               | 357 | 18.5 | 18  | 34.7 | 54      | 26                       | 26    | 09            | 0 08           | 61             | 6 13           | 74             |   |
| 4  | 240                                                             | 53.0 |     | 10.0                                                                                                                                                                               | 11  | 39.4 | 19  | 35.6 | 52      | 43                       | 37    | 17            | **             | **             | 30             | 73             |   |
| 5  | 255                                                             | 53.1 | +17 | 10.7                                                                                                                                                                               | 26  | 00.3 | 19  | -27  | 50      | 2 57                     | 3 46  | 4 24          | **             | **             | 6 45           | 71             |   |
| 6  | 270                                                             | 53.1 | +17 | 11.4                                                                                                                                                                               | 40  | 21.2 | 19  | -27  | 45      | 3 24                     | 4 06  | 4 39          | **             | **             | 7 14           | 71             |   |
| 7  | 285                                                             | 53.1 |     | 12.1                                                                                                                                                                               | 54  | 42.1 | 19  | 37.2 | 40      | 3 45                     | 22    | 4 52          | 23             | 48             | 38             | 69             |   |
| 8  | 300                                                             | 53.2 |     | 12.7                                                                                                                                                                               | 69  | 03.1 | 20  | 37.4 | 35      | 4 01                     | 35    | 5 02          | 29             | 53             | 7 57           | 68             |   |
| 9  | 315                                                             | 53.2 |     | 13.4                                                                                                                                                                               | 83  | 24.1 | 20  | 37.3 | 30      | 15                       | 4 45  | 11            | 23             | 13             | 8 13           | 68             |   |
| 10 | 330                                                             | 53.2 |     | 14.1                                                                                                                                                                               | 97  | 45.1 | 20  | 37.0 | 20      | 36                       | 5 04  | 27            | 22             | 46             | 8 41           | 66             |   |
| 11 | 345                                                             | 53.3 | +17 | 14.7                                                                                                                                                                               | 112 | 06.2 | 21  | -27  | 10 N    | 4 53                     | 5 18  | 5 40          | 22             | 22             | 9 05           | 65             |   |
| 12 | 0                                                               | 53.3 | +17 | 15.4                                                                                                                                                                               | 126 | 27.3 | 21  | -27  | 0       | 5 06                     | 5 31  | 5 53          | 22             | 01             | 9 27           | 64             |   |
| 13 | 15                                                              | 53.3 |     | 16.1                                                                                                                                                                               | 140 | 48.5 | 22  | 34.9 | 10 S    | 18                       | 43    | 6 05          | 21             | 39             | 9 49           | 63             |   |
| 14 | 30                                                              | 53.4 |     | 16.8                                                                                                                                                                               | 155 | 09.7 | 22  | 33.8 | 20      | 29                       | 5 56  | 19            | 21             | 15             | 10 13          | 61             |   |
| 15 | 45                                                              | 53.4 |     | 17.4                                                                                                                                                                               | 169 | 31.0 | 23  | 32.5 | 30      | 40                       | 6 08  | 34            | 20             | 48             | 40             | 60             |   |
| 16 | 60                                                              | 53.4 |     | 18.1                                                                                                                                                                               | 183 | 52.3 | 23  | 31.0 | 35      | 45                       | 16    | 42            | 32             | 70             | 10 56          | 59             |   |
| 17 | 75                                                              | 53.5 | +17 | 18.8                                                                                                                                                                               | 198 | 13.7 | 24  | -27  | 40      | 5 51                     | 6 23  | 6 52          | 20             | 13             | 11 15          | 58             |   |
| 18 | 90                                                              | 53.5 | +17 | 19.4                                                                                                                                                                               | 212 | 35.1 | 24  | -27  | 45      | 5 57                     | 6 32  | 7 03          | 19             | 51             | 11 38          | 56             |   |
| 19 | 105                                                             | 53.5 |     | 20.1                                                                                                                                                                               | 226 | 56.6 | 25  | 25.4 | 50      | 6 03                     | 42    | 17            | 22             | 77             | 12 07          | 53             |   |
| 20 | 120                                                             | 53.6 |     | 20.8                                                                                                                                                                               | 241 | 18.1 | 25  | 23.1 | 52      | 06                       | 47    | 24            | 19             | 08             | 21             | 52             |   |
| 21 | 135                                                             | 53.6 |     | 21.4                                                                                                                                                                               | 255 | 39.8 | 27  | 20.6 | 54      | 09                       | 52    | 31            | 18             | 51             | 38             | 50             |   |
| 22 | 150                                                             | 53.6 |     | 22.1                                                                                                                                                                               | 270 | 01.5 | 27  | 17.9 | 56      | 12                       | 6 58  | 39            | 32             | 84             | 12 58          | 47             |   |
| 23 | 165                                                             | 53.6 |     | 22.8                                                                                                                                                                               | 284 | 23.2 | 27  | 15.0 | 58      | 16                       | 7 04  | 48            | 18             | 08             | 13 22          | 43             |   |
| 24 | 180                                                             | 53.7 | +17 | 23.4                                                                                                                                                                               | 298 | 45.1 | 29  | -27  | 60 S    | 6 20                     | 7 10  | 7 58          | 17             | 35             | 13 55          | 36             |   |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 8 <sup>h</sup> 53 <sup>m</sup> 9 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 28 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 36 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 34 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 226                                   | 09.5 | 142                                               | 32.6 | 135                                               | 42.9 | 65                                                | 07.6 | 125                                               | 50.8 |
| 1   | 241                                   | 12.0 | 157                                               | 34.1 | 150                                               | 43.6 | 80                                                | 10.0 | 140                                               | 53.0 |
| 2   | 256                                   | 14.4 | 172                                               | 35.6 | 165                                               | 44.4 | 95                                                | 12.4 | 155                                               | 55.3 |
| 3   | 271                                   | 16.9 | 187                                               | 37.1 | 180                                               | 45.1 | 110                                               | 14.9 | 170                                               | 57.5 |
| 4   | 286                                   | 19.4 | 202                                               | 38.6 | 195                                               | 45.8 | 125                                               | 17.3 | 185                                               | 59.7 |
| 5   | 301                                   | 21.8 | 217                                               | 40.1 | 210                                               | 46.5 | 140                                               | 19.8 | 201                                               | 01.9 |
| 6   | 316                                   | 24.3 | 232                                               | 41.6 | 225                                               | 47.2 | 155                                               | 22.2 | 216                                               | 04.1 |
| 7   | 331                                   | 26.8 | 247                                               | 43.1 | 240                                               | 48.0 | 170                                               | 24.7 | 231                                               | 06.3 |
| 8   | 346                                   | 29.2 | 262                                               | 44.6 | 255                                               | 48.7 | 185                                               | 27.1 | 246                                               | 08.5 |
| 9   | 1                                     | 31.7 | 277                                               | 46.1 | 270                                               | 49.4 | 200                                               | 29.6 | 261                                               | 10.7 |
| 10  | 16                                    | 34.1 | 292                                               | 47.6 | 285                                               | 50.1 | 215                                               | 32.0 | 276                                               | 12.9 |
| 11  | 31                                    | 36.6 | 307                                               | 49.1 | 300                                               | 50.8 | 230                                               | 34.5 | 291                                               | 15.1 |
| 12  | 46                                    | 39.1 | 322                                               | 50.6 | 315                                               | 51.6 | 245                                               | 36.9 | 306                                               | 17.3 |
| 13  | 61                                    | 41.5 | 337                                               | 52.2 | 330                                               | 52.3 | 260                                               | 39.3 | 321                                               | 19.5 |
| 14  | 76                                    | 44.0 | 352                                               | 53.7 | 345                                               | 53.0 | 275                                               | 41.8 | 336                                               | 21.7 |
| 15  | 91                                    | 46.5 | 7                                                 | 55.2 | 0                                                 | 53.7 | 290                                               | 44.2 | 351                                               | 23.9 |
| 16  | 106                                   | 48.9 | 22                                                | 56.8 | 15                                                | 54.4 | 305                                               | 46.7 | 6                                                 | 26.1 |
| 17  | 121                                   | 51.4 | 37                                                | 58.3 | 30                                                | 55.2 | 320                                               | 49.1 | 21                                                | 28.3 |
| 18  | 136                                   | 53.9 | 52                                                | 59.8 | 45                                                | 55.9 | 335                                               | 51.5 | 36                                                | 30.5 |
| 19  | 151                                   | 56.3 | 68                                                | 01.4 | 60                                                | 56.6 | 350                                               | 54.0 | 51                                                | 32.7 |
| 20  | 166                                   | 58.8 | 83                                                | 02.9 | 75                                                | 57.3 | 5                                                 | 56.4 | 66                                                | 34.9 |
| 21  | 182                                   | 01.2 | 98                                                | 04.5 | 90                                                | 58.1 | 20                                                | 58.9 | 81                                                | 37.1 |
| 22  | 197                                   | 03.7 | 113                                               | 06.0 | 105                                               | 58.8 | 36                                                | 01.3 | 96                                                | 39.3 |
| 23  | 212                                   | 06.2 | 128                                               | 07.6 | 120                                               | 59.5 | 51                                                | 03.8 | 111                                               | 41.5 |
| 24  | 227                                   | 08.6 | 143                                               | 09.2 | 136                                               | 00.2 | 66                                                | 06.2 | 126                                               | 43.7 |
| Dif | —                                     |      | +15                                               |      | -1                                                |      | +24                                               |      | +22                                               |      |
|     |                                       |      |                                                   |      |                                                   |      | 0                                                 |      | 0                                                 |      |

| UT | SOL                                                             |      |          | LUNA                                                                                                                                                                                                                               |      |             |     | Latitud | Puesta de Sol | Final del crepúsculo |         |         | Salida de Luna |       | Puesta de Luna |  |
|----|-----------------------------------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|-----|---------|---------------|----------------------|---------|---------|----------------|-------|----------------|--|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 4 |      |          | Edad: 19 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> 8<br>12 <sup>h</sup> : 59 <sup>m</sup> 6<br>20 <sup>h</sup> : 59 <sup>m</sup> 4<br>SD: 16 <sup>h</sup> 3<br>PMG: 4 <sup>h</sup> 16 <sup>m</sup> R°: 61 <sup>m</sup> |      |             |     |         |               |                      |         |         |                |       |                |  |
|    | hG ☉                                                            | Dec  |          | hG ☾                                                                                                                                                                                                                               | Dif  | Dec         | Dif |         |               | Civil                | Náutico | Hora    | R°             | Hora  | R°             |  |
| h  | °                                                               | '    | °        | '                                                                                                                                                                                                                                  | °    | '           | °   | '       | h m           | h m                  | h m     | h m     | m              | h m   | m              |  |
| 0  | 180                                                             | 53.7 | +17 23.4 | 298                                                                                                                                                                                                                                | 45.1 | -27 11.9    | 32  | 60 N    | 20 18         | 21 18                | 23 20   | 2 23    | 21             | 6 13  | 106            |  |
| 1  | 195                                                             | 53.7 | 24.1     | 313                                                                                                                                                                                                                                | 07.0 | 29 08.7     | 32  | 58      | 20 06         | 20 59                | 22 24   | 1 52    | 30             | 6 44  | 97             |  |
| 2  | 210                                                             | 53.7 | 24.8     | 327                                                                                                                                                                                                                                | 29.0 | 30 05.2     | 35  | 56      | 19 56         | 44                   | 21 54   | 28      | 36             | 7 08  | 91             |  |
| 3  | 225                                                             | 53.8 | 25.4     | 341                                                                                                                                                                                                                                | 51.1 | 31 -27 01.6 | 36  | 54      | 47            | 31                   | 32      | 1 09    | 39             | 27    | 87             |  |
| 4  | 240                                                             | 53.8 | 26.1     | 356                                                                                                                                                                                                                                | 13.2 | 31 -26 57.7 | 39  | 52      | 39            | 19                   | 15      | 0 53    | 42             | 43    | 83             |  |
| 5  | 255                                                             | 53.8 | +17 26.7 | 10                                                                                                                                                                                                                                 | 35.5 | 33 -26 53.7 | 40  | 50      | 19 31         | 20 10                | 21 00   | 0 39    | 44             | 7 56  | 82             |  |
| 6  | 270                                                             | 53.8 | +17 27.4 | 24                                                                                                                                                                                                                                 | 57.8 | 33 -26 49.5 | 42  | 45      | 19 16         | 19 49                | 20 31   | 0 10    | 48             | 8 25  | 76             |  |
| 7  | 285                                                             | 53.9 | 28.1     | 39                                                                                                                                                                                                                                 | 20.2 | 34 45.1     | 44  | 40      | 19 03         | 33                   | 20 10   | ** ** * | **             | 8 47  | 73             |  |
| 8  | 300                                                             | 53.9 | 28.7     | 53                                                                                                                                                                                                                                 | 42.8 | 36 40.6     | 45  | 35      | 18 52         | 20                   | 19 53   | ** ** * | **             | 9 05  | 71             |  |
| 9  | 315                                                             | 53.9 | 29.4     | 68                                                                                                                                                                                                                                 | 05.4 | 36 35.8     | 48  | 30      | 43            | 19 09                | 40      | ** ** * | **             | 21    | 68             |  |
| 10 | 330                                                             | 54.0 | 30.0     | 82                                                                                                                                                                                                                                 | 28.1 | 37 30.9     | 49  | 20      | 27            | 18 50                | 18      | 23 44   | 50             | 9 47  | 65             |  |
| 11 | 345                                                             | 54.0 | +17 30.7 | 96                                                                                                                                                                                                                                 | 50.9 | 38 -26 25.8 | 51  | 10 N    | 18 13         | 18 35                | 19 01   | 23 22   | 54             | 10 10 | 62             |  |
| 12 | 0                                                               | 54.0 | +17 31.4 | 111                                                                                                                                                                                                                                | 13.8 | 39 -26 20.5 | 53  | 0       | 18 00         | 18 22                | 18 47   | 23 03   | 57             | 10 31 | 59             |  |
| 13 | 15                                                              | 54.0 | 32.0     | 125                                                                                                                                                                                                                                | 36.8 | 40 15.0     | 55  | 10 S    | 17 47         | 18 09                | 35      | 22 43   | 60             | 10 52 | 57             |  |
| 14 | 30                                                              | 54.1 | 32.7     | 139                                                                                                                                                                                                                                | 59.9 | 41 09.4     | 56  | 20      | 34            | 17 57                | 23      | 22 21   | 64             | 11 14 | 54             |  |
| 15 | 45                                                              | 54.1 | 33.3     | 154                                                                                                                                                                                                                                | 23.2 | 43 -26 03.6 | 58  | 30      | 18            | 43                   | 12      | 21 57   | 68             | 40    | 50             |  |
| 16 | 60                                                              | 54.1 | 34.0     | 168                                                                                                                                                                                                                                | 46.5 | 43 -25 57.6 | 60  | 35      | 17 09         | 36                   | 07      | 42      | 71             | 11 55 | 48             |  |
| 17 | 75                                                              | 54.1 | +17 34.7 | 183                                                                                                                                                                                                                                | 09.9 | 44 -25 51.5 | 61  | 40      | 16 59         | 17 28                | 18 01   | 21 25   | 74             | 12 13 | 45             |  |
| 18 | 90                                                              | 54.2 | +17 35.3 | 197                                                                                                                                                                                                                                | 33.5 | 46 -25 45.1 | 64  | 45      | 16 48         | 17 19                | 17 54   | 21 05   | 77             | 12 34 | 42             |  |
| 19 | 105                                                             | 54.2 | 36.0     | 211                                                                                                                                                                                                                                | 57.1 | 46 38.7     | 64  | 50      | 34            | 09                   | 48      | 20 39   | 83             | 13 00 | 37             |  |
| 20 | 120                                                             | 54.2 | 36.6     | 226                                                                                                                                                                                                                                | 20.9 | 48 32.0     | 67  | 52      | 27            | 17 04                | 45      | 27      | 85             | 13    | 35             |  |
| 21 | 135                                                             | 54.2 | 37.3     | 240                                                                                                                                                                                                                                | 44.8 | 49 25.2     | 68  | 54      | 20            | 16 59                | 41      | 20 12   | 89             | 28    | 31             |  |
| 22 | 150                                                             | 54.3 | 37.9     | 255                                                                                                                                                                                                                                | 08.8 | 50 18.3     | 69  | 56      | 11            | 53                   | 38      | 19 56   | 93             | 13 45 | 27             |  |
| 23 | 165                                                             | 54.3 | 38.6     | 269                                                                                                                                                                                                                                | 32.9 | 51 11.1     | 72  | 58      | 16 02         | 47                   | 34      | 36      | 98             | 14 05 | 23             |  |
| 24 | 180                                                             | 54.3 | +17 39.2 | 283                                                                                                                                                                                                                                | 57.1 | 52 -25 03.9 | 72  | 60 S    | 15 52         | 16 39                | 17 31   | 19 10   | 107            | 14 31 | 15             |  |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |  |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|--|
|     | PMG: 8 <sup>h</sup> 50 <sup>m</sup> 0 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 26 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 55 <sup>m</sup> |     | Mag: -2.2<br>PMG: 19 <sup>h</sup> 32 <sup>m</sup> |          | Mag: +0.1<br>PMG: 15 <sup>h</sup> 31 <sup>m</sup> |      |         |     |      |          |  |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |  |
| 0   | 227                                   | 08.6 | 143                                               | 09.2 | +27 45.7                                          | 136 | 00.2                                              | +24 40.4 | 66                                                | 06.2 | +9 26.4 | 126 | 43.7 | +22 43.5 |  |
| 1   | 242                                   | 11.1 | 158                                               | 10.7 | 45.6                                              | 151 | 00.9                                              | 40.4     | 81                                                | 08.6 | 26.4    | 141 | 45.9 | 43.5     |  |
| 2   | 257                                   | 13.6 | 173                                               | 12.3 | 45.5                                              | 166 | 01.7                                              | 40.4     | 96                                                | 11.1 | 26.4    | 156 | 48.1 | 43.5     |  |
| 3   | 272                                   | 16.0 | 188                                               | 13.9 | 45.4                                              | 181 | 02.4                                              | 40.4     | 111                                               | 13.5 | 26.4    | 171 | 50.3 | 43.5     |  |
| 4   | 287                                   | 18.5 | 203                                               | 15.5 | 45.4                                              | 196 | 03.1                                              | 40.4     | 126                                               | 15.9 | 26.3    | 186 | 52.5 | 43.5     |  |
| 5   | 302                                   | 21.0 | 218                                               | 17.0 | +27 45.3                                          | 211 | 03.8                                              | +24 40.4 | 141                                               | 18.4 | +9 26.3 | 201 | 54.7 | +22 43.5 |  |
| 6   | 317                                   | 23.4 | 233                                               | 18.6 | +27 45.2                                          | 226 | 04.5                                              | +24 40.4 | 156                                               | 20.8 | +9 26.3 | 216 | 56.9 | +22 43.5 |  |
| 7   | 332                                   | 25.9 | 248                                               | 20.2 | 45.1                                              | 241 | 05.3                                              | 40.4     | 171                                               | 23.3 | 26.3    | 231 | 59.1 | 43.4     |  |
| 8   | 347                                   | 28.4 | 263                                               | 21.8 | 45.1                                              | 256 | 06.0                                              | 40.4     | 186                                               | 25.7 | 26.3    | 247 | 01.3 | 43.4     |  |
| 9   | 2                                     | 30.8 | 278                                               | 23.4 | 45.0                                              | 271 | 06.7                                              | 40.3     | 201                                               | 28.1 | 26.2    | 262 | 03.5 | 43.4     |  |
| 10  | 17                                    | 33.3 | 293                                               | 25.0 | 44.9                                              | 286 | 07.4                                              | 40.3     | 216                                               | 30.6 | 26.2    | 277 | 05.7 | 43.4     |  |
| 11  | 32                                    | 35.7 | 308                                               | 26.6 | +27 44.8                                          | 301 | 08.1                                              | +24 40.3 | 231                                               | 33.0 | +9 26.2 | 292 | 07.9 | +22 43.4 |  |
| 12  | 47                                    | 38.2 | 323                                               | 28.2 | +27 44.7                                          | 316 | 08.9                                              | +24 40.3 | 246                                               | 35.4 | +9 26.2 | 307 | 10.1 | +22 43.4 |  |
| 13  | 62                                    | 40.7 | 338                                               | 29.8 | 44.6                                              | 331 | 09.6                                              | 40.3     | 261                                               | 37.9 | 26.2    | 322 | 12.3 | 43.4     |  |
| 14  | 77                                    | 43.1 | 353                                               | 31.5 | 44.6                                              | 346 | 10.3                                              | 40.3     | 276                                               | 40.3 | 26.1    | 337 | 14.5 | 43.4     |  |
| 15  | 92                                    | 45.6 | 8                                                 | 33.1 | 44.5                                              | 1   | 11.0                                              | 40.3     | 291                                               | 42.8 | 26.1    | 352 | 16.7 | 43.3     |  |
| 16  | 107                                   | 48.1 | 23                                                | 34.7 | 44.4                                              | 16  | 11.8                                              | 40.2     | 306                                               | 45.2 | 26.1    | 7   | 18.9 | 43.3     |  |
| 17  | 122                                   | 50.5 | 38                                                | 36.3 | +27 44.3                                          | 31  | 12.5                                              | +24 40.2 | 321                                               | 47.6 | +9 26.1 | 22  | 21.1 | +22 43.3 |  |
| 18  | 137                                   | 53.0 | 53                                                | 38.0 | +27 44.2                                          | 46  | 13.2                                              | +24 40.2 | 336                                               | 50.1 | +9 26.1 | 37  | 23.3 | +22 43.3 |  |
| 19  | 152                                   | 55.5 | 68                                                | 39.6 | 44.1                                              | 61  | 13.9                                              | 40.2     | 351                                               | 52.5 | 26.0    | 52  | 25.5 | 43.3     |  |
| 20  | 167                                   | 57.9 | 83                                                | 41.2 | 44.0                                              | 76  | 14.6                                              | 40.2     | 6                                                 | 54.9 | 26.0    | 67  | 27.7 | 43.3     |  |
| 21  | 183                                   | 00.4 | 98                                                | 42.9 | 43.9                                              | 91  | 15.4                                              | 40.2     | 21                                                | 57.4 | 26.0    | 82  | 29.9 | 43.3     |  |
| 22  | 198                                   | 02.9 | 113                                               | 44.5 | 43.9                                              | 106 | 16.1                                              | 40.2     | 36                                                | 59.8 | 26.0    | 97  | 32.1 | 43.2     |  |
| 23  | 213                                   | 05.3 | 128                                               | 46.2 | 43.8                                              | 121 | 16.8                                              | 40.1     | 52                                                | 02.2 | 26.0    | 112 | 34.3 | 43.2     |  |
| 24  | 228                                   | 07.8 | 143                                               | 47.8 | +27 43.7                                          | 136 | 17.5                                              | +24 40.1 | 67                                                | 04.7 | +9 25.9 | 127 | 36.4 | +22 43.2 |  |
| Dif | —                                     |      | +16                                               | -1   |                                                   | +7  | 0                                                 |          | +24                                               |      | 0       | +22 |      | 0        |  |

| UT | SOL                                                             |      |     | LUNA                    |                                                                                                                           |                                                              |                                  |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |     |
|----|-----------------------------------------------------------------|------|-----|-------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|----------------------------------|---------|---------|--------------------------|------|---------------|----------------|------|----------------|------|-----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 4 |      |     | Edad: 20 <sup>d</sup> 4 | PHE {<br>4 <sup>h</sup> : 59 <sup>m</sup> 1<br>12 <sup>h</sup> : 58 <sup>m</sup> 9<br>20 <sup>h</sup> : 58 <sup>m</sup> 6 | SD: 16 <sup>h</sup> 1<br>PMG: 5 <sup>h</sup> 17 <sup>m</sup> | R <sup>o</sup> : 55 <sup>m</sup> | Náutico |         | Civil                    | Hora |               | R <sup>o</sup> | Hora | R <sup>o</sup> |      |     |
|    | hG ☉                                                            | Dec  |     |                         |                                                                                                                           |                                                              |                                  |         |         |                          |      |               |                |      |                | hG ☾ | Dif |
| h  | °                                                               | '    | °   | '                       | °                                                                                                                         | '                                                            | °                                | '       | °       | h                        | m    | h             | m              | h    | m              | h    | m   |
| 0  | 180                                                             | 54.3 | +17 | 39.2                    | 283                                                                                                                       | 57.1                                                         | -25                              | 03.9    | 60 N    | 0                        | 32   | 2             | 34             | 3    | 34             | 2    | 44  |
| 1  | 195                                                             | 54.3 |     | 39.9                    | 298                                                                                                                       | 21.4                                                         | 53                               | -24     | 56.4    | 58                       | 1    | 28            | 2              | 53   | 46             | 22   | 16  |
| 2  | 210                                                             | 54.3 |     | 40.5                    | 312                                                                                                                       | 45.9                                                         | 55                               |         | 48.8    | 56                       | 1    | 58            | 3              | 08   | 3              | 56   | 2   |
| 3  | 225                                                             | 54.4 |     | 41.2                    | 327                                                                                                                       | 10.5                                                         | 56                               |         | 41.1    | 54                       | 2    | 20            | 21             | 4    | 05             | 1    | 48  |
| 4  | 240                                                             | 54.4 |     | 41.8                    | 341                                                                                                                       | 35.2                                                         | 57                               |         | 33.2    | 52                       |      | 38            | 33             | 14   | 35             | 28   | 9   |
| 5  | 255                                                             | 54.4 | +17 | 42.5                    | 356                                                                                                                       | 00.0                                                         | 58                               | -24     | 25.2    | 50                       | 2    | 52            | 3              | 43   | 4              | 21   | 1   |
| 6  | 270                                                             | 54.4 | +17 | 43.1                    | 10                                                                                                                        | 25.0                                                         | 60                               | -24     | 17.0    | 45                       | 3    | 21            | 4              | 03   | 4              | 37   | 0   |
| 7  | 285                                                             | 54.5 |     | 43.8                    | 24                                                                                                                        | 50.0                                                         | 60                               |         | 08.7    | 40                       |      | 42            | 19             | 4    | 49             | 39   | 40  |
| 8  | 300                                                             | 54.5 |     | 44.4                    | 39                                                                                                                        | 15.2                                                         | 62                               | -24     | 00.2    | 35                       | 3    | 59            | 33             | 5    | 00             | 22   | 43  |
| 9  | 315                                                             | 54.5 |     | 45.1                    | 53                                                                                                                        | 40.5                                                         | 63                               | -23     | 51.6    | 30                       | 4    | 13            | 4              | 44   | 10             | 0    | 08  |
| 10 | 330                                                             | 54.5 |     | 45.7                    | 68                                                                                                                        | 06.0                                                         | 65                               |         | 42.9    | 20                       |      | 35            | 5              | 02   | 26             | **   | **  |
| 11 | 345                                                             | 54.5 | +17 | 46.4                    | 82                                                                                                                        | 31.5                                                         | 65                               | -23     | 34.0    | 10 N                     | 4    | 52            | 5              | 18   | 5              | 40   | **  |
| 12 | 0                                                               | 54.6 | +17 | 47.0                    | 96                                                                                                                        | 57.2                                                         | 67                               | -23     | 25.0    | 0                        | 5    | 06            | 5              | 31   | 5              | 53   | **  |
| 13 | 15                                                              | 54.6 |     | 47.7                    | 111                                                                                                                       | 23.0                                                         | 68                               |         | 15.8    | 10 S                     |      | 18            | 44             | 6    | 06             | 23   | 43  |
| 14 | 30                                                              | 54.6 |     | 48.3                    | 125                                                                                                                       | 49.0                                                         | 70                               | -23     | 06.5    | 20                       | 30   | 5             | 56             | 19   |                | 25   | 61  |
| 15 | 45                                                              | 54.6 |     | 49.0                    | 140                                                                                                                       | 15.0                                                         | 70                               | -22     | 57.1    | 30                       | 41   | 6             | 10             | 35   |                | 23   | 05  |
| 16 | 60                                                              | 54.6 |     | 49.6                    | 154                                                                                                                       | 41.2                                                         | 72                               |         | 47.6    | 35                       | 47   | 17            | 44             | 44   |                | 22   | 53  |
| 17 | 75                                                              | 54.7 | +17 | 50.3                    | 169                                                                                                                       | 07.5                                                         | 73                               | -22     | 37.9    | 40                       | 5    | 53            | 6              | 25   | 6              | 54   | 22  |
| 18 | 90                                                              | 54.7 | +17 | 50.9                    | 183                                                                                                                       | 34.0                                                         | 75                               | -22     | 28.1    | 45                       | 5    | 59            | 6              | 34   | 7              | 06   | 22  |
| 19 | 105                                                             | 54.7 |     | 51.5                    | 198                                                                                                                       | 00.5                                                         | 75                               |         | 18.2    | 50                       | 6    | 06            | 45             | 20   |                | 22   | 02  |
| 20 | 120                                                             | 54.7 |     | 52.2                    | 212                                                                                                                       | 27.2                                                         | 77                               | -22     | 08.2    | 52                       | 09   | 50            | 27             |      | 21             | 52   | 85  |
| 21 | 135                                                             | 54.7 |     | 52.8                    | 226                                                                                                                       | 54.0                                                         | 78                               | -21     | 58.1    | 54                       | 12   | 6             | 55             | 34   |                | 41   | 88  |
| 22 | 150                                                             | 54.8 |     | 53.5                    | 241                                                                                                                       | 20.9                                                         | 79                               |         | 47.8    | 56                       | 16   | 7             | 01             | 43   |                | 29   | 92  |
| 23 | 165                                                             | 54.8 |     | 54.1                    | 255                                                                                                                       | 48.0                                                         | 81                               |         | 37.4    | 58                       | 19   | 07            | 7              | 52   |                | 21   | 14  |
| 24 | 180                                                             | 54.8 | +17 | 54.8                    | 270                                                                                                                       | 15.2                                                         | 82                               | -21     | 26.9    | 60 S                     | 6    | 23            | 7              | 15   | 8              | 03   | 20  |

| UT  | ARIES                                 |      | VENUS                                             |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |     |      |     |  |   |  |
|-----|---------------------------------------|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|-----|--|---|--|
|     | PMG: 8 <sup>h</sup> 46 <sup>m</sup> 0 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 23 <sup>m</sup> |      |     | Mag: +1.7<br>PMG: 14 <sup>h</sup> 54 <sup>m</sup> |     |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 29 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 15 <sup>h</sup> 27 <sup>m</sup> |     |      |     |  |   |  |
|     | hG ♈                                  |      | hG ♀                                              | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                              | Dec  |     | hG ♄                                              | Dec |      |     |  |   |  |
| h   | °                                     | '    | °                                                 | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                 | °   | '    |     |  |   |  |
| 0   | 228                                   | 07.8 | 143                                               | 47.8 | +27 | 43.7                                              | 136 | 17.5 | +24                                               | 40.1 | 67  | 04.7                                              | +9  | 25.9 |     |  |   |  |
| 1   | 243                                   | 10.2 | 158                                               | 49.5 |     | 43.6                                              | 151 | 18.2 |                                                   | 40.1 | 82  | 07.1                                              |     | 25.9 |     |  |   |  |
| 2   | 258                                   | 12.7 | 173                                               | 51.2 |     | 43.5                                              | 166 | 19.0 |                                                   | 40.1 | 97  | 09.5                                              |     | 25.9 |     |  |   |  |
| 3   | 273                                   | 15.2 | 188                                               | 52.8 |     | 43.4                                              | 181 | 19.7 |                                                   | 40.1 | 112 | 12.0                                              |     | 25.9 |     |  |   |  |
| 4   | 288                                   | 17.6 | 203                                               | 54.5 |     | 43.3                                              | 196 | 20.4 |                                                   | 40.0 | 127 | 14.4                                              |     | 25.9 |     |  |   |  |
| 5   | 303                                   | 20.1 | 218                                               | 56.2 | +27 | 43.2                                              | 211 | 21.1 | +24                                               | 40.0 | 142 | 16.8                                              | +9  | 25.8 |     |  |   |  |
| 6   | 318                                   | 22.6 | 233                                               | 57.8 | +27 | 43.1                                              | 226 | 21.8 | +24                                               | 40.0 | 157 | 19.2                                              | +9  | 25.8 |     |  |   |  |
| 7   | 333                                   | 25.0 | 248                                               | 59.5 |     | 43.0                                              | 241 | 22.6 |                                                   | 40.0 | 172 | 21.7                                              |     | 25.8 |     |  |   |  |
| 8   | 348                                   | 27.5 | 264                                               | 01.2 |     | 42.9                                              | 256 | 23.3 |                                                   | 40.0 | 187 | 24.1                                              |     | 25.8 |     |  |   |  |
| 9   | 3                                     | 30.0 | 279                                               | 02.9 |     | 42.8                                              | 271 | 24.0 |                                                   | 39.9 | 202 | 26.5                                              |     | 25.7 |     |  |   |  |
| 10  | 18                                    | 32.4 | 294                                               | 04.6 |     | 42.7                                              | 286 | 24.7 |                                                   | 39.9 | 217 | 29.0                                              |     | 25.7 |     |  |   |  |
| 11  | 33                                    | 34.9 | 309                                               | 06.3 | +27 | 42.6                                              | 301 | 25.5 | +24                                               | 39.9 | 232 | 31.4                                              | +9  | 25.7 |     |  |   |  |
| 12  | 48                                    | 37.4 | 324                                               | 08.0 | +27 | 42.5                                              | 316 | 26.2 | +24                                               | 39.9 | 247 | 33.8                                              | +9  | 25.7 |     |  |   |  |
| 13  | 63                                    | 39.8 | 339                                               | 09.7 |     | 42.4                                              | 331 | 26.9 |                                                   | 39.9 | 262 | 36.3                                              |     | 25.7 |     |  |   |  |
| 14  | 78                                    | 42.3 | 354                                               | 11.4 |     | 42.3                                              | 346 | 27.6 |                                                   | 39.8 | 277 | 38.7                                              |     | 25.6 |     |  |   |  |
| 15  | 93                                    | 44.7 | 9                                                 | 13.1 |     | 42.2                                              | 1   | 28.3 |                                                   | 39.8 | 292 | 41.1                                              |     | 25.6 |     |  |   |  |
| 16  | 108                                   | 47.2 | 24                                                | 14.8 |     | 42.1                                              | 16  | 29.1 |                                                   | 39.8 | 307 | 43.5                                              |     | 25.6 |     |  |   |  |
| 17  | 123                                   | 49.7 | 39                                                | 16.5 | +27 | 42.0                                              | 31  | 29.8 | +24                                               | 39.8 | 322 | 46.0                                              | +9  | 25.6 |     |  |   |  |
| 18  | 138                                   | 52.1 | 54                                                | 18.3 | +27 | 41.9                                              | 46  | 30.5 | +24                                               | 39.8 | 337 | 48.4                                              | +9  | 25.5 |     |  |   |  |
| 19  | 153                                   | 54.6 | 69                                                | 20.0 |     | 41.8                                              | 61  | 31.2 |                                                   | 39.7 | 352 | 50.8                                              |     | 25.5 |     |  |   |  |
| 20  | 168                                   | 57.1 | 84                                                | 21.7 |     | 41.7                                              | 76  | 32.0 |                                                   | 39.7 | 7   | 53.2                                              |     | 25.5 |     |  |   |  |
| 21  | 183                                   | 59.5 | 99                                                | 23.5 |     | 41.5                                              | 91  | 32.7 |                                                   | 39.7 | 22  | 55.7                                              |     | 25.5 |     |  |   |  |
| 22  | 199                                   | 02.0 | 114                                               | 25.2 |     | 41.4                                              | 106 | 33.4 |                                                   | 39.7 | 37  | 58.1                                              |     | 25.4 |     |  |   |  |
| 23  | 214                                   | 04.5 | 129                                               | 26.9 |     | 41.3                                              | 121 | 34.1 |                                                   | 39.6 | 53  | 00.5                                              |     | 25.4 |     |  |   |  |
| 24  | 229                                   | 06.9 | 144                                               | 28.7 | +27 | 41.2                                              | 136 | 34.8 | +24                                               | 39.6 | 68  | 03.0                                              | +9  | 25.4 |     |  |   |  |
| Dif | —                                     |      | +17                                               |      | -1  |                                                   | +7  |      | 0                                                 |      | +24 |                                                   | 0   |      | +22 |  | 0 |  |

| UT  | SOL                                                             |      |          | ☾ LUNA                                                                                                                                                                                                    |          |              | Latitud                                           | Puesta de Sol | Final del crepúsculo |                                                   | Salida de Luna |          | Puesta de Luna                                    |      |    |
|-----|-----------------------------------------------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|---------------------------------------------------|---------------|----------------------|---------------------------------------------------|----------------|----------|---------------------------------------------------|------|----|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |          | Edad: 21 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 4<br>12 <sup>h</sup> : 58 <sup>m</sup> 1<br>20 <sup>h</sup> : 57 <sup>m</sup> 9<br>PMG: 6 <sup>h</sup> 12 <sup>m</sup> R°: 51 <sup>m</sup> |          |              |                                                   |               |                      |                                                   |                |          |                                                   |      |    |
|     | hG ☉                                                            | Dec  |          | hG ☾                                                                                                                                                                                                      | Dif      | Dec          |                                                   |               | Dif                  | Civil                                             | Náutico        | Hora     | R°                                                | Hora | R° |
| h   | °                                                               | '    | °        | '                                                                                                                                                                                                         | °        | '            | °                                                 | h m           | h m                  | h m                                               | h m            | h m      | h m                                               | h m  |    |
| 0   | 180                                                             | 54.8 | +17 54.8 | 270                                                                                                                                                                                                       | 15.2     | -21 26.9     | 60 N                                              | 20 23         | 21 24                | ** **                                             | 2 53 4         | 9 46 100 |                                                   |      |    |
| 1   | 195                                                             | 54.8 | 55.4     | 284                                                                                                                                                                                                       | 42.5     | 83 16.3      | 58                                                | 11            | 21 04                | 22 35                                             | 38 8           | 10 00 95 |                                                   |      |    |
| 2   | 210                                                             | 54.8 | 56.0     | 299                                                                                                                                                                                                       | 09.9     | 84 -21 05.6  | 56                                                | 20 00         | 20 48                | 22 02                                             | 24 13          | 12 91    |                                                   |      |    |
| 3   | 225                                                             | 54.8 | 56.7     | 313                                                                                                                                                                                                       | 37.5     | 86 -20 54.8  | 54                                                | 19 50         | 35                   | 21 38                                             | 13 17          | 23 87    |                                                   |      |    |
| 4   | 240                                                             | 54.9 | 57.3     | 328                                                                                                                                                                                                       | 05.1     | 86 43.9      | 52                                                | 42            | 23                   | 19                                                | 2 03 19        | 33 83    |                                                   |      |    |
| 5   | 255                                                             | 54.9 | +17 57.9 | 342                                                                                                                                                                                                       | 32.9     | 88 -20 32.8  | 50                                                | 19 34         | 20 13                | 21 04                                             | 1 54 22        | 10 41 81 |                                                   |      |    |
| 6   | 270                                                             | 54.9 | +17 58.6 | 357                                                                                                                                                                                                       | 00.9     | 90 -20 21.7  | 45                                                | 19 18         | 19 52                | 20 35                                             | 1 34 28        | 10 59 75 |                                                   |      |    |
| 7   | 285                                                             | 54.9 | 59.2     | 11                                                                                                                                                                                                        | 28.9     | 90 -20 10.5  | 40                                                | 19 05         | 35                   | 20 13                                             | 19 32          | 11 14 70 |                                                   |      |    |
| 8   | 300                                                             | 54.9 | +17 59.9 | 25                                                                                                                                                                                                        | 57.1     | 92 -19 59.1  | 35                                                | 18 54         | 22                   | 19 55                                             | 1 05 36        | 26 67    |                                                   |      |    |
| 9   | 315                                                             | 54.9 | +18 00.5 | 40                                                                                                                                                                                                        | 25.3     | 92 47.7      | 30                                                | 44            | 19 10                | 41                                                | 0 54 38        | 36 64    |                                                   |      |    |
| 10  | 330                                                             | 54.9 | 01.1     | 54                                                                                                                                                                                                        | 53.7     | 94 36.2      | 20                                                | 27            | 18 51                | 19                                                | 34 43          | 11 55 58 |                                                   |      |    |
| 11  | 345                                                             | 55.0 | +18 01.8 | 69                                                                                                                                                                                                        | 22.2     | 95 -19 24.6  | 10 N                                              | 18 13         | 18 35                | 19 01                                             | 0 16 48        | 12 10 54 |                                                   |      |    |
| 12  | 0                                                               | 55.0 | +18 02.4 | 83                                                                                                                                                                                                        | 50.9     | 97 -19 12.9  | 0                                                 | 18 00         | 18 22                | 18 47                                             | 0 00 51        | 12 25 49 |                                                   |      |    |
| 13  | 15                                                              | 55.0 | 03.0     | 98                                                                                                                                                                                                        | 19.6     | 97 -19 01.1  | 10 S                                              | 17 47         | 18 09                | 34                                                | ** ** *        | 39 46    |                                                   |      |    |
| 14  | 30                                                              | 55.0 | 03.7     | 112                                                                                                                                                                                                       | 48.5     | 99 -18 49.2  | 20                                                | 33            | 17 56                | 22                                                | ** ** *        | 12 55 41 |                                                   |      |    |
| 15  | 45                                                              | 55.0 | 04.3     | 127                                                                                                                                                                                                       | 17.5     | 100 37.2     | 30                                                | 17            | 42                   | 11                                                | ** ** *        | 13 12 36 |                                                   |      |    |
| 16  | 60                                                              | 55.0 | 04.9     | 141                                                                                                                                                                                                       | 46.6     | 101 25.1     | 35                                                | 17 08         | 35                   | 18 05                                             | ** ** *        | 22 33    |                                                   |      |    |
| 17  | 75                                                              | 55.0 | +18 05.6 | 156                                                                                                                                                                                                       | 15.8     | 102 -18 13.0 | 40                                                | 16 57         | 17 26                | 17 59                                             | 23 51 69       | 13 34 29 |                                                   |      |    |
| 18  | 90                                                              | 55.1 | +18 06.2 | 170                                                                                                                                                                                                       | 45.1     | 103 -18 00.8 | 45                                                | 16 45         | 17 17                | 17 52                                             | 23 39 73       | 13 47 25 |                                                   |      |    |
| 19  | 105                                                             | 55.1 | 06.8     | 185                                                                                                                                                                                                       | 14.6     | 105 -17 48.5 | 50                                                | 31            | 06                   | 45                                                | 24 79          | 14 04 19 |                                                   |      |    |
| 20  | 120                                                             | 55.1 | 07.5     | 199                                                                                                                                                                                                       | 44.1     | 105 36.1     | 52                                                | 24            | 17 01                | 42                                                | 17 81          | 11 17    |                                                   |      |    |
| 21  | 135                                                             | 55.1 | 08.1     | 214                                                                                                                                                                                                       | 13.8     | 107 23.6     | 54                                                | 16            | 16 55                | 39                                                | 09 84          | 20 14    |                                                   |      |    |
| 22  | 150                                                             | 55.1 | 08.7     | 228                                                                                                                                                                                                       | 43.6     | 108 -17 11.1 | 56                                                | 16 08         | 49                   | 35                                                | 23 01 87       | 29 11    |                                                   |      |    |
| 23  | 165                                                             | 55.1 | 09.3     | 243                                                                                                                                                                                                       | 13.4     | 108 -16 58.5 | 58                                                | 15 58         | 43                   | 31                                                | 22 51 91       | 40 7     |                                                   |      |    |
| 24  | 180                                                             | 55.1 | +18 10.0 | 257                                                                                                                                                                                                       | 43.4     | 110 -16 45.8 | 60 S                                              | 15 47         | 16 35                | 17 27                                             | 22 39 97       | 14 52 3  |                                                   |      |    |
| UT  | ARIES                                                           |      |          | VENUS                                                                                                                                                                                                     |          |              | MARTE                                             |               |                      | JÚPITER                                           |                |          | SATURNO                                           |      |    |
|     | PMG: 8 <sup>h</sup> 42 <sup>m</sup> 1                           |      |          | Mag: -4.7<br>PMG: 14 <sup>h</sup> 20 <sup>m</sup>                                                                                                                                                         |          |              | Mag: +1.7<br>PMG: 14 <sup>h</sup> 53 <sup>m</sup> |               |                      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 25 <sup>m</sup> |                |          | Mag: +0.1<br>PMG: 15 <sup>h</sup> 24 <sup>m</sup> |      |    |
|     | hG ♈                                                            |      |          | hG ♀                                                                                                                                                                                                      | Dec      |              | hG ♂                                              | Dec           |                      | hG ♃                                              | Dec            |          | hG ♄                                              | Dec  |    |
| h   | °                                                               | '    | °        | '                                                                                                                                                                                                         | °        | '            | °                                                 | '             | °                    | '                                                 | °              | '        | °                                                 | '    |    |
| 0   | 229                                                             | 06.9 | 144 28.7 | +27 41.2                                                                                                                                                                                                  | 136 34.8 | +24 39.6     | 68 03.0                                           | +9 25.4       | 128 29.1             | +22 42.9                                          |                |          |                                                   |      |    |
| 1   | 244                                                             | 09.4 | 159 30.4 | 41.1                                                                                                                                                                                                      | 151 35.6 | 39.6         | 83 05.4                                           | 25.4          | 143 31.3             | 42.9                                              |                |          |                                                   |      |    |
| 2   | 259                                                             | 11.9 | 174 32.2 | 41.0                                                                                                                                                                                                      | 166 36.3 | 39.6         | 98 07.8                                           | 25.4          | 158 33.5             | 42.9                                              |                |          |                                                   |      |    |
| 3   | 274                                                             | 14.3 | 189 33.9 | 40.9                                                                                                                                                                                                      | 181 37.0 | 39.5         | 113 10.2                                          | 25.3          | 173 35.7             | 42.9                                              |                |          |                                                   |      |    |
| 4   | 289                                                             | 16.8 | 204 35.7 | 40.7                                                                                                                                                                                                      | 196 37.7 | 39.5         | 128 12.7                                          | 25.3          | 188 37.9             | 42.9                                              |                |          |                                                   |      |    |
| 5   | 304                                                             | 19.2 | 219 37.5 | +27 40.6                                                                                                                                                                                                  | 211 38.4 | +24 39.5     | 143 15.1                                          | +9 25.3       | 203 40.1             | +22 42.8                                          |                |          |                                                   |      |    |
| 6   | 319                                                             | 21.7 | 234 39.2 | +27 40.5                                                                                                                                                                                                  | 226 39.2 | +24 39.4     | 158 17.5                                          | +9 25.3       | 218 42.3             | +22 42.8                                          |                |          |                                                   |      |    |
| 7   | 334                                                             | 24.2 | 249 41.0 | 40.4                                                                                                                                                                                                      | 241 39.9 | 39.4         | 173 19.9                                          | 25.2          | 233 44.5             | 42.8                                              |                |          |                                                   |      |    |
| 8   | 349                                                             | 26.6 | 264 42.8 | 40.3                                                                                                                                                                                                      | 256 40.6 | 39.4         | 188 22.3                                          | 25.2          | 248 46.7             | 42.8                                              |                |          |                                                   |      |    |
| 9   | 4                                                               | 29.1 | 279 44.6 | 40.2                                                                                                                                                                                                      | 271 41.3 | 39.4         | 203 24.8                                          | 25.2          | 263 48.9             | 42.8                                              |                |          |                                                   |      |    |
| 10  | 19                                                              | 31.6 | 294 46.4 | 40.0                                                                                                                                                                                                      | 286 42.1 | 39.3         | 218 27.2                                          | 25.2          | 278 51.1             | 42.8                                              |                |          |                                                   |      |    |
| 11  | 34                                                              | 34.0 | 309 48.1 | +27 39.9                                                                                                                                                                                                  | 301 42.8 | +24 39.3     | 233 29.6                                          | +9 25.1       | 293 53.3             | +22 42.8                                          |                |          |                                                   |      |    |
| 12  | 49                                                              | 36.5 | 324 49.9 | +27 39.8                                                                                                                                                                                                  | 316 43.5 | +24 39.3     | 248 32.0                                          | +9 25.1       | 308 55.5             | +22 42.7                                          |                |          |                                                   |      |    |
| 13  | 64                                                              | 39.0 | 339 51.7 | 39.7                                                                                                                                                                                                      | 331 44.2 | 39.2         | 263 34.5                                          | 25.1          | 323 57.7             | 42.7                                              |                |          |                                                   |      |    |
| 14  | 79                                                              | 41.4 | 354 53.5 | 39.5                                                                                                                                                                                                      | 346 44.9 | 39.2         | 278 36.9                                          | 25.1          | 338 59.9             | 42.7                                              |                |          |                                                   |      |    |
| 15  | 94                                                              | 43.9 | 9 55.3   | 39.4                                                                                                                                                                                                      | 1 45.7   | 39.2         | 293 39.3                                          | 25.0          | 354 02.1             | 42.7                                              |                |          |                                                   |      |    |
| 16  | 109                                                             | 46.3 | 24 57.2  | 39.3                                                                                                                                                                                                      | 16 46.4  | 39.2         | 308 41.7                                          | 25.0          | 9 04.2               | 42.7                                              |                |          |                                                   |      |    |
| 17  | 124                                                             | 48.8 | 39 59.0  | +27 39.2                                                                                                                                                                                                  | 31 47.1  | +24 39.1     | 323 44.1                                          | +9 25.0       | 24 06.4              | +22 42.7                                          |                |          |                                                   |      |    |
| 18  | 139                                                             | 51.3 | 55 00.8  | +27 39.0                                                                                                                                                                                                  | 46 47.8  | +24 39.1     | 338 46.6                                          | +9 24.9       | 39 08.6              | +22 42.7                                          |                |          |                                                   |      |    |
| 19  | 154                                                             | 53.7 | 70 02.6  | 38.9                                                                                                                                                                                                      | 61 48.6  | 39.1         | 353 49.0                                          | 24.9          | 54 10.8              | 42.7                                              |                |          |                                                   |      |    |
| 20  | 169                                                             | 56.2 | 85 04.4  | 38.8                                                                                                                                                                                                      | 76 49.3  | 39.0         | 8 51.4                                            | 24.9          | 69 13.0              | 42.6                                              |                |          |                                                   |      |    |
| 21  | 184                                                             | 58.7 | 100 06.3 | 38.6                                                                                                                                                                                                      | 91 50.0  | 39.0         | 23 53.8                                           | 24.9          | 84 15.2              | 42.6                                              |                |          |                                                   |      |    |
| 22  | 200                                                             | 01.1 | 115 08.1 | 38.5                                                                                                                                                                                                      | 106 50.7 | 39.0         | 38 56.2                                           | 24.8          | 99 17.4              | 42.6                                              |                |          |                                                   |      |    |
| 23  | 215                                                             | 03.6 | 130 09.9 | 38.4                                                                                                                                                                                                      | 121 51.4 | 38.9         | 53 58.7                                           | 24.8          | 114 19.6             | 42.6                                              |                |          |                                                   |      |    |
| 24  | 230                                                             | 06.1 | 145 11.8 | +27 38.3                                                                                                                                                                                                  | 136 52.2 | +24 38.9     | 69 01.1                                           | +9 24.8       | 129 21.8             | +22 42.6                                          |                |          |                                                   |      |    |
| Dif | —                                                               |      | +18      | -1                                                                                                                                                                                                        | +7       | 0            | +24                                               | 0             | +22                  | 0                                                 |                |          |                                                   |      |    |

| UT | SOL                   |      |     |      | ☾ LUNA                  |                                                                                                                           |                       |                                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |    | Puesta de Luna |         |       |      |    |
|----|-----------------------|------|-----|------|-------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------|---------|--------------------------|------|---------------|----------------|----|----------------|---------|-------|------|----|
|    | SD: 15 <sup>h</sup> 8 |      |     |      | Edad: 22 <sup>d</sup> 4 | PHE {<br>4 <sup>h</sup> : 57 <sup>h</sup> 6<br>12 <sup>h</sup> : 57 <sup>h</sup> 4<br>20 <sup>h</sup> : 57 <sup>h</sup> 1 | SD: 15 <sup>h</sup> 7 | PMG: 7 <sup>h</sup> 03 <sup>m</sup> |         | R°: 46 <sup>m</sup>      |      |               |                |    |                |         |       |      |    |
|    | hG ☉                  | Dec  |     |      |                         |                                                                                                                           |                       |                                     |         |                          | hG ☾ |               | Dif            |    |                | Náutico | Civil | Hora | R° |
| h  | °                     | '    | °   | '    | °                       | '                                                                                                                         | °                     | '                                   | °       | h                        | m    | h             | m              | h  | m              | h       | m     | h    | m  |
| 0  | 180                   | 55.1 | +18 | 10.0 | 257                     | 43.4                                                                                                                      | -16                   | 45.8                                | 60 N    | **                       | **   | 2             | 28             | 3  | 29             | 2       | 57    | 1    | 11 |
| 1  | 195                   | 55.1 |     | 10.6 | 272                     | 13.5 <sup>111</sup>                                                                                                       |                       | 33.0 <sup>128</sup>                 | 58      | 1                        | 17   | 2             | 48             |    | 41             | 46      | 6     |      | 35 |
| 2  | 210                   | 55.1 |     | 11.2 | 286                     | 43.7 <sup>112</sup>                                                                                                       |                       | 20.2 <sup>128</sup>                 | 56      | 1                        | 51   | 3             | 04             | 3  | 52             | 37      | 10    |      | 43 |
| 3  | 225                   | 55.2 |     | 11.8 | 301                     | 14.0 <sup>113</sup>                                                                                                       | -16                   | 07.3 <sup>129</sup>                 | 54      | 2                        | 14   |               | 17             | 4  | 02             | 30      | 12    |      | 50 |
| 4  | 240                   | 55.2 |     | 12.5 | 315                     | 44.4 <sup>114</sup>                                                                                                       | -15                   | 54.3 <sup>130</sup>                 | 52      |                          | 33   |               | 29             |    | 10             | 22      | 15    | 11   | 56 |
| 5  | 255                   | 55.2 | +18 | 13.1 | 330                     | 14.9 <sup>115</sup>                                                                                                       | -15                   | 41.3 <sup>130</sup>                 | 50      | 2                        | 48   | 3             | 39             | 4  | 18             | 2       | 16    | 17   | 12 |
| 6  | 270                   | 55.2 | +18 | 13.7 | 344                     | 45.5 <sup>116</sup>                                                                                                       | -15                   | 28.2 <sup>131</sup>                 | 45      | 3                        | 18   | 4             | 00             | 4  | 34             | 2       | 02    | 22   | 12 |
| 7  | 285                   | 55.2 |     | 14.3 | 359                     | 16.2 <sup>117</sup>                                                                                                       |                       | 15.1 <sup>131</sup>                 | 40      |                          | 40   |               | 17             |    | 47             | 1       | 51    | 26   | 24 |
| 8  | 300                   | 55.2 |     | 15.0 | 13                      | 47.1 <sup>119</sup>                                                                                                       | -15                   | 01.9 <sup>132</sup>                 | 35      | 3                        | 57   |               | 31             | 4  | 59             | 41      | 30    |      | 33 |
| 9  | 315                   | 55.2 |     | 15.6 | 28                      | 18.0 <sup>119</sup>                                                                                                       | -14                   | 48.6 <sup>133</sup>                 | 30      | 4                        | 11   | 4             | 42             | 5  | 08             | 32      | 33    |      | 40 |
| 10 | 330                   | 55.2 |     | 16.2 | 42                      | 49.0 <sup>120</sup>                                                                                                       |                       | 35.3 <sup>133</sup>                 | 20      |                          | 34   |               | 02             |    | 25             | 17      | 38    |      | 12 |
| 11 | 345                   | 55.2 | +18 | 16.8 | 57                      | 20.1 <sup>121</sup>                                                                                                       | -14                   | 21.9 <sup>134</sup>                 | 10 N    | 4                        | 51   | 5             | 17             | 5  | 39             | 1       | 04    | 43   | 13 |
| 12 | 0                     | 55.2 | +18 | 17.5 | 71                      | 51.3 <sup>122</sup>                                                                                                       | -14                   | 08.4 <sup>135</sup>                 | 0       | 5                        | 06   | 5             | 31             | 5  | 53             | 0       | 51    | 48   | 13 |
| 13 | 15                    | 55.2 |     | 18.1 | 86                      | 22.5 <sup>122</sup>                                                                                                       | -13                   | 55.0 <sup>134</sup>                 | 10 S    |                          | 19   |               | 44             | 6  | 06             | 39      | 52    |      | 25 |
| 14 | 30                    | 55.2 |     | 18.7 | 100                     | 53.9 <sup>124</sup>                                                                                                       |                       | 41.4 <sup>136</sup>                 | 20      |                          | 30   |               | 57             | 20 |                | 26      | 56    |      | 36 |
| 15 | 45                    | 55.3 |     | 19.3 | 115                     | 25.4 <sup>125</sup>                                                                                                       |                       | 27.8 <sup>136</sup>                 | 30      |                          | 42   | 6             | 11             |    | 36             | 10      | 62    |      | 48 |
| 16 | 60                    | 55.3 |     | 19.9 | 129                     | 56.9 <sup>125</sup>                                                                                                       |                       | 14.2 <sup>136</sup>                 | 35      |                          | 48   |               | 18             |    | 45             | 0       | 01    | 65   | 13 |
| 17 | 75                    | 55.3 | +18 | 20.6 | 144                     | 28.6 <sup>127</sup>                                                                                                       | -13                   | 00.5 <sup>137</sup>                 | 40      | 5                        | 54   | 6             | 27             | 6  | 56             | **      | **    | **   | 14 |
| 18 | 90                    | 55.3 | +18 | 21.2 | 159                     | 00.3 <sup>127</sup>                                                                                                       | -12                   | 46.7 <sup>138</sup>                 | 45      | 6                        | 01   | 6             | 36             | 7  | 08             | **      | **    | **   | 14 |
| 19 | 105                   | 55.3 |     | 21.8 | 173                     | 32.1 <sup>128</sup>                                                                                                       |                       | 32.9 <sup>138</sup>                 | 50      |                          | 08   |               | 48             |    | 23             | **      | **    | **   | 23 |
| 20 | 120                   | 55.3 |     | 22.4 | 188                     | 04.1 <sup>130</sup>                                                                                                       |                       | 19.1 <sup>138</sup>                 | 52      |                          | 11   |               | 53             |    | 30             | **      | **    | **   | 28 |
| 21 | 135                   | 55.3 |     | 23.0 | 202                     | 36.0 <sup>129</sup>                                                                                                       | -12                   | 05.2 <sup>139</sup>                 | 54      |                          | 15   | 6             | 58             |    | 38             | **      | **    | **   | 34 |
| 22 | 150                   | 55.3 |     | 23.6 | 217                     | 08.1 <sup>131</sup>                                                                                                       | -11                   | 51.3 <sup>139</sup>                 | 56      |                          | 19   | 7             | 04             |    | 46             | **      | **    | **   | 40 |
| 23 | 165                   | 55.3 |     | 24.3 | 231                     | 40.3 <sup>132</sup>                                                                                                       |                       | 37.4 <sup>139</sup>                 | 58      |                          | 23   |               | 11             | 7  | 56             | **      | **    | **   | 47 |
| 24 | 180                   | 55.3 | +18 | 24.9 | 246                     | 12.5 <sup>132</sup>                                                                                                       | -11                   | 23.4 <sup>140</sup>                 | 60 S    | 6                        | 27   | 7             | 18             | 8  | 07             | **      | **    | **   | 14 |

| UT  | ARIES                                   |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|-----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG<br>8 <sup>h</sup> 38 <sup>m</sup> 2 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 17 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 21 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 20 <sup>m</sup> |      |
|     | hG ♈                                    | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                       | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 230                                     | 06.1 | 145                                               | 11.8 | 136                                               | 52.2 | 69                                                | 01.1 | 129                                               | 21.8 |
| 1   | 245                                     | 08.5 | 160                                               | 13.6 | 151                                               | 52.9 | 84                                                | 03.5 | 144                                               | 24.0 |
| 2   | 260                                     | 11.0 | 175                                               | 15.5 | 166                                               | 53.6 | 99                                                | 05.9 | 159                                               | 26.2 |
| 3   | 275                                     | 13.5 | 190                                               | 17.3 | 181                                               | 54.3 | 114                                               | 08.3 | 174                                               | 28.4 |
| 4   | 290                                     | 15.9 | 205                                               | 19.2 | 196                                               | 55.1 | 129                                               | 10.8 | 189                                               | 30.5 |
| 5   | 305                                     | 18.4 | 220                                               | 21.0 | 211                                               | 55.8 | 144                                               | 13.2 | 204                                               | 32.7 |
| 6   | 320                                     | 20.8 | 235                                               | 22.9 | 226                                               | 56.5 | 159                                               | 15.6 | 219                                               | 34.9 |
| 7   | 335                                     | 23.3 | 250                                               | 24.8 | 241                                               | 57.2 | 174                                               | 18.0 | 234                                               | 37.1 |
| 8   | 350                                     | 25.8 | 265                                               | 26.6 | 256                                               | 58.0 | 189                                               | 20.4 | 249                                               | 39.3 |
| 9   | 5                                       | 28.2 | 280                                               | 28.5 | 271                                               | 58.7 | 204                                               | 22.8 | 264                                               | 41.5 |
| 10  | 20                                      | 30.7 | 295                                               | 30.4 | 286                                               | 59.4 | 219                                               | 25.3 | 279                                               | 43.7 |
| 11  | 35                                      | 33.2 | 310                                               | 32.3 | 302                                               | 00.1 | 234                                               | 27.7 | 294                                               | 45.9 |
| 12  | 50                                      | 35.6 | 325                                               | 34.2 | 317                                               | 00.8 | 249                                               | 30.1 | 309                                               | 48.1 |
| 13  | 65                                      | 38.1 | 340                                               | 36.1 | 332                                               | 01.6 | 264                                               | 32.5 | 324                                               | 50.3 |
| 14  | 80                                      | 40.6 | 355                                               | 38.0 | 347                                               | 02.3 | 279                                               | 34.9 | 339                                               | 52.5 |
| 15  | 95                                      | 43.0 | 10                                                | 39.9 | 2                                                 | 03.0 | 294                                               | 37.3 | 354                                               | 54.6 |
| 16  | 110                                     | 45.5 | 25                                                | 41.8 | 17                                                | 03.7 | 309                                               | 39.7 | 9                                                 | 56.8 |
| 17  | 125                                     | 48.0 | 40                                                | 43.7 | 32                                                | 04.5 | 324                                               | 42.2 | 24                                                | 59.0 |
| 18  | 140                                     | 50.4 | 55                                                | 45.6 | 47                                                | 05.2 | 339                                               | 44.6 | 40                                                | 01.2 |
| 19  | 155                                     | 52.9 | 70                                                | 47.5 | 62                                                | 05.9 | 354                                               | 47.0 | 55                                                | 03.4 |
| 20  | 170                                     | 55.3 | 85                                                | 49.4 | 77                                                | 06.6 | 9                                                 | 49.4 | 70                                                | 05.6 |
| 21  | 185                                     | 57.8 | 100                                               | 51.4 | 92                                                | 07.4 | 24                                                | 51.8 | 85                                                | 07.8 |
| 22  | 201                                     | 00.3 | 115                                               | 53.3 | 107                                               | 08.1 | 39                                                | 54.2 | 100                                               | 10.0 |
| 23  | 216                                     | 02.7 | 130                                               | 55.2 | 122                                               | 08.8 | 54                                                | 56.6 | 115                                               | 12.2 |
| 24  | 231                                     | 05.2 | 145                                               | 57.2 | 137                                               | 09.5 | 69                                                | 59.0 | 130                                               | 14.3 |
| Dif | —                                       |      | +19                                               |      | -1                                                |      | +24                                               |      | 0                                                 |      |



| UT | SOL                                                             |      |          |  LUNA                                                                                                                                             |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |      | Puesta de Luna |       |    |
|----|-----------------------------------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|-------|----------------|------|----------------|-------|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |          | Edad: 23 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 56 <sup>m</sup> 9<br>12 <sup>h</sup> : 56 <sup>m</sup> 7<br>20 <sup>h</sup> : 56 <sup>m</sup> 5<br>SD: 15 <sup>h</sup> 5<br>PMG: 7 <sup>h</sup> 49 <sup>m</sup> R°: 44 <sup>m</sup> |                     |                         |         |               |                      |       |                |      |                |       |    |
|    | hG ☉                                                            | Dec  |          | hG ☾                                                                                                                                                                                                                               | Dif                 | Dec                     |         |               | Dif                  | Civil | Náutico        | Hora | R°             | Hora  | R° |
| h  | °                                                               | '    | °        | °                                                                                                                                                                                                                                  | '                   | °                       | '       | °             | h m                  | h m   | h m            | h m  | m              | h m   | m  |
| 0  | 180                                                             | 55.3 | +18 24.9 | 246                                                                                                                                                                                                                                | 12.5                | -11 23.4                | 141     | 60 N          | 20 28                | 21 31 | ** **          | 2 58 | 1              | 12 59 | 89 |
| 1  | 195                                                             | 55.3 | 25.5     | 260                                                                                                                                                                                                                                | 44.8 <sup>133</sup> | -11 09.3 <sup>141</sup> | 141     | 58            | 15                   | 21 10 | 22 47          | 52   | 4              | 13 04 | 85 |
| 2  | 210                                                             | 55.3 | 26.1     | 275                                                                                                                                                                                                                                | 17.2 <sup>134</sup> | -10 55.3 <sup>140</sup> | 140     | 56            | 20 04                | 20 53 | 22 09          | 47   | 7              | 08    | 82 |
| 3  | 225                                                             | 55.3 | 26.7     | 289                                                                                                                                                                                                                                | 49.6 <sup>134</sup> | 41.2 <sup>141</sup>     | 141     | 54            | 19 54                | 39    | 21 44          | 42   | 9              | 12    | 79 |
| 4  | 240                                                             | 55.3 | 27.3     | 304                                                                                                                                                                                                                                | 22.2 <sup>136</sup> | 27.0 <sup>142</sup>     | 142     | 52            | 45                   | 27    | 24             | 37   | 12             | 16    | 76 |
| 5  | 255                                                             | 55.3 | +18 27.9 | 318                                                                                                                                                                                                                                | 54.8 <sup>136</sup> | -10 12.9 <sup>141</sup> | 141     | 50            | 19 37                | 20 16 | 21 08          | 2 33 | 15             | 13 19 | 74 |
| 6  | 270                                                             | 55.3 | +18 28.6 | 333                                                                                                                                                                                                                                | 27.5 <sup>137</sup> | -9 58.6 <sup>143</sup>  | 143     | 45            | 19 20                | 19 54 | 20 38          | 2 24 | 20             | 13 26 | 68 |
| 7  | 285                                                             | 55.3 | 29.2     | 348                                                                                                                                                                                                                                | 00.2 <sup>137</sup> | 44.4 <sup>142</sup>     | 142     | 40            | 19 07                | 37    | 20 15          | 17   | 23             | 31    | 65 |
| 8  | 300                                                             | 55.3 | 29.8     | 2                                                                                                                                                                                                                                  | 33.1 <sup>139</sup> | 30.1 <sup>143</sup>     | 143     | 35            | 18 55                | 23    | 19 57          | 11   | 26             | 36    | 61 |
| 9  | 315                                                             | 55.3 | 30.4     | 17                                                                                                                                                                                                                                 | 05.9 <sup>138</sup> | 15.9 <sup>142</sup>     | 142     | 30            | 45                   | 19 11 | 43             | 2 05 | 30             | 40    | 58 |
| 10 | 330                                                             | 55.3 | 31.0     | 31                                                                                                                                                                                                                                 | 38.9 <sup>140</sup> | -9 01.5 <sup>144</sup>  | 144     | 20            | 28                   | 18 52 | 20             | 1 55 | 35             | 48    | 52 |
| 11 | 345                                                             | 55.3 | +18 31.6 | 46                                                                                                                                                                                                                                 | 11.9 <sup>140</sup> | -8 47.2 <sup>143</sup>  | 143     | 10 N          | 18 13                | 18 36 | 19 02          | 1 47 | 40             | 13 54 | 48 |
| 12 | 0                                                               | 55.3 | +18 32.2 | 60                                                                                                                                                                                                                                 | 45.0 <sup>141</sup> | -8 32.8 <sup>144</sup>  | 144     | 0             | 18 00                | 18 22 | 18 47          | 1 39 | 44             | 14 00 | 43 |
| 13 | 15                                                              | 55.4 | 32.8     | 75                                                                                                                                                                                                                                 | 18.2 <sup>142</sup> | 18.4 <sup>144</sup>     | 144     | 10 S          | 17 46                | 18 08 | 34             | 31   | 48             | 06    | 39 |
| 14 | 30                                                              | 55.4 | 33.4     | 89                                                                                                                                                                                                                                 | 51.4 <sup>142</sup> | -8 04.0 <sup>144</sup>  | 144     | 20            | 32                   | 17 55 | 22             | 22   | 53             | 12    | 34 |
| 15 | 45                                                              | 55.4 | 34.0     | 104                                                                                                                                                                                                                                | 24.7 <sup>143</sup> | -7 49.6 <sup>144</sup>  | 144     | 30            | 16                   | 41    | 10             | 12   | 59             | 19    | 29 |
| 16 | 60                                                              | 55.4 | 34.6     | 118                                                                                                                                                                                                                                | 58.0 <sup>143</sup> | 35.1 <sup>145</sup>     | 145     | 35            | 17 06                | 33    | 18 04          | 06   | 62             | 23    | 26 |
| 17 | 75                                                              | 55.4 | +18 35.3 | 133                                                                                                                                                                                                                                | 31.4 <sup>144</sup> | -7 20.6 <sup>145</sup>  | 145     | 40            | 16 56                | 17 25 | 17 57          | 1 00 | 65             | 14 28 | 22 |
| 18 | 90                                                              | 55.4 | +18 35.9 | 148                                                                                                                                                                                                                                | 04.8 <sup>144</sup> | -7 06.1 <sup>145</sup>  | 145     | 45            | 16 43                | 17 15 | 17 50          | 0 52 | 70             | 14 33 | 18 |
| 19 | 105                                                             | 55.4 | 36.5     | 162                                                                                                                                                                                                                                | 38.3 <sup>145</sup> | -6 51.6 <sup>145</sup>  | 145     | 50            | 28                   | 17 03 | 43             | 43   | 75             | 39    | 14 |
| 20 | 120                                                             | 55.4 | 37.1     | 177                                                                                                                                                                                                                                | 11.9 <sup>146</sup> | 37.1 <sup>145</sup>     | 145     | 52            | 21                   | 16 58 | 39             | 38   | 78             | 42    | 12 |
| 21 | 135                                                             | 55.4 | 37.7     | 191                                                                                                                                                                                                                                | 45.5 <sup>146</sup> | 22.5 <sup>146</sup>     | 146     | 54            | 13                   | 52    | 36             | 33   | 81             | 45    | 9  |
| 22 | 150                                                             | 55.4 | 38.3     | 206                                                                                                                                                                                                                                | 19.2 <sup>147</sup> | -6 08.0 <sup>145</sup>  | 145     | 56            | 16 04                | 46    | 32             | 28   | 83             | 48    | 7  |
| 23 | 165                                                             | 55.4 | 38.9     | 220                                                                                                                                                                                                                                | 52.9 <sup>147</sup> | -5 53.4 <sup>146</sup>  | 146     | 58            | 15 54                | 39    | 28             | 22   | 87             | 52    | 4  |
| 24 | 180                                                             | 55.4 | +18 39.5 | 235                                                                                                                                                                                                                                | 26.7 <sup>148</sup> | -5 38.8 <sup>146</sup>  | 146     | 60 S          | 15 42                | 16 31 | 17 23          | 0 16 | 90             | 14 56 | 1  |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 8 <sup>h</sup> 34 <sup>m</sup> 2 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 14 <sup>m</sup> |          | Mag: +1.7<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |          | Mag: -2.2<br>PMG: 19 <sup>h</sup> 17 <sup>m</sup> |         | Mag: +0.1<br>PMG: 15 <sup>h</sup> 17 <sup>m</sup> |          |
|     | hG ♈                                  |      | hG ♀                                              | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec      |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                 | '        |
| 0   | 231                                   | 05.2 | 145 57.2                                          | +27 34.8 | 137 09.5                                          | +24 38.0 | 69 59.0                                           | +9 24.1 | 130 14.3                                          | +22 42.2 |
| 1   | 246                                   | 07.7 | 160 59.1                                          | 34.7     | 152 10.2                                          | 38.0     | 85 01.5                                           | 24.1    | 145 16.5                                          | 42.2     |
| 2   | 261                                   | 10.1 | 176 01.1                                          | 34.5     | 167 11.0                                          | 37.9     | 100 03.9                                          | 24.0    | 160 18.7                                          | 42.2     |
| 3   | 276                                   | 12.6 | 191 03.0                                          | 34.3     | 182 11.7                                          | 37.9     | 115 06.3                                          | 24.0    | 175 20.9                                          | 42.2     |
| 4   | 291                                   | 15.1 | 206 05.0                                          | 34.2     | 197 12.4                                          | 37.8     | 130 08.7                                          | 24.0    | 190 23.1                                          | 42.2     |
| 5   | 306                                   | 17.5 | 221 06.9                                          | +27 34.0 | 212 13.1                                          | +24 37.8 | 145 11.1                                          | +9 24.0 | 205 25.3                                          | +22 42.2 |
| 6   | 321                                   | 20.0 | 236 08.9                                          | +27 33.9 | 227 13.9                                          | +24 37.8 | 160 13.5                                          | +9 23.9 | 220 27.5                                          | +22 42.2 |
| 7   | 336                                   | 22.4 | 251 10.8                                          | 33.7     | 242 14.6                                          | 37.7     | 175 15.9                                          | 23.9    | 235 29.7                                          | 42.1     |
| 8   | 351                                   | 24.9 | 266 12.8                                          | 33.5     | 257 15.3                                          | 37.7     | 190 18.3                                          | 23.9    | 250 31.9                                          | 42.1     |
| 9   | 6                                     | 27.4 | 281 14.8                                          | 33.4     | 272 16.0                                          | 37.6     | 205 20.7                                          | 23.8    | 265 34.0                                          | 42.1     |
| 10  | 21                                    | 29.8 | 296 16.8                                          | 33.2     | 287 16.8                                          | 37.6     | 220 23.1                                          | 23.8    | 280 36.2                                          | 42.1     |
| 11  | 36                                    | 32.3 | 311 18.8                                          | +27 33.1 | 302 17.5                                          | +24 37.5 | 235 25.5                                          | +9 23.8 | 295 38.4                                          | +22 42.1 |
| 12  | 51                                    | 34.8 | 326 20.7                                          | +27 32.9 | 317 18.2                                          | +24 37.5 | 250 28.0                                          | +9 23.7 | 310 40.6                                          | +22 42.1 |
| 13  | 66                                    | 37.2 | 341 22.7                                          | 32.7     | 332 18.9                                          | 37.5     | 265 30.4                                          | 23.7    | 325 42.8                                          | 42.1     |
| 14  | 81                                    | 39.7 | 356 24.7                                          | 32.6     | 347 19.6                                          | 37.4     | 280 32.8                                          | 23.7    | 340 45.0                                          | 42.0     |
| 15  | 96                                    | 42.2 | 11 26.7                                           | 32.4     | 2 20.4                                            | 37.4     | 295 35.2                                          | 23.7    | 355 47.2                                          | 42.0     |
| 16  | 111                                   | 44.6 | 26 28.7                                           | 32.2     | 17 21.1                                           | 37.3     | 310 37.6                                          | 23.6    | 10 49.4                                           | 42.0     |
| 17  | 126                                   | 47.1 | 41 30.7                                           | +27 32.1 | 32 21.8                                           | +24 37.3 | 325 40.0                                          | +9 23.6 | 25 51.5                                           | +22 42.0 |
| 18  | 141                                   | 49.6 | 56 32.8                                           | +27 31.9 | 47 22.5                                           | +24 37.2 | 340 42.4                                          | +9 23.6 | 40 53.7                                           | +22 42.0 |
| 19  | 156                                   | 52.0 | 71 34.8                                           | 31.7     | 62 23.3                                           | 37.2     | 355 44.8                                          | 23.5    | 55 55.9                                           | 42.0     |
| 20  | 171                                   | 54.5 | 86 36.8                                           | 31.6     | 77 24.0                                           | 37.1     | 10 47.2                                           | 23.5    | 70 58.1                                           | 42.0     |
| 21  | 186                                   | 56.9 | 101 38.8                                          | 31.4     | 92 24.7                                           | 37.1     | 25 49.6                                           | 23.5    | 86 00.3                                           | 41.9     |
| 22  | 201                                   | 59.4 | 116 40.9                                          | 31.2     | 107 25.4                                          | 37.0     | 40 52.0                                           | 23.4    | 101 02.5                                          | 41.9     |
| 23  | 217                                   | 01.9 | 131 42.9                                          | 31.0     | 122 26.2                                          | 37.0     | 55 54.4                                           | 23.4    | 116 04.7                                          | 41.9     |
| 24  | 232                                   | 04.3 | 146 44.9                                          | +27 30.9 | 137 26.9                                          | +24 36.9 | 70 56.8                                           | +9 23.4 | 131 06.8                                          | +22 41.9 |
| Dif | —                                     |      | +20                                               | -2       | +7                                                | 0        | +24                                               | 0       | +22                                               |          |

| UT  | SOL                                                             |      |                                                   |      | ☾ LUNA                                                                                                                                                                                                    |                     |                                                   |                        | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |      | Puesta de Luna                                    |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |                                                   |      | Edad: 24 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 56 <sup>h</sup> 3<br>12 <sup>h</sup> : 56 <sup>h</sup> 1<br>20 <sup>h</sup> : 55 <sup>h</sup> 9<br>PMG: 8 <sup>h</sup> 33 <sup>m</sup> R°: 42 <sup>m</sup> |                     |                                                   |                        |         |                          |                                                   |               |                |      |                                                   |      |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                                                                                                                                      |                     | Dif                                               |                        |         | Náutico                  | Civil                                             |               | Hora           | R°   | Hora                                              | R°   |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                         | '                   | °                                                 | '                      | °       | h                        | m                                                 | h             | m              | h    | m                                                 | h    | m   | m    |
| 0   | 180                                                             | 55.4 | +18                                               | 39.5 | 235                                                                                                                                                                                                       | 26.7                | -5                                                | 38.8                   | 60 N    | **                       | **                                                | 2             | 21             | 3    | 24                                                | 2    | 59  | 0    |
| 1   | 195                                                             | 55.3 |                                                   | 40.1 | 250                                                                                                                                                                                                       | 00.5 <sup>148</sup> |                                                   | 24.2 <sup>146</sup>    | 58      | 1                        | 05                                                | 42            | 37             |      |                                                   | 56   | 3   | 29   |
| 2   | 210                                                             | 55.3 |                                                   | 40.7 | 264                                                                                                                                                                                                       | 34.3 <sup>148</sup> |                                                   | -5 09.6 <sup>146</sup> | 56      | 1                        | 43                                                | 2             | 59             | 49   |                                                   | 54   | 6   | 30   |
| 3   | 225                                                             | 55.3 |                                                   | 41.3 | 279                                                                                                                                                                                                       | 08.2 <sup>149</sup> |                                                   | -4 55.0 <sup>146</sup> | 54      | 2                        | 08                                                | 3             | 13             | 3    | 58                                                | 51   | 9   | 31   |
| 4   | 240                                                             | 55.3 |                                                   | 41.9 | 293                                                                                                                                                                                                       | 42.2 <sup>150</sup> |                                                   | 40.4 <sup>146</sup>    | 52      | 28                       | 25                                                | 4             | 07             |      |                                                   | 49   | 11  | 32   |
| 5   | 255                                                             | 55.3 | +18                                               | 42.5 | 308                                                                                                                                                                                                       | 16.2 <sup>150</sup> |                                                   | -4 25.7 <sup>147</sup> | 50      | 2                        | 44                                                | 3             | 36             | 4    | 15                                                | 2    | 48  | 13   |
| 6   | 270                                                             | 55.3 | +18                                               | 43.1 | 322                                                                                                                                                                                                       | 50.2 <sup>150</sup> |                                                   | -4 11.1 <sup>146</sup> | 45      | 3                        | 15                                                | 3             | 58             | 4    | 32                                                | 2    | 44  | 17   |
| 7   | 285                                                             | 55.3 |                                                   | 43.7 | 337                                                                                                                                                                                                       | 24.3 <sup>151</sup> |                                                   | -3 56.5 <sup>146</sup> | 40      | 37                       | 4                                                 | 15            | 45             |      |                                                   | 40   | 22  | 36   |
| 8   | 300                                                             | 55.3 |                                                   | 44.3 | 351                                                                                                                                                                                                       | 58.4 <sup>151</sup> |                                                   | 41.8 <sup>147</sup>    | 35      | 3                        | 55                                                | 29            | 4              | 57   |                                                   | 37   | 25  | 37   |
| 9   | 315                                                             | 55.3 |                                                   | 44.9 | 6                                                                                                                                                                                                         | 32.6 <sup>152</sup> |                                                   | 27.2 <sup>146</sup>    | 30      | 4                        | 10                                                | 4             | 41             | 5    | 07                                                | 35   | 28  | 38   |
| 10  | 330                                                             | 55.3 |                                                   | 45.5 | 21                                                                                                                                                                                                        | 06.7 <sup>151</sup> |                                                   | -3 12.5 <sup>147</sup> | 20      | 33                       | 5                                                 | 01            | 24             |      |                                                   | 30   | 34  | 40   |
| 11  | 345                                                             | 55.3 | +18                                               | 46.1 | 35                                                                                                                                                                                                        | 41.0 <sup>153</sup> |                                                   | -2 57.9 <sup>146</sup> | 10 N    | 4                        | 51                                                | 5             | 17             | 5    | 39                                                | 2    | 27  | 37   |
| 12  | 0                                                               | 55.3 | +18                                               | 46.7 | 50                                                                                                                                                                                                        | 15.2 <sup>152</sup> |                                                   | -2 43.2 <sup>147</sup> | 0       | 5                        | 06                                                | 5             | 31             | 5    | 53                                                | 2    | 23  | 42   |
| 13  | 15                                                              | 55.3 |                                                   | 47.3 | 64                                                                                                                                                                                                        | 49.5 <sup>153</sup> |                                                   | 28.5 <sup>147</sup>    | 10 S    | 19                       | 44                                                | 6             | 06             |      |                                                   | 19   | 47  | 45   |
| 14  | 30                                                              | 55.3 |                                                   | 47.9 | 79                                                                                                                                                                                                        | 23.8 <sup>153</sup> |                                                   | -2 13.9 <sup>146</sup> | 20      | 31                       | 5                                                 | 58            | 21             |      |                                                   | 15   | 52  | 46   |
| 15  | 45                                                              | 55.3 |                                                   | 48.5 | 93                                                                                                                                                                                                        | 58.2 <sup>154</sup> |                                                   | -1 59.2 <sup>147</sup> | 30      | 43                       | 6                                                 | 12            | 37             |      |                                                   | 11   | 56  | 48   |
| 16  | 60                                                              | 55.3 |                                                   | 49.0 | 108                                                                                                                                                                                                       | 32.6 <sup>154</sup> |                                                   | 44.6 <sup>146</sup>    | 35      | 49                       | 20                                                | 47            |                |      |                                                   | 08   | 60  | 49   |
| 17  | 75                                                              | 55.3 | +18                                               | 49.6 | 123                                                                                                                                                                                                       | 07.0 <sup>154</sup> |                                                   | -1 30.0 <sup>146</sup> | 40      | 5                        | 56                                                | 6             | 29             | 6    | 58                                                | 2    | 05  | 64   |
| 18  | 90                                                              | 55.3 | +18                                               | 50.2 | 137                                                                                                                                                                                                       | 41.4 <sup>154</sup> |                                                   | -1 15.3 <sup>147</sup> | 45      | 6                        | 03                                                | 6             | 38             | 7    | 10                                                | 2    | 02  | 67   |
| 19  | 105                                                             | 55.3 |                                                   | 50.8 | 152                                                                                                                                                                                                       | 15.9 <sup>155</sup> |                                                   | -1 00.7 <sup>146</sup> | 50      | 11                       | 50                                                | 26            |                |      |                                                   | 1    | 58  | 72   |
| 20  | 120                                                             | 55.3 |                                                   | 51.4 | 166                                                                                                                                                                                                       | 50.4 <sup>155</sup> |                                                   | -0 46.1 <sup>146</sup> | 52      | 14                       | 6                                                 | 55            | 33             |      |                                                   | 56   | 75  | 54   |
| 21  | 135                                                             | 55.3 |                                                   | 52.0 | 181                                                                                                                                                                                                       | 24.9 <sup>155</sup> |                                                   | 31.4 <sup>147</sup>    | 54      | 18                       | 7                                                 | 01            | 41             |      |                                                   | 54   | 77  | 54   |
| 22  | 150                                                             | 55.3 |                                                   | 52.6 | 195                                                                                                                                                                                                       | 59.5 <sup>156</sup> |                                                   | 16.8 <sup>146</sup>    | 56      | 22                       | 07                                                | 7             | 50             |      |                                                   | 51   | 80  | 55   |
| 23  | 165                                                             | 55.3 |                                                   | 53.2 | 210                                                                                                                                                                                                       | 34.0 <sup>155</sup> |                                                   | -0 02.2 <sup>146</sup> | 58      | 26                       | 14                                                | 8             | 00             |      |                                                   | 49   | 83  | 56   |
| 24  | 180                                                             | 55.2 | +18                                               | 53.8 | 225                                                                                                                                                                                                       | 08.6 <sup>156</sup> |                                                   | +0 12.4 <sup>146</sup> | 60 S    | 6                        | 30                                                | 7             | 22             | 8    | 12                                                | 1    | 46  | 87   |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                           |                     | MARTE                                             |                        |         |                          | JÚPITER                                           |               |                |      | SATURNO                                           |      |     |      |
|     | PMG: 8 <sup>h</sup> 30 <sup>m</sup> 3                           |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 11 <sup>m</sup> |      |                                                                                                                                                                                                           |                     | Mag: +1.7<br>PMG: 14 <sup>h</sup> 49 <sup>m</sup> |                        |         |                          | Mag: -2.2<br>PMG: 19 <sup>h</sup> 13 <sup>m</sup> |               |                |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 13 <sup>m</sup> |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                                                                                                                                       |                     | hG ♂                                              |                        | Dec     |                          | hG ♃                                              |               | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                         | '                   | °                                                 | '                      | °       | '                        | °                                                 | '             | °              | '    | °                                                 | '    | °   | '    |
| 0   | 232                                                             | 04.3 | 146                                               | 44.9 | +27                                                                                                                                                                                                       | 30.9                | 137                                               | 26.9                   | +24     | 36.9                     | 70                                                | 56.8          | +9             | 23.4 | 131                                               | 06.8 | +22 | 41.9 |
| 1   | 247                                                             | 06.8 | 161                                               | 47.0 |                                                                                                                                                                                                           | 30.7                | 152                                               | 27.6                   |         | 36.9                     | 85                                                | 59.2          |                | 23.3 | 146                                               | 09.0 |     | 41.9 |
| 2   | 262                                                             | 09.3 | 176                                               | 49.0 |                                                                                                                                                                                                           | 30.5                | 167                                               | 28.3                   |         | 36.8                     | 101                                               | 01.6          |                | 23.3 | 161                                               | 11.2 |     | 41.9 |
| 3   | 277                                                             | 11.7 | 191                                               | 51.1 |                                                                                                                                                                                                           | 30.3                | 182                                               | 29.1                   |         | 36.8                     | 116                                               | 04.0          |                | 23.3 | 176                                               | 13.4 |     | 41.9 |
| 4   | 292                                                             | 14.2 | 206                                               | 53.1 |                                                                                                                                                                                                           | 30.2                | 197                                               | 29.8                   |         | 36.7                     | 131                                               | 06.4          |                | 23.2 | 191                                               | 15.6 |     | 41.8 |
| 5   | 307                                                             | 16.7 | 221                                               | 55.2 | +27                                                                                                                                                                                                       | 30.0                | 212                                               | 30.5                   | +24     | 36.7                     | 146                                               | 08.9          | +9             | 23.2 | 206                                               | 17.8 | +22 | 41.8 |
| 6   | 322                                                             | 19.1 | 236                                               | 57.2 | +27                                                                                                                                                                                                       | 29.8                | 227                                               | 31.2                   | +24     | 36.6                     | 161                                               | 11.3          | +9             | 23.2 | 221                                               | 20.0 | +22 | 41.8 |
| 7   | 337                                                             | 21.6 | 251                                               | 59.3 |                                                                                                                                                                                                           | 29.6                | 242                                               | 32.0                   |         | 36.6                     | 176                                               | 13.7          |                | 23.1 | 236                                               | 22.1 |     | 41.8 |
| 8   | 352                                                             | 24.1 | 267                                               | 01.4 |                                                                                                                                                                                                           | 29.4                | 257                                               | 32.7                   |         | 36.5                     | 191                                               | 16.1          |                | 23.1 | 251                                               | 24.3 |     | 41.8 |
| 9   | 7                                                               | 26.5 | 282                                               | 03.5 |                                                                                                                                                                                                           | 29.3                | 272                                               | 33.4                   |         | 36.5                     | 206                                               | 18.5          |                | 23.1 | 266                                               | 26.5 |     | 41.8 |
| 10  | 22                                                              | 29.0 | 297                                               | 05.5 |                                                                                                                                                                                                           | 29.1                | 287                                               | 34.1                   |         | 36.4                     | 221                                               | 20.9          |                | 23.0 | 281                                               | 28.7 |     | 41.8 |
| 11  | 37                                                              | 31.4 | 312                                               | 07.6 | +27                                                                                                                                                                                                       | 28.9                | 302                                               | 34.9                   | +24     | 36.4                     | 236                                               | 23.3          | +9             | 23.0 | 296                                               | 30.9 | +22 | 41.7 |
| 12  | 52                                                              | 33.9 | 327                                               | 09.7 | +27                                                                                                                                                                                                       | 28.7                | 317                                               | 35.6                   | +24     | 36.3                     | 251                                               | 25.7          | +9             | 23.0 | 311                                               | 33.1 | +22 | 41.7 |
| 13  | 67                                                              | 36.4 | 342                                               | 11.8 |                                                                                                                                                                                                           | 28.5                | 332                                               | 36.3                   |         | 36.3                     | 266                                               | 28.1          |                | 22.9 | 326                                               | 35.3 |     | 41.7 |
| 14  | 82                                                              | 38.8 | 357                                               | 13.9 |                                                                                                                                                                                                           | 28.3                | 347                                               | 37.0                   |         | 36.2                     | 281                                               | 30.5          |                | 22.9 | 341                                               | 37.4 |     | 41.7 |
| 15  | 97                                                              | 41.3 | 12                                                | 16.0 |                                                                                                                                                                                                           | 28.1                | 2                                                 | 37.8                   |         | 36.2                     | 296                                               | 32.9          |                | 22.9 | 356                                               | 39.6 |     | 41.7 |
| 16  | 112                                                             | 43.8 | 27                                                | 18.1 |                                                                                                                                                                                                           | 28.0                | 17                                                | 38.5                   |         | 36.1                     | 311                                               | 35.3          |                | 22.8 | 11                                                | 41.8 |     | 41.7 |
| 17  | 127                                                             | 46.2 | 42                                                | 20.2 | +27                                                                                                                                                                                                       | 27.8                | 32                                                | 39.2                   | +24     | 36.1                     | 326                                               | 37.7          | +9             | 22.8 | 26                                                | 44.0 | +22 | 41.7 |
| 18  | 142                                                             | 48.7 | 57                                                | 22.3 | +27                                                                                                                                                                                                       | 27.6                | 47                                                | 39.9                   | +24     | 36.0                     | 341                                               | 40.1          | +9             | 22.8 | 41                                                | 46.2 | +22 | 41.6 |
| 19  | 157                                                             | 51.2 | 72                                                | 24.5 |                                                                                                                                                                                                           | 27.4                | 62                                                | 40.6                   |         | 36.0                     | 356                                               | 42.5          |                | 22.7 | 56                                                | 48.4 |     | 41.6 |
| 20  | 172                                                             | 53.6 | 87                                                | 26.6 |                                                                                                                                                                                                           | 27.2                | 77                                                | 41.4                   |         | 35.9                     | 11                                                | 44.9          |                | 22.7 | 71                                                | 50.5 |     | 41.6 |
| 21  | 187                                                             | 56.1 | 102                                               | 28.7 |                                                                                                                                                                                                           | 27.0                | 92                                                | 42.1                   |         | 35.8                     | 26                                                | 47.3          |                | 22.7 | 86                                                | 52.7 |     | 41.6 |
| 22  | 202                                                             | 58.5 | 117                                               | 30.8 |                                                                                                                                                                                                           | 26.8                | 107                                               | 42.8                   |         | 35.8                     | 41                                                | 49.7          |                | 22.6 | 101                                               | 54.9 |     | 41.6 |
| 23  | 218                                                             | 01.0 | 132                                               | 33.0 |                                                                                                                                                                                                           | 26.6                | 122                                               | 43.5                   |         | 35.7                     | 56                                                | 52.1          |                | 22.6 | 116                                               | 57.1 |     | 41.6 |
| 24  | 233                                                             | 03.5 | 147                                               | 35.1 | +27                                                                                                                                                                                                       | 26.4                | 137                                               | 44.3                   | +24     | 35.7                     | 71                                                | 54.5          | +9             | 22.5 | 131                                               | 59.3 | +22 | 41.5 |
| Dif | —                                                               |      | +21                                               |      | -2                                                                                                                                                                                                        |                     | +7                                                |                        | -1      |                          | +24                                               |               | 0              |      | +22                                               |      | 0   |      |

| UT | SOL                                    |      |          |  LUNA                                                         |                     |                        | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |         | Puesta de Luna |          |    |
|----|----------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------|---------|---------------|----------------------|-------|----------------|---------|----------------|----------|----|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 25 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 55 <sup>m</sup> 7<br>12 <sup>h</sup> : 55 <sup>m</sup> 5<br>20 <sup>h</sup> : 55 <sup>m</sup> 4 |                     |                        |         |               |                      |       |                |         |                |          |    |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |          | SD: 15 <sup>h</sup> 2<br>PMG: 9 <sup>h</sup> 15 <sup>m</sup> R°: 42 <sup>m</sup>                                                               |                     |                        |         |               |                      |       |                |         |                |          |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                                                           | Dif                 | Dec                    | Dif     |               |                      | Civil | Náutico        | Hora    | R°             | Hora     | R° |
| h  | °                                      | '    | °        | °                                                                                                                                              | '                   | °                      | '       | °             | h m                  | h m   | h m            | h m     | m              | h m      | m  |
| 0  | 180                                    | 55.2 | +18 53.8 | 225                                                                                                                                            | 08.6                | +0 12.4                | 60 N    | 20 33         | 21 37                | ** ** |                | 2 59 0  |                | 15 53 86 |    |
| 1  | 195                                    | 55.2 | 54.4     | 239                                                                                                                                            | 43.2 <sup>156</sup> | 26.9 <sup>145</sup>    | 58      | 19            | 21 15                | 23 00 |                | 2 59 4  |                | 51 82    |    |
| 2  | 210                                    | 55.2 | 54.9     | 254                                                                                                                                            | 17.8 <sup>156</sup> | 41.5 <sup>146</sup>    | 56      | 20 07         | 20 58                | 22 17 |                | 3 00 6  |                | 49 79    |    |
| 3  | 225                                    | 55.2 | 55.5     | 268                                                                                                                                            | 52.4 <sup>156</sup> | +0 56.0 <sup>145</sup> | 54      | 19 57         | 43                   | 21 50 |                | 00 9    |                | 47 76    |    |
| 4  | 240                                    | 55.2 | 56.1     | 283                                                                                                                                            | 27.1 <sup>157</sup> | +1 10.6 <sup>146</sup> | 52      | 48            | 30                   | 29    |                | 00 11   |                | 46 73    |    |
| 5  | 255                                    | 55.2 | +18 56.7 | 298                                                                                                                                            | 01.8 <sup>157</sup> | +1 25.1 <sup>145</sup> | 50      | 19 40         | 20 19                | 21 12 |                | 3 01 13 |                | 15 44 72 |    |
| 6  | 270                                    | 55.2 | +18 57.3 | 312                                                                                                                                            | 36.4 <sup>156</sup> | +1 39.6 <sup>145</sup> | 45      | 19 23         | 19 57                | 20 41 |                | 3 01 18 |                | 15 41 67 |    |
| 7  | 285                                    | 55.2 | 57.9     | 327                                                                                                                                            | 11.1 <sup>157</sup> | +1 54.1 <sup>145</sup> | 40      | 19 09         | 39                   | 20 17 |                | 02 21   |                | 39 62    |    |
| 8  | 300                                    | 55.2 | 58.5     | 341                                                                                                                                            | 45.8 <sup>157</sup> | +2 08.6 <sup>145</sup> | 35      | 18 57         | 25                   | 19 59 |                | 02 25   |                | 36 59    |    |
| 9  | 315                                    | 55.2 | 59.0     | 356                                                                                                                                            | 20.5 <sup>157</sup> | 23.0 <sup>144</sup>    | 30      | 47            | 19 13                | 44    |                | 03 28   |                | 34 56    |    |
| 10 | 330                                    | 55.2 | +18 59.6 | 10                                                                                                                                             | 55.3 <sup>158</sup> | 37.5 <sup>145</sup>    | 20      | 29            | 18 53                | 21    |                | 04 32   |                | 31 50    |    |
| 11 | 345                                    | 55.1 | +19 00.2 | 25                                                                                                                                             | 30.0 <sup>157</sup> | +2 51.9 <sup>144</sup> | 10 N    | 18 14         | 18 36                | 19 02 |                | 3 04 38 |                | 15 28 46 |    |
| 12 | 0                                      | 55.1 | +19 00.8 | 40                                                                                                                                             | 04.7 <sup>157</sup> | +3 06.3 <sup>144</sup> | 0       | 18 00         | 18 22                | 18 47 |                | 3 05 42 |                | 15 25 42 |    |
| 13 | 15                                     | 55.1 | 01.4     | 54                                                                                                                                             | 39.5 <sup>158</sup> | 20.7 <sup>144</sup>    | 10 S    | 17 46         | 18 08                | 34    |                | 06 46   |                | 22 38    |    |
| 14 | 30                                     | 55.1 | 02.0     | 69                                                                                                                                             | 14.2 <sup>157</sup> | 35.0 <sup>143</sup>    | 20      | 31            | 17 54                | 21    |                | 07 50   |                | 19 33    |    |
| 15 | 45                                     | 55.1 | 02.5     | 83                                                                                                                                             | 49.0 <sup>158</sup> | +3 49.3 <sup>143</sup> | 30      | 14            | 40                   | 09    |                | 07 56   |                | 16 28    |    |
| 16 | 60                                     | 55.1 | 03.1     | 98                                                                                                                                             | 23.7 <sup>157</sup> | +4 03.6 <sup>143</sup> | 35      | 17 05         | 32                   | 18 02 |                | 08 59   |                | 14 25    |    |
| 17 | 75                                     | 55.1 | +19 03.7 | 112                                                                                                                                            | 58.5 <sup>158</sup> | +4 17.9 <sup>143</sup> | 40      | 16 54         | 17 23                | 17 56 |                | 3 09 62 |                | 15 11 22 |    |
| 18 | 90                                     | 55.1 | +19 04.3 | 127                                                                                                                                            | 33.2 <sup>157</sup> | +4 32.2 <sup>143</sup> | 45      | 16 41         | 17 13                | 17 48 |                | 3 09 67 |                | 15 09 18 |    |
| 19 | 105                                    | 55.1 | 04.9     | 142                                                                                                                                            | 08.0 <sup>158</sup> | +4 46.4 <sup>142</sup> | 50      | 25            | 17 01                | 40    |                | 10 71   |                | 06 13    |    |
| 20 | 120                                    | 55.0 | 05.4     | 156                                                                                                                                            | 42.7 <sup>157</sup> | +5 00.6 <sup>142</sup> | 52      | 18            | 16 55                | 37    |                | 11 73   |                | 04 12    |    |
| 21 | 135                                    | 55.0 | 06.0     | 171                                                                                                                                            | 17.5 <sup>158</sup> | 14.8 <sup>142</sup>    | 54      | 10            | 50                   | 33    |                | 11 76   |                | 03 9     |    |
| 22 | 150                                    | 55.0 | 06.6     | 185                                                                                                                                            | 52.2 <sup>157</sup> | 28.9 <sup>141</sup>    | 56      | 16 00         | 43                   | 29    |                | 11 79   |                | 15 01 7  |    |
| 23 | 165                                    | 55.0 | 07.2     | 200                                                                                                                                            | 27.0 <sup>158</sup> | 43.0 <sup>141</sup>    | 58      | 15 50         | 36                   | 25    |                | 12 82   |                | 14 59 4  |    |
| 24 | 180                                    | 55.0 | +19 07.7 | 215                                                                                                                                            | 01.7 <sup>157</sup> | +5 57.1 <sup>141</sup> | 60 S    | 15 38         | 16 28                | 17 20 |                | 3 13 85 |                | 14 57 1  |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 8 <sup>h</sup> 26 <sup>m</sup> 4 |      | Mag: -4.7<br>PMG: 14 <sup>h</sup> 08 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |     | Mag: -2.2<br>PMG: 19 <sup>h</sup> 09 <sup>m</sup> |          | Mag: +0.1<br>PMG: 15 <sup>h</sup> 10 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 233                                   | 03.5 | 147                                               | 35.1 | +27 26.4                                          | 137 | 44.3                                              | +24 35.7 | 71                                                | 54.5 | +9 22.5 | 131 | 59.3 | +22 41.5 |
| 1   | 248                                   | 05.9 | 162                                               | 37.3 | 26.2                                              | 152 | 45.0                                              | 35.6     | 86                                                | 56.9 | 22.5    | 147 | 01.5 | 41.5     |
| 2   | 263                                   | 08.4 | 177                                               | 39.4 | 26.0                                              | 167 | 45.7                                              | 35.6     | 101                                               | 59.2 | 22.5    | 162 | 03.7 | 41.5     |
| 3   | 278                                   | 10.9 | 192                                               | 41.6 | 25.8                                              | 182 | 46.4                                              | 35.5     | 117                                               | 01.6 | 22.4    | 177 | 05.8 | 41.5     |
| 4   | 293                                   | 13.3 | 207                                               | 43.7 | 25.6                                              | 197 | 47.2                                              | 35.4     | 132                                               | 04.0 | 22.4    | 192 | 08.0 | 41.5     |
| 5   | 308                                   | 15.8 | 222                                               | 45.9 | +27 25.4                                          | 212 | 47.9                                              | +24 35.4 | 147                                               | 06.4 | +9 22.4 | 207 | 10.2 | +22 41.5 |
| 6   | 323                                   | 18.3 | 237                                               | 48.1 | +27 25.2                                          | 227 | 48.6                                              | +24 35.3 | 162                                               | 08.8 | +9 22.3 | 222 | 12.4 | +22 41.5 |
| 7   | 338                                   | 20.7 | 252                                               | 50.2 | 25.0                                              | 242 | 49.3                                              | 35.3     | 177                                               | 11.2 | 22.3    | 237 | 14.6 | 41.4     |
| 8   | 353                                   | 23.2 | 267                                               | 52.4 | 24.8                                              | 257 | 50.1                                              | 35.2     | 192                                               | 13.6 | 22.3    | 252 | 16.8 | 41.4     |
| 9   | 8                                     | 25.7 | 282                                               | 54.6 | 24.6                                              | 272 | 50.8                                              | 35.2     | 207                                               | 16.0 | 22.2    | 267 | 18.9 | 41.4     |
| 10  | 23                                    | 28.1 | 297                                               | 56.8 | 24.4                                              | 287 | 51.5                                              | 35.1     | 222                                               | 18.4 | 22.2    | 282 | 21.1 | 41.4     |
| 11  | 38                                    | 30.6 | 312                                               | 59.0 | +27 24.2                                          | 302 | 52.2                                              | +24 35.0 | 237                                               | 20.8 | +9 22.2 | 297 | 23.3 | +22 41.4 |
| 12  | 53                                    | 33.0 | 328                                               | 01.1 | +27 24.0                                          | 317 | 53.0                                              | +24 35.0 | 252                                               | 23.2 | +9 22.1 | 312 | 25.5 | +22 41.4 |
| 13  | 68                                    | 35.5 | 343                                               | 03.3 | 23.8                                              | 332 | 53.7                                              | 34.9     | 267                                               | 25.6 | 22.1    | 327 | 27.7 | 41.4     |
| 14  | 83                                    | 38.0 | 358                                               | 05.5 | 23.6                                              | 347 | 54.4                                              | 34.8     | 282                                               | 28.0 | 22.0    | 342 | 29.8 | 41.3     |
| 15  | 98                                    | 40.4 | 13                                                | 07.7 | 23.4                                              | 2   | 55.1                                              | 34.8     | 297                                               | 30.4 | 22.0    | 357 | 32.0 | 41.3     |
| 16  | 113                                   | 42.9 | 28                                                | 10.0 | 23.2                                              | 17  | 55.9                                              | 34.7     | 312                                               | 32.8 | 22.0    | 12  | 34.2 | 41.3     |
| 17  | 128                                   | 45.4 | 43                                                | 12.2 | +27 22.9                                          | 32  | 56.6                                              | +24 34.7 | 327                                               | 35.2 | +9 21.9 | 27  | 36.4 | +22 41.3 |
| 18  | 143                                   | 47.8 | 58                                                | 14.4 | +27 22.7                                          | 47  | 57.3                                              | +24 34.6 | 342                                               | 37.6 | +9 21.9 | 42  | 38.6 | +22 41.3 |
| 19  | 158                                   | 50.3 | 73                                                | 16.6 | 22.5                                              | 62  | 58.1                                              | 34.5     | 357                                               | 40.0 | 21.9    | 57  | 40.8 | 41.3     |
| 20  | 173                                   | 52.8 | 88                                                | 18.8 | 22.3                                              | 77  | 58.8                                              | 34.5     | 12                                                | 42.3 | 21.8    | 72  | 42.9 | 41.2     |
| 21  | 188                                   | 55.2 | 103                                               | 21.1 | 22.1                                              | 92  | 59.5                                              | 34.4     | 27                                                | 44.7 | 21.8    | 87  | 45.1 | 41.2     |
| 22  | 203                                   | 57.7 | 118                                               | 23.3 | 21.9                                              | 108 | 00.2                                              | 34.4     | 42                                                | 47.1 | 21.7    | 102 | 47.3 | 41.2     |
| 23  | 219                                   | 00.1 | 133                                               | 25.6 | 21.7                                              | 123 | 01.0                                              | 34.3     | 57                                                | 49.5 | 21.7    | 117 | 49.5 | 41.2     |
| 24  | 234                                   | 02.6 | 148                                               | 27.8 | +27 21.4                                          | 138 | 01.7                                              | +24 34.2 | 72                                                | 51.9 | +9 21.7 | 132 | 51.7 | +22 41.2 |
| Dif | —                                     |      | +22                                               |      | -2                                                | +7  |                                                   | -1       | +24                                               |      | 0       | +22 |      |          |

| UT | SOL                                                             |      |     |      | ● LUNA                                                                                                                                                                                                    |                     |     |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |    |    |    |
|----|-----------------------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|----|----|----|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |     |      | Edad: 26 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 55 <sup>m</sup> 2<br>12 <sup>h</sup> : 55 <sup>m</sup> 1<br>20 <sup>h</sup> : 54 <sup>m</sup> 9<br>PMG: 9 <sup>h</sup> 57 <sup>m</sup> R°: 42 <sup>m</sup> |                     |     |                     |         |                          |       |               |                |    |                |    |    |    |    |    |    |
|    | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                      |                     | Dif |                     |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |    |    |    |    |
| h  | °                                                               | '    | °   | '    | °                                                                                                                                                                                                         | '                   | °   | '                   | °       | h                        | m     | h             | m              | h  | m              | h  | m  | m  |    |    |    |
| 0  | 180                                                             | 55.0 | +19 | 07.7 | 215                                                                                                                                                                                                       | 01.7                | +5  | 57.1                | 60 N    | **                       | **    | 2             | 15             | 3  | 19             | 2  | 59 | 1  |    |    |    |
| 1  | 195                                                             | 55.0 |     | 08.3 | 229                                                                                                                                                                                                       | 36.4 <sup>157</sup> | +6  | 11.1 <sup>140</sup> | 58      | 0                        | 52    | 37            | 33             | 3  | 03             | 4  |    | 13 | 83 |    |    |
| 2  | 210                                                             | 55.0 |     | 08.9 | 244                                                                                                                                                                                                       | 11.1 <sup>157</sup> |     | 25.2 <sup>141</sup> | 56      | 1                        | 35    | 2             | 54             | 45 | 06             | 7  |    | 08 | 79 |    |    |
| 3  | 225                                                             | 55.0 |     | 09.5 | 258                                                                                                                                                                                                       | 45.9 <sup>158</sup> |     | 39.1 <sup>139</sup> | 54      | 2                        | 02    | 3             | 09             | 3  | 55             | 09 | 9  | 17 | 03 | 7  |    |
| 4  | 240                                                             | 54.9 |     | 10.0 | 273                                                                                                                                                                                                       | 20.6 <sup>157</sup> | +6  | 53.1 <sup>140</sup> | 52      |                          | 23    | 22            | 4              | 04 | 11             | 12 |    | 16 | 59 | 74 |    |
| 5  | 255                                                             | 54.9 | +19 | 10.6 | 287                                                                                                                                                                                                       | 55.2 <sup>156</sup> | +7  | 07.0 <sup>139</sup> | 50      | 2                        | 40    | 3             | 33             | 4  | 12             | 3  | 14 | 14 | 16 | 56 | 71 |
| 6  | 270                                                             | 54.9 | +19 | 11.2 | 302                                                                                                                                                                                                       | 29.9 <sup>157</sup> | +7  | 20.9 <sup>139</sup> | 45      | 3                        | 12    | 3             | 55             | 4  | 30             | 3  | 19 | 19 | 16 | 48 | 66 |
| 7  | 285                                                             | 54.9 |     | 11.8 | 317                                                                                                                                                                                                       | 04.6 <sup>157</sup> |     | 34.7 <sup>138</sup> | 40      |                          | 35    | 4             | 13             | 44 | 23             | 23 |    | 41 | 62 |    |    |
| 8  | 300                                                             | 54.9 |     | 12.3 | 331                                                                                                                                                                                                       | 39.2 <sup>156</sup> | +7  | 48.5 <sup>138</sup> | 35      | 3                        | 53    | 27            | 4              | 56 | 27             | 26 |    | 35 | 59 |    |    |
| 9  | 315                                                             | 54.9 |     | 12.9 | 346                                                                                                                                                                                                       | 13.9 <sup>157</sup> | +8  | 02.3 <sup>138</sup> | 30      | 4                        | 08    | 4             | 40             | 5  | 06             | 31 | 28 |    | 30 | 56 |    |
| 10 | 330                                                             | 54.8 |     | 13.5 | 0                                                                                                                                                                                                         | 48.5 <sup>156</sup> |     | 16.0 <sup>137</sup> | 20      |                          | 32    | 5             | 00             | 23 | 36             | 34 |    | 21 | 51 |    |    |
| 11 | 345                                                             | 54.8 | +19 | 14.0 | 15                                                                                                                                                                                                        | 23.1 <sup>156</sup> | +8  | 29.7 <sup>137</sup> | 10 N    | 4                        | 50    | 5             | 16             | 5  | 39             | 3  | 42 | 38 | 16 | 14 | 46 |
| 12 | 0                                                               | 54.8 | +19 | 14.6 | 29                                                                                                                                                                                                        | 57.7 <sup>156</sup> | +8  | 43.3 <sup>136</sup> | 0       | 5                        | 05    | 5             | 31             | 5  | 53             | 3  | 47 | 42 | 16 | 07 | 42 |
| 13 | 15                                                              | 54.8 |     | 15.2 | 44                                                                                                                                                                                                        | 32.3 <sup>156</sup> | +8  | 56.9 <sup>136</sup> | 10 S    |                          | 19    | 45            | 6              | 07 | 52             | 46 |    | 16 | 00 | 38 |    |
| 14 | 30                                                              | 54.8 |     | 15.7 | 59                                                                                                                                                                                                        | 06.8 <sup>155</sup> | +9  | 10.5 <sup>136</sup> | 20      | 32                       | 5     | 58            | 22             | 3  | 57             | 51 |    | 15 | 52 | 34 |    |
| 15 | 45                                                              | 54.8 |     | 16.3 | 73                                                                                                                                                                                                        | 41.3 <sup>155</sup> |     | 24.0 <sup>135</sup> | 30      | 44                       | 6     | 13            | 39             | 4  | 03             | 56 |    | 44 | 29 |    |    |
| 16 | 60                                                              | 54.7 |     | 16.9 | 88                                                                                                                                                                                                        | 15.8 <sup>155</sup> |     | 37.5 <sup>135</sup> | 35      | 51                       | 21    |               | 48             | 07 | 59             |    | 39 | 26 |    |    |    |
| 17 | 75                                                              | 54.7 | +19 | 17.4 | 102                                                                                                                                                                                                       | 50.3 <sup>155</sup> | +9  | 50.9 <sup>134</sup> | 40      | 5                        | 57    | 6             | 30             | 6  | 59             | 4  | 11 | 62 | 15 | 33 | 24 |
| 18 | 90                                                              | 54.7 | +19 | 18.0 | 117                                                                                                                                                                                                       | 24.8 <sup>155</sup> | +10 | 04.3 <sup>134</sup> | 45      | 6                        | 05    | 6             | 41             | 7  | 13             | 4  | 16 | 66 | 15 | 27 | 19 |
| 19 | 105                                                             | 54.7 |     | 18.6 | 131                                                                                                                                                                                                       | 59.2 <sup>154</sup> |     | 17.6 <sup>133</sup> | 50      | 13                       |       | 53            | 28             | 21 | 71             |    | 19 | 15 |    |    |    |
| 20 | 120                                                             | 54.7 |     | 19.1 | 146                                                                                                                                                                                                       | 33.6 <sup>154</sup> |     | 30.9 <sup>133</sup> | 52      | 17                       | 6     | 58            | 36             | 24 | 73             |    | 16 | 12 |    |    |    |
| 21 | 135                                                             | 54.7 |     | 19.7 | 161                                                                                                                                                                                                       | 08.0 <sup>154</sup> |     | 44.2 <sup>133</sup> | 54      | 20                       | 7     | 04            | 44             | 27 | 76             |    | 12 | 10 |    |    |    |
| 22 | 150                                                             | 54.6 |     | 20.3 | 175                                                                                                                                                                                                       | 42.4 <sup>154</sup> | +10 | 57.4 <sup>132</sup> | 56      | 24                       | 11    | 7             | 53             | 30 | 79             |    | 08 | 7  |    |    |    |
| 23 | 165                                                             | 54.6 |     | 20.8 | 190                                                                                                                                                                                                       | 16.7 <sup>153</sup> | +11 | 10.5 <sup>131</sup> | 58      | 29                       | 18    | 8             | 04             | 34 | 82             |    | 15 | 03 | 5  |    |    |
| 24 | 180                                                             | 54.6 | +19 | 21.4 | 204                                                                                                                                                                                                       | 51.0 <sup>153</sup> | +11 | 23.6 <sup>131</sup> | 60 S    | 6                        | 34    | 7             | 26             | 8  | 16             | 4  | 38 | 86 | 14 | 58 | 1  |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 8 <sup>h</sup> 22 <sup>m</sup> 5 |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 04 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 47 <sup>m</sup> |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 06 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 06 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 234                                   | 02.6 | 148                                               | 27.8 | +27                                               | 21.4 | 138                                               | 01.7 | +24                                               | 34.2 | 72  | 51.9 | +9 | 21.7 | 132 | 51.7 | +22 | 41.2 |
| 1   | 249                                   | 05.1 | 163                                               | 30.0 |                                                   | 21.2 | 153                                               | 02.4 |                                                   | 34.2 | 87  | 54.3 |    | 21.6 | 147 | 53.8 |     | 41.2 |
| 2   | 264                                   | 07.5 | 178                                               | 32.3 |                                                   | 21.0 | 168                                               | 03.1 |                                                   | 34.1 | 102 | 56.7 |    | 21.6 | 162 | 56.0 |     | 41.2 |
| 3   | 279                                   | 10.0 | 193                                               | 34.6 |                                                   | 20.8 | 183                                               | 03.9 |                                                   | 34.0 | 117 | 59.1 |    | 21.6 | 177 | 58.2 |     | 41.1 |
| 4   | 294                                   | 12.5 | 208                                               | 36.8 |                                                   | 20.6 | 198                                               | 04.6 |                                                   | 34.0 | 133 | 01.5 |    | 21.5 | 193 | 00.4 |     | 41.1 |
| 5   | 309                                   | 14.9 | 223                                               | 39.1 | +27                                               | 20.3 | 213                                               | 05.3 | +24                                               | 33.9 | 148 | 03.9 | +9 | 21.5 | 208 | 02.6 | +22 | 41.1 |
| 6   | 324                                   | 17.4 | 238                                               | 41.4 | +27                                               | 20.1 | 228                                               | 06.0 | +24                                               | 33.8 | 163 | 06.2 | +9 | 21.4 | 223 | 04.7 | +22 | 41.1 |
| 7   | 339                                   | 19.9 | 253                                               | 43.6 |                                                   | 19.9 | 243                                               | 06.8 |                                                   | 33.8 | 178 | 08.6 |    | 21.4 | 238 | 06.9 |     | 41.1 |
| 8   | 354                                   | 22.3 | 268                                               | 45.9 |                                                   | 19.7 | 258                                               | 07.5 |                                                   | 33.7 | 193 | 11.0 |    | 21.4 | 253 | 09.1 |     | 41.1 |
| 9   | 9                                     | 24.8 | 283                                               | 48.2 |                                                   | 19.5 | 273                                               | 08.2 |                                                   | 33.6 | 208 | 13.4 |    | 21.3 | 268 | 11.3 |     | 41.0 |
| 10  | 24                                    | 27.3 | 298                                               | 50.5 |                                                   | 19.2 | 288                                               | 08.9 |                                                   | 33.6 | 223 | 15.8 |    | 21.3 | 283 | 13.5 |     | 41.0 |
| 11  | 39                                    | 29.7 | 313                                               | 52.8 | +27                                               | 19.0 | 303                                               | 09.7 | +24                                               | 33.5 | 238 | 18.2 | +9 | 21.2 | 298 | 15.6 | +22 | 41.0 |
| 12  | 54                                    | 32.2 | 328                                               | 55.1 | +27                                               | 18.8 | 318                                               | 10.4 | +24                                               | 33.4 | 253 | 20.6 | +9 | 21.2 | 313 | 17.8 | +22 | 41.0 |
| 13  | 69                                    | 34.6 | 343                                               | 57.4 |                                                   | 18.5 | 333                                               | 11.1 |                                                   | 33.4 | 268 | 23.0 |    | 21.2 | 328 | 20.0 |     | 41.0 |
| 14  | 84                                    | 37.1 | 358                                               | 59.7 |                                                   | 18.3 | 348                                               | 11.8 |                                                   | 33.3 | 283 | 25.4 |    | 21.1 | 343 | 22.2 |     | 41.0 |
| 15  | 99                                    | 39.6 | 14                                                | 02.0 |                                                   | 18.1 | 3                                                 | 12.6 |                                                   | 33.2 | 298 | 27.7 |    | 21.1 | 358 | 24.4 |     | 40.9 |
| 16  | 114                                   | 42.0 | 29                                                | 04.3 |                                                   | 17.8 | 18                                                | 13.3 |                                                   | 33.2 | 313 | 30.1 |    | 21.0 | 13  | 26.5 |     | 40.9 |
| 17  | 129                                   | 44.5 | 44                                                | 06.6 | +27                                               | 17.6 | 33                                                | 14.0 | +24                                               | 33.1 | 328 | 32.5 | +9 | 21.0 | 28  | 28.7 | +22 | 40.9 |
| 18  | 144                                   | 47.0 | 59                                                | 09.0 | +27                                               | 17.4 | 48                                                | 14.8 | +24                                               | 33.0 | 343 | 34.9 | +9 | 21.0 | 43  | 30.9 | +22 | 40.9 |
| 19  | 159                                   | 49.4 | 74                                                | 11.3 |                                                   | 17.1 | 63                                                | 15.5 |                                                   | 32.9 | 358 | 37.3 |    | 20.9 | 58  | 33.1 |     | 40.9 |
| 20  | 174                                   | 51.9 | 89                                                | 13.6 |                                                   | 16.9 | 78                                                | 16.2 |                                                   | 32.9 | 13  | 39.7 |    | 20.9 | 73  | 35.3 |     | 40.9 |
| 21  | 189                                   | 54.4 | 104                                               | 16.0 |                                                   | 16.7 | 93                                                | 16.9 |                                                   | 32.8 | 28  | 42.0 |    | 20.8 | 88  | 37.4 |     | 40.9 |
| 22  | 204                                   | 56.8 | 119                                               | 18.3 |                                                   | 16.4 | 108                                               | 17.7 |                                                   | 32.7 | 43  | 44.4 |    | 20.8 | 103 | 39.6 |     | 40.8 |
| 23  | 219                                   | 59.3 | 134                                               | 20.7 |                                                   | 16.2 | 123                                               | 18.4 |                                                   | 32.7 | 58  | 46.8 |    | 20.8 | 118 | 41.8 |     | 40.8 |
| 24  | 235                                   | 01.8 | 149                                               | 23.0 | +27                                               | 16.0 | 138                                               | 19.1 | +24                                               | 32.6 | 73  | 49.2 | +9 | 20.7 | 133 | 44.0 | +22 | 40.8 |
| Dif | —                                     |      | +23                                               |      | -2                                                |      | +7                                                |      | -1                                                |      | +24 |      | 0  |      | +22 |      | 0   |      |

| UT | SOL                                                             |      |     | ● LUNA                                                                                         |     |                     | Latitud | Puesta de Sol       | Final del crepúsculo |       |       | Salida de Luna |         | Puesta de Luna |       |      |    |
|----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------|-----|---------------------|---------|---------------------|----------------------|-------|-------|----------------|---------|----------------|-------|------|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 4 |      |     | Edad: 27 <sup>d</sup> 4 PHE {<br>SD: 14 <sup>h</sup> 9<br>PMG: 10 <sup>h</sup> 39 <sup>m</sup> |     |                     |         |                     |                      |       |       |                |         |                |       |      |    |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                           | Dif | Dec                 |         |                     | Dif                  |       |       | Civil          | Náutico | Hora           | R°    | Hora | R° |
| h  | °                                                               | '    | °   | '                                                                                              | °   | '                   | °       | '                   | h                    | m     | h     | m              | h       | m              | h     | m    | m  |
| 0  | 180                                                             | 54.6 | +19 | 21.4                                                                                           | 204 | 51.0                | +11     | 23.6                | 60 N                 | 20 37 | 21 44 | ** **          | 3 00    | 2              | 18 45 | 89   |    |
| 1  | 195                                                             | 54.6 |     | 22.0                                                                                           | 219 | 25.3 <sup>153</sup> |         | 36.6 <sup>130</sup> | 58                   | 23    | 21    | 23 17          | 07      | 5              | 36    | 84   |    |
| 2  | 210                                                             | 54.6 |     | 22.5                                                                                           | 233 | 59.6 <sup>153</sup> | +11     | 49.6 <sup>130</sup> | 56                   | 11    | 21 02 | 22 25          | 13      | 8              | 27    | 80   |    |
| 3  | 225                                                             | 54.5 |     | 23.1                                                                                           | 248 | 33.8 <sup>152</sup> | +12     | 02.6 <sup>130</sup> | 54                   | 20 00 | 20 47 | 21 56          | 18      | 12             | 20    | 76   |    |
| 4  | 240                                                             | 54.5 |     | 23.6                                                                                           | 263 | 08.0 <sup>152</sup> |         | 15.4 <sup>128</sup> | 52                   | 19 51 | 34    | 34             | 23      | 14             | 13    | 74   |    |
| 5  | 255                                                             | 54.5 | +19 | 24.2                                                                                           | 277 | 42.1 <sup>151</sup> | +12     | 28.3 <sup>129</sup> | 50                   | 19 43 | 20 23 | 21 17          | 3 28    | 16             | 18 07 | 71   |    |
| 6  | 270                                                             | 54.5 | +19 | 24.8                                                                                           | 292 | 16.3 <sup>152</sup> | +12     | 41.0 <sup>127</sup> | 45                   | 19 25 | 20 00 | 20 44          | 3 38    | 20             | 17 54 | 66   |    |
| 7  | 285                                                             | 54.5 |     | 25.3                                                                                           | 306 | 50.4 <sup>151</sup> | +12     | 53.7 <sup>127</sup> | 40                   | 19 11 | 19 41 | 20             | 46      | 24             | 43    | 63   |    |
| 8  | 300                                                             | 54.4 |     | 25.9                                                                                           | 321 | 24.4 <sup>150</sup> | +13     | 06.4 <sup>127</sup> | 35                   | 18 58 | 27    | 20 01          | 53      | 28             | 34    | 59   |    |
| 9  | 315                                                             | 54.4 |     | 26.4                                                                                           | 335 | 58.4 <sup>150</sup> |         | 19.0 <sup>126</sup> | 30                   | 48    | 19 14 | 19 46          | 3 59    | 31             | 26    | 57   |    |
| 10 | 330                                                             | 54.4 |     | 27.0                                                                                           | 350 | 32.4 <sup>150</sup> |         | 31.5 <sup>125</sup> | 20                   | 30    | 18 54 | 22             | 4 10    | 35             | 12    | 52   |    |
| 11 | 345                                                             | 54.4 | +19 | 27.5                                                                                           | 5   | 06.4 <sup>150</sup> | +13     | 44.0 <sup>125</sup> | 10 N                 | 18 14 | 18 37 | 19 03          | 4 20    | 39             | 17 00 | 48   |    |
| 12 | 0                                                               | 54.3 | +19 | 28.1                                                                                           | 19  | 40.3 <sup>149</sup> | +13     | 56.4 <sup>124</sup> | 0                    | 18 00 | 18 22 | 18 47          | 4 29    | 43             | 16 49 | 45   |    |
| 13 | 15                                                              | 54.3 |     | 28.6                                                                                           | 34  | 14.1 <sup>148</sup> | +14     | 08.8 <sup>124</sup> | 10 S                 | 17 46 | 18 08 | 34             | 38      | 47             | 38    | 41   |    |
| 14 | 30                                                              | 54.3 |     | 29.2                                                                                           | 48  | 48.0 <sup>149</sup> |         | 21.1 <sup>123</sup> | 20                   | 31    | 17 54 | 21             | 48      | 51             | 26    | 37   |    |
| 15 | 45                                                              | 54.3 |     | 29.8                                                                                           | 63  | 21.8 <sup>148</sup> |         | 33.3 <sup>122</sup> | 30                   | 13    | 39    | 08             | 4 59    | 56             | 13    | 32   |    |
| 16 | 60                                                              | 54.3 |     | 30.3                                                                                           | 77  | 55.5 <sup>147</sup> |         | 45.5 <sup>122</sup> | 35                   | 17 03 | 30    | 18 01          | 5 06    | 59             | 16 05 | 30   |    |
| 17 | 75                                                              | 54.2 | +19 | 30.9                                                                                           | 92  | 29.2 <sup>147</sup> | +14     | 57.6 <sup>121</sup> | 40                   | 16 52 | 17 21 | 17 54          | 5 13    | 63             | 15 57 | 26   |    |
| 18 | 90                                                              | 54.2 | +19 | 31.4                                                                                           | 107 | 02.9 <sup>147</sup> | +15     | 09.6 <sup>120</sup> | 45                   | 16 39 | 17 11 | 17 47          | 5 22    | 66             | 15 46 | 23   |    |
| 19 | 105                                                             | 54.2 |     | 32.0                                                                                           | 121 | 36.6 <sup>147</sup> |         | 21.6 <sup>120</sup> | 50                   | 23    | 16 59 | 38             | 32      | 72             | 34    | 18   |    |
| 20 | 120                                                             | 54.2 |     | 32.5                                                                                           | 136 | 10.1 <sup>145</sup> |         | 33.5 <sup>119</sup> | 52                   | 15    | 53    | 34             | 37      | 74             | 28    | 16   |    |
| 21 | 135                                                             | 54.1 |     | 33.1                                                                                           | 150 | 43.7 <sup>146</sup> |         | 45.3 <sup>118</sup> | 54                   | 16 06 | 47    | 31             | 43      | 77             | 22    | 13   |    |
| 22 | 150                                                             | 54.1 |     | 33.6                                                                                           | 165 | 17.2 <sup>145</sup> | +15     | 57.1 <sup>118</sup> | 56                   | 15 57 | 40    | 26             | 49      | 80             | 15    | 10   |    |
| 23 | 165                                                             | 54.1 |     | 34.2                                                                                           | 179 | 50.7 <sup>145</sup> | +16     | 08.8 <sup>117</sup> | 58                   | 46    | 33    | 22             | 5 56    | 83             | 15 08 | 6    |    |
| 24 | 180                                                             | 54.1 | +19 | 34.7                                                                                           | 194 | 24.1 <sup>144</sup> | +16     | 20.4 <sup>116</sup> | 60 S                 | 15 34 | 16 24 | 17 17          | 6 04    | 88             | 14 59 | 2    |    |

| UT  | ARIES                                   |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|-----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>8 <sup>h</sup> 18 <sup>m</sup> 5 |      | Mag: -4.6<br>PMG: 14 <sup>h</sup> 00 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 46 <sup>m</sup> |      | Mag: -2.2<br>PMG: 19 <sup>h</sup> 02 <sup>m</sup> |      | Mag: +0.1<br>PMG: 15 <sup>h</sup> 03 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                    | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                       | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 235                                     | 01.8 | 149                                               | 23.0 | +27                                               | 16.0 | 138                                               | 19.1 | +24                                               | 32.6 | 73  | 49.2 | +9 | 20.7 | 133 | 44.0 | +22 | 40.8 |
| 1   | 250                                     | 04.2 | 164                                               | 25.4 |                                                   | 15.7 | 153                                               | 19.8 |                                                   | 32.5 | 88  | 51.6 |    | 20.7 | 148 | 46.2 |     | 40.8 |
| 2   | 265                                     | 06.7 | 179                                               | 27.7 |                                                   | 15.5 | 168                                               | 20.6 |                                                   | 32.4 | 103 | 54.0 |    | 20.6 | 163 | 48.3 |     | 40.8 |
| 3   | 280                                     | 09.1 | 194                                               | 30.1 |                                                   | 15.2 | 183                                               | 21.3 |                                                   | 32.4 | 118 | 56.4 |    | 20.6 | 178 | 50.5 |     | 40.8 |
| 4   | 295                                     | 11.6 | 209                                               | 32.5 |                                                   | 15.0 | 198                                               | 22.0 |                                                   | 32.3 | 133 | 58.7 |    | 20.6 | 193 | 52.7 |     | 40.7 |
| 5   | 310                                     | 14.1 | 224                                               | 34.8 | +27                                               | 14.8 | 213                                               | 22.7 | +24                                               | 32.2 | 149 | 01.1 | +9 | 20.5 | 208 | 54.9 | +22 | 40.7 |
| 6   | 325                                     | 16.5 | 239                                               | 37.2 | +27                                               | 14.5 | 228                                               | 23.5 | +24                                               | 32.1 | 164 | 03.5 | +9 | 20.5 | 223 | 57.0 | +22 | 40.7 |
| 7   | 340                                     | 19.0 | 254                                               | 39.6 |                                                   | 14.3 | 243                                               | 24.2 |                                                   | 32.1 | 179 | 05.9 |    | 20.4 | 238 | 59.2 |     | 40.7 |
| 8   | 355                                     | 21.5 | 269                                               | 42.0 |                                                   | 14.0 | 258                                               | 24.9 |                                                   | 32.0 | 194 | 08.3 |    | 20.4 | 254 | 01.4 |     | 40.7 |
| 9   | 10                                      | 23.9 | 284                                               | 44.4 |                                                   | 13.8 | 273                                               | 25.7 |                                                   | 31.9 | 209 | 10.6 |    | 20.3 | 269 | 03.6 |     | 40.7 |
| 10  | 25                                      | 26.4 | 299                                               | 46.8 |                                                   | 13.5 | 288                                               | 26.4 |                                                   | 31.8 | 224 | 13.0 |    | 20.3 | 284 | 05.8 |     | 40.6 |
| 11  | 40                                      | 28.9 | 314                                               | 49.2 | +27                                               | 13.3 | 303                                               | 27.1 | +24                                               | 31.8 | 239 | 15.4 | +9 | 20.3 | 299 | 07.9 | +22 | 40.6 |
| 12  | 55                                      | 31.3 | 329                                               | 51.6 | +27                                               | 13.0 | 318                                               | 27.8 | +24                                               | 31.7 | 254 | 17.8 | +9 | 20.2 | 314 | 10.1 | +22 | 40.6 |
| 13  | 70                                      | 33.8 | 344                                               | 54.0 |                                                   | 12.8 | 333                                               | 28.6 |                                                   | 31.6 | 269 | 20.2 |    | 20.2 | 329 | 12.3 |     | 40.6 |
| 14  | 85                                      | 36.2 | 359                                               | 56.4 |                                                   | 12.5 | 348                                               | 29.3 |                                                   | 31.5 | 284 | 22.5 |    | 20.1 | 344 | 14.5 |     | 40.6 |
| 15  | 100                                     | 38.7 | 14                                                | 58.8 |                                                   | 12.3 | 3                                                 | 30.0 |                                                   | 31.5 | 299 | 24.9 |    | 20.1 | 359 | 16.6 |     | 40.6 |
| 16  | 115                                     | 41.2 | 30                                                | 01.2 |                                                   | 12.0 | 18                                                | 30.7 |                                                   | 31.4 | 314 | 27.3 |    | 20.1 | 14  | 18.8 |     | 40.5 |
| 17  | 130                                     | 43.6 | 45                                                | 03.7 | +27                                               | 11.8 | 33                                                | 31.5 | +24                                               | 31.3 | 329 | 29.7 | +9 | 20.0 | 29  | 21.0 | +22 | 40.5 |
| 18  | 145                                     | 46.1 | 60                                                | 06.1 | +27                                               | 11.5 | 48                                                | 32.2 | +24                                               | 31.2 | 344 | 32.1 | +9 | 20.0 | 44  | 23.2 | +22 | 40.5 |
| 19  | 160                                     | 48.6 | 75                                                | 08.5 |                                                   | 11.2 | 63                                                | 32.9 |                                                   | 31.2 | 359 | 34.4 |    | 19.9 | 59  | 25.3 |     | 40.5 |
| 20  | 175                                     | 51.0 | 90                                                | 11.0 |                                                   | 11.0 | 78                                                | 33.7 |                                                   | 31.1 | 14  | 36.8 |    | 19.9 | 74  | 27.5 |     | 40.5 |
| 21  | 190                                     | 53.5 | 105                                               | 13.4 |                                                   | 10.7 | 93                                                | 34.4 |                                                   | 31.0 | 29  | 39.2 |    | 19.8 | 89  | 29.7 |     | 40.5 |
| 22  | 205                                     | 56.0 | 120                                               | 15.9 |                                                   | 10.5 | 108                                               | 35.1 |                                                   | 30.9 | 44  | 41.6 |    | 19.8 | 104 | 31.9 |     | 40.5 |
| 23  | 220                                     | 58.4 | 135                                               | 18.3 |                                                   | 10.2 | 123                                               | 35.8 |                                                   | 30.8 | 59  | 43.9 |    | 19.7 | 119 | 34.1 |     | 40.4 |
| 24  | 236                                     | 00.9 | 150                                               | 20.8 | +27                                               | 09.9 | 138                                               | 36.6 | +24                                               | 30.8 | 74  | 46.3 | +9 | 19.7 | 134 | 36.2 | +22 | 40.4 |
| Dif | —                                       |      | +24                                               |      | -3                                                |      | +7                                                |      | -1                                                |      | +24 |      | 0  |      | +22 |      | 0   |      |

| UT | SOL                                                             |      |          | ● LUNA                                                                                                                                                                   |                     |                         | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |    |
|----|-----------------------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 4 |      |          | Edad: 28 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54 <sup>m</sup> 5<br>12 <sup>h</sup> : 54 <sup>m</sup> 4<br>20 <sup>h</sup> : 54 <sup>m</sup> 3<br>Rº: 46 <sup>m</sup> |                     |                         |         |                          |         |               |                |      |                |      |    |
|    | hG ☉                                                            | Dec  |          | hG ☾                                                                                                                                                                     | Dif                 | Dec                     |         | Dif                      | Náutico |               | Civil          | Hora | Rº             | Hora | Rº |
| h  | °                                                               | '    | °        | '                                                                                                                                                                        | °                   | '                       | °       | h                        | m       | h             | m              | h    | m              | h    | m  |
| 0  | 180                                                             | 54.1 | +19 34.7 | 194                                                                                                                                                                      | 24.1                | +16 20.4                | 60 N    | ** *                     | 2 08    | 3 15          | 3 02           | 3    | 20 14          | 90   |    |
| 1  | 195                                                             | 54.0 | 35.3     | 208                                                                                                                                                                      | 57.4 <sup>143</sup> | 32.0 <sup>116</sup>     | 58      | 0 35                     | 32      | 29            | 12             | 8    | 20 00          | 84   |    |
| 2  | 210                                                             | 54.0 | 35.8     | 223                                                                                                                                                                      | 30.8 <sup>144</sup> | 43.5 <sup>115</sup>     | 56      | 1 27                     | 2 50    | 41            | 21             | 12   | 19 47          | 80   |    |
| 3  | 225                                                             | 54.0 | 36.4     | 238                                                                                                                                                                      | 04.0 <sup>142</sup> | +16 54.9 <sup>114</sup> | 54      | 1 57                     | 3 05    | 3 52          | 30             | 15   | 36             | 76   |    |
| 4  | 240                                                             | 54.0 | 36.9     | 252                                                                                                                                                                      | 37.3 <sup>143</sup> | +17 06.2 <sup>113</sup> | 52      | 2 18                     | 18      | 4 01          | 37             | 18   | 27             | 73   |    |
| 5  | 255                                                             | 53.9 | +19 37.4 | 267                                                                                                                                                                      | 10.5 <sup>142</sup> | +17 17.5 <sup>113</sup> | 50      | 2 36                     | 3 30    | 4 10          | 3 44           | 20   | 19 18          | 71   |    |
| 6  | 270                                                             | 53.9 | +19 38.0 | 281                                                                                                                                                                      | 43.6 <sup>141</sup> | +17 28.7 <sup>112</sup> | 45      | 3 09                     | 3 53    | 4 27          | 3 58           | 25   | 19 00          | 66   |    |
| 7  | 285                                                             | 53.9 | 38.5     | 296                                                                                                                                                                      | 16.7 <sup>141</sup> | 39.8 <sup>111</sup>     | 40      | 33                       | 4 11    | 42            | 4 10           | 29   | 18 46          | 62   |    |
| 8  | 300                                                             | 53.9 | 39.1     | 310                                                                                                                                                                      | 49.7 <sup>140</sup> | +17 50.8 <sup>110</sup> | 35      | 3 51                     | 26      | 4 54          | 21             | 31   | 33             | 60   |    |
| 9  | 315                                                             | 53.8 | 39.6     | 325                                                                                                                                                                      | 22.7 <sup>140</sup> | +18 01.8 <sup>110</sup> | 30      | 4 07                     | 38      | 5 05          | 30             | 33   | 23             | 57   |    |
| 10 | 330                                                             | 53.8 | 40.2     | 339                                                                                                                                                                      | 55.7 <sup>140</sup> | 12.6 <sup>108</sup>     | 20      | 31                       | 4 59    | 23            | 45             | 38   | 18 04          | 53   |    |
| 11 | 345                                                             | 53.8 | +19 40.7 | 354                                                                                                                                                                      | 28.5 <sup>138</sup> | +18 23.4 <sup>108</sup> | 10 N    | 4 50                     | 5 16    | 5 38          | 4 59           | 42   | 17 48          | 50   |    |
| 12 | 0                                                               | 53.7 | +19 41.2 | 9                                                                                                                                                                        | 01.4 <sup>139</sup> | +18 34.1 <sup>107</sup> | 0       | 5 05                     | 5 31    | 5 53          | 5 12           | 45   | 17 34          | 46   |    |
| 13 | 15                                                              | 53.7 | 41.8     | 23                                                                                                                                                                       | 34.2 <sup>138</sup> | 44.8 <sup>107</sup>     | 10 S    | 19                       | 45      | 6 07          | 25             | 49   | 19             | 43   |    |
| 14 | 30                                                              | 53.7 | 42.3     | 38                                                                                                                                                                       | 06.9 <sup>137</sup> | +18 55.3 <sup>105</sup> | 20      | 32                       | 5 59    | 22            | 39             | 53   | 17 03          | 40   |    |
| 15 | 45                                                              | 53.7 | 42.9     | 52                                                                                                                                                                       | 39.6 <sup>137</sup> | +19 05.8 <sup>105</sup> | 30      | 45                       | 6 14    | 40            | 5 55           | 57   | 16 45          | 36   |    |
| 16 | 60                                                              | 53.6 | 43.4     | 67                                                                                                                                                                       | 12.2 <sup>136</sup> | 16.2 <sup>104</sup>     | 35      | 52                       | 23      | 6 50          | 6 05           | 59   | 35             | 33   |    |
| 17 | 75                                                              | 53.6 | +19 43.9 | 81                                                                                                                                                                       | 44.8 <sup>136</sup> | +19 26.5 <sup>103</sup> | 40      | 5 59                     | 6 32    | 7 01          | 6 16           | 62   | 16 23          | 30   |    |
| 18 | 90                                                              | 53.6 | +19 44.5 | 96                                                                                                                                                                       | 17.4 <sup>136</sup> | +19 36.7 <sup>102</sup> | 45      | 6 07                     | 6 43    | 7 15          | 6 28           | 67   | 16 09          | 27   |    |
| 19 | 105                                                             | 53.5 | 45.0     | 110                                                                                                                                                                      | 49.8 <sup>134</sup> | 46.8 <sup>101</sup>     | 50      | 15                       | 6 55    | 31            | 44             | 71   | 15 52          | 22   |    |
| 20 | 120                                                             | 53.5 | 45.6     | 125                                                                                                                                                                      | 22.3 <sup>135</sup> | +19 56.9 <sup>101</sup> | 52      | 19                       | 7 01    | 39            | 6 51           | 74   | 44             | 20   |    |
| 21 | 135                                                             | 53.5 | 46.1     | 139                                                                                                                                                                      | 54.6 <sup>133</sup> | +20 06.8 <sup>99</sup>  | 54      | 23                       | 07      | 47            | 7 00           | 76   | 35             | 17   |    |
| 22 | 150                                                             | 53.4 | 46.6     | 154                                                                                                                                                                      | 27.0 <sup>134</sup> | 16.7 <sup>99</sup>      | 56      | 27                       | 14      | 7 57          | 09             | 80   | 25             | 14   |    |
| 23 | 165                                                             | 53.4 | 47.2     | 168                                                                                                                                                                      | 59.2 <sup>132</sup> | 26.5 <sup>98</sup>      | 58      | 32                       | 21      | 8 08          | 19             | 85   | 14             | 10   |    |
| 24 | 180                                                             | 53.4 | +19 47.7 | 183                                                                                                                                                                      | 31.5 <sup>133</sup> | +20 36.1 <sup>96</sup>  | 60 S    | 6 37                     | 7 30    | 8 20          | 7 32           | 89   | 15 01          | 5    |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 8 <sup>h</sup> 14 <sup>m</sup> 6 |      | Mag: -4.6<br>PMG: 13 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 45 <sup>m</sup> |     | Mag: -2.2<br>PMG: 18 <sup>h</sup> 58 <sup>m</sup> |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 59 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 236                                   | 00.9 | 150                                               | 20.8 | +27 09.9                                          | 138 | 36.6                                              | +24 30.8 | 74                                                | 46.3 | +9 19.7 | 134 | 36.2 | +22 40.4 |
| 1   | 251                                   | 03.4 | 165                                               | 23.3 | 09.7                                              | 153 | 37.3                                              | 30.7     | 89                                                | 48.7 | 19.7    | 149 | 38.4 | 40.4     |
| 2   | 266                                   | 05.8 | 180                                               | 25.7 | 09.4                                              | 168 | 38.0                                              | 30.6     | 104                                               | 51.1 | 19.6    | 164 | 40.6 | 40.4     |
| 3   | 281                                   | 08.3 | 195                                               | 28.2 | 09.1                                              | 183 | 38.8                                              | 30.5     | 119                                               | 53.5 | 19.6    | 179 | 42.8 | 40.4     |
| 4   | 296                                   | 10.7 | 210                                               | 30.7 | 08.9                                              | 198 | 39.5                                              | 30.4     | 134                                               | 55.8 | 19.5    | 194 | 44.9 | 40.4     |
| 5   | 311                                   | 13.2 | 225                                               | 33.2 | +27 08.6                                          | 213 | 40.2                                              | +24 30.4 | 149                                               | 58.2 | +9 19.5 | 209 | 47.1 | +22 40.3 |
| 6   | 326                                   | 15.7 | 240                                               | 35.7 | +27 08.3                                          | 228 | 40.9                                              | +24 30.3 | 165                                               | 00.6 | +9 19.4 | 224 | 49.3 | +22 40.3 |
| 7   | 341                                   | 18.1 | 255                                               | 38.1 | 08.1                                              | 243 | 41.7                                              | 30.2     | 180                                               | 03.0 | 19.4    | 239 | 51.5 | 40.3     |
| 8   | 356                                   | 20.6 | 270                                               | 40.6 | 07.8                                              | 258 | 42.4                                              | 30.1     | 195                                               | 05.3 | 19.4    | 254 | 53.6 | 40.3     |
| 9   | 11                                    | 23.1 | 285                                               | 43.1 | 07.5                                              | 273 | 43.1                                              | 30.0     | 210                                               | 07.7 | 19.3    | 269 | 55.8 | 40.3     |
| 10  | 26                                    | 25.5 | 300                                               | 45.6 | 07.3                                              | 288 | 43.8                                              | 30.0     | 225                                               | 10.1 | 19.3    | 284 | 58.0 | 40.3     |
| 11  | 41                                    | 28.0 | 315                                               | 48.2 | +27 07.0                                          | 303 | 44.6                                              | +24 29.9 | 240                                               | 12.5 | +9 19.2 | 300 | 00.2 | +22 40.2 |
| 12  | 56                                    | 30.5 | 330                                               | 50.7 | +27 06.7                                          | 318 | 45.3                                              | +24 29.8 | 255                                               | 14.8 | +9 19.2 | 315 | 02.3 | +22 40.2 |
| 13  | 71                                    | 32.9 | 345                                               | 53.2 | 06.5                                              | 333 | 46.0                                              | 29.7     | 270                                               | 17.2 | 19.1    | 330 | 04.5 | 40.2     |
| 14  | 86                                    | 35.4 | 0                                                 | 55.7 | 06.2                                              | 348 | 46.8                                              | 29.6     | 285                                               | 19.6 | 19.1    | 345 | 06.7 | 40.2     |
| 15  | 101                                   | 37.9 | 15                                                | 58.2 | 05.9                                              | 3   | 47.5                                              | 29.5     | 300                                               | 21.9 | 19.0    | 0   | 08.9 | 40.2     |
| 16  | 116                                   | 40.3 | 31                                                | 00.8 | 05.6                                              | 18  | 48.2                                              | 29.4     | 315                                               | 24.3 | 19.0    | 15  | 11.0 | 40.2     |
| 17  | 131                                   | 42.8 | 46                                                | 03.3 | +27 05.3                                          | 33  | 48.9                                              | +24 29.4 | 330                                               | 26.7 | +9 18.9 | 30  | 13.2 | +22 40.1 |
| 18  | 146                                   | 45.2 | 61                                                | 05.9 | +27 05.1                                          | 48  | 49.7                                              | +24 29.3 | 345                                               | 29.1 | +9 18.9 | 45  | 15.4 | +22 40.1 |
| 19  | 161                                   | 47.7 | 76                                                | 08.4 | 04.8                                              | 63  | 50.4                                              | 29.2     | 0                                                 | 31.4 | 18.9    | 60  | 17.6 | 40.1     |
| 20  | 176                                   | 50.2 | 91                                                | 11.0 | 04.5                                              | 78  | 51.1                                              | 29.1     | 15                                                | 33.8 | 18.8    | 75  | 19.7 | 40.1     |
| 21  | 191                                   | 52.6 | 106                                               | 13.5 | 04.2                                              | 93  | 51.9                                              | 29.0     | 30                                                | 36.2 | 18.8    | 90  | 21.9 | 40.1     |
| 22  | 206                                   | 55.1 | 121                                               | 16.1 | 03.9                                              | 108 | 52.6                                              | 28.9     | 45                                                | 38.5 | 18.7    | 105 | 24.1 | 40.1     |
| 23  | 221                                   | 57.6 | 136                                               | 18.6 | 03.7                                              | 123 | 53.3                                              | 28.8     | 60                                                | 40.9 | 18.7    | 120 | 26.2 | 40.0     |
| 24  | 237                                   | 00.0 | 151                                               | 21.2 | +27 03.4                                          | 138 | 54.0                                              | +24 28.8 | 75                                                | 43.3 | +9 18.6 | 135 | 28.4 | +22 40.0 |
| Dif | —                                     |      | +25                                               | -3   |                                                   | +7  | -1                                                |          | +24                                               | 0    |         | +22 | 0    |          |

| UT | SOL                                                             |      |     | ● LUNA                                                                                                                                                                                             |     |                     | Latitud | Puesta de Sol      | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |      |       |    |
|----|-----------------------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------|----------------------|-------|----------------|-------|----------------|------|-------|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 5 |      |     | Edad: 29 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54/2<br>12 <sup>h</sup> : 54/2<br>20 <sup>h</sup> : 54/1<br>R°: 48 <sup>m</sup><br>SD: 14 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> |     |                     |         |                    |                      |       |                |       |                |      |       |    |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                                               | Dif | Dec                 |         |                    | Dif                  | Civil | Náutico        | Hora  | R°             | Hora | R°    |    |
| h  | °                                                               | '    | °   | '                                                                                                                                                                                                  | °   | '                   | °       | h                  | m                    | h     | m              | h     | m              | h    | m     |    |
| 0  | 180                                                             | 53.4 | +19 | 47.7                                                                                                                                                                                               | 183 | 31.5                | +20     | 36.1               | 60 N                 | 20 42 | 21 50          | ** ** | 3 05           | 7    | 21 44 | 87 |
| 1  | 195                                                             | 53.4 |     | 48.2                                                                                                                                                                                               | 198 | 03.6 <sup>131</sup> |         | 45.7 <sup>96</sup> | 58                   | 27    | 26             | ** ** | 20             | 13   | 24    | 79 |
| 2  | 210                                                             | 53.3 |     | 48.8                                                                                                                                                                                               | 212 | 35.7 <sup>131</sup> | +20     | 55.2 <sup>95</sup> | 56                   | 15    | 21 07          | 22 33 | 33             | 17   | 21 07 | 75 |
| 3  | 225                                                             | 53.3 |     | 49.3                                                                                                                                                                                               | 227 | 07.8 <sup>131</sup> | +21     | 04.6 <sup>94</sup> | 54                   | 20 04 | 20 51          | 22 02 | 45             | 20   | 20 52 | 70 |
| 4  | 240                                                             | 53.3 |     | 49.8                                                                                                                                                                                               | 241 | 39.8 <sup>130</sup> |         | 14.0 <sup>94</sup> | 52                   | 19 54 | 37             | 21 39 | 3 55           | 23   | 40    | 70 |
| 5  | 255                                                             | 53.2 | +19 | 50.4                                                                                                                                                                                               | 256 | 11.7 <sup>129</sup> | +21     | 23.2 <sup>92</sup> | 50                   | 19 45 | 20 26          | 21 21 | 4 04           | 25   | 20 29 | 68 |
| 6  | 270                                                             | 53.2 | +19 | 50.9                                                                                                                                                                                               | 270 | 43.6 <sup>129</sup> | +21     | 32.3 <sup>91</sup> | 45                   | 19 27 | 20 02          | 20 47 | 4 23           | 30   | 20 06 | 64 |
| 7  | 285                                                             | 53.2 |     | 51.4                                                                                                                                                                                               | 285 | 15.5 <sup>129</sup> |         | 41.3 <sup>90</sup> | 40                   | 12    | 19 43          | 22    | 39             | 33   | 19 48 | 61 |
| 8  | 300                                                             | 53.1 |     | 52.0                                                                                                                                                                                               | 299 | 47.2 <sup>127</sup> |         | 50.3 <sup>90</sup> | 35                   | 19 00 | 28             | 20 03 | 4 52           | 36   | 33    | 59 |
| 9  | 315                                                             | 53.1 |     | 52.5                                                                                                                                                                                               | 314 | 19.0 <sup>128</sup> | +21     | 59.1 <sup>88</sup> | 30                   | 18 49 | 19 16          | 19 47 | 5 03           | 39   | 19 20 | 56 |
| 10 | 330                                                             | 53.1 |     | 53.0                                                                                                                                                                                               | 328 | 50.6 <sup>126</sup> | +22     | 07.8 <sup>87</sup> | 20                   | 31    | 18 55          | 23    | 23             | 42   | 18 57 | 54 |
| 11 | 345                                                             | 53.0 | +19 | 53.5                                                                                                                                                                                               | 343 | 22.3 <sup>127</sup> | +22     | 16.5 <sup>87</sup> | 10 N                 | 18 15 | 18 37          | 19 04 | 5 41           | 45   | 18 38 | 51 |
| 12 | 0                                                               | 53.0 | +19 | 54.1                                                                                                                                                                                               | 357 | 53.8 <sup>125</sup> | +22     | 25.0 <sup>84</sup> | 0                    | 18 00 | 18 22          | 18 48 | 5 57           | 48   | 18 20 | 49 |
| 13 | 15                                                              | 53.0 |     | 54.6                                                                                                                                                                                               | 12  | 25.3 <sup>125</sup> |         | 33.4 <sup>85</sup> | 10 S                 | 17 45 | 18 08          | 33    | 6 14           | 50   | 18 02 | 46 |
| 14 | 30                                                              | 52.9 |     | 55.1                                                                                                                                                                                               | 26  | 56.8 <sup>125</sup> |         | 41.8 <sup>84</sup> | 20                   | 30    | 17 53          | 20    | 32             | 53   | 17 43 | 44 |
| 15 | 45                                                              | 52.9 |     | 55.6                                                                                                                                                                                               | 41  | 28.2 <sup>124</sup> |         | 50.0 <sup>82</sup> | 30                   | 12    | 38             | 07    | 6 52           | 57   | 21    | 40 |
| 16 | 60                                                              | 52.9 |     | 56.2                                                                                                                                                                                               | 55  | 59.6 <sup>124</sup> | +22     | 58.1 <sup>81</sup> | 35                   | 17 02 | 29             | 18 00 | 7 04           | 60   | 17 08 | 39 |
| 17 | 75                                                              | 52.8 | +19 | 56.7                                                                                                                                                                                               | 70  | 30.9 <sup>123</sup> | +23     | 06.2 <sup>81</sup> | 40                   | 16 50 | 17 20          | 17 53 | 7 18           | 62   | 16 53 | 37 |
| 18 | 90                                                              | 52.8 | +19 | 57.2                                                                                                                                                                                               | 85  | 02.1 <sup>122</sup> | +23     | 14.1 <sup>79</sup> | 45                   | 16 37 | 17 09          | 17 45 | 7 35           | 65   | 16 36 | 33 |
| 19 | 105                                                             | 52.8 |     | 57.7                                                                                                                                                                                               | 99  | 33.3 <sup>122</sup> |         | 21.9 <sup>78</sup> | 50                   | 20    | 16 56          | 36    | 7 55           | 70   | 14    | 29 |
| 20 | 120                                                             | 52.7 |     | 58.3                                                                                                                                                                                               | 114 | 04.5 <sup>122</sup> |         | 29.6 <sup>77</sup> | 52                   | 12    | 51             | 32    | 8 05           | 72   | 16 04 | 27 |
| 21 | 135                                                             | 52.7 |     | 58.8                                                                                                                                                                                               | 128 | 35.5 <sup>120</sup> |         | 37.2 <sup>76</sup> | 54                   | 16 04 | 44             | 28    | 16             | 75   | 15 52 | 25 |
| 22 | 150                                                             | 52.6 |     | 59.3                                                                                                                                                                                               | 143 | 06.6 <sup>121</sup> |         | 44.7 <sup>75</sup> | 56                   | 15 54 | 37             | 24    | 29             | 78   | 39    | 21 |
| 23 | 165                                                             | 52.6 | +19 | 59.8                                                                                                                                                                                               | 157 | 37.6 <sup>120</sup> |         | 52.1 <sup>74</sup> | 58                   | 43    | 29             | 19    | 8 44           | 83   | 24    | 16 |
| 24 | 180                                                             | 52.6 | +20 | 00.3                                                                                                                                                                                               | 172 | 08.5 <sup>119</sup> | +23     | 59.4 <sup>73</sup> | 60 S                 | 15 30 | 16 21          | 17 14 | 9 01           | 90   | 15 06 | 10 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 8 <sup>h</sup> 10 <sup>m</sup> 7 |      | Mag: -4.6<br>PMG: 13 <sup>h</sup> 52 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup> |      | Mag: -2.2<br>PMG: 18 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +0.1<br>PMG: 14 <sup>h</sup> 56 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 237                                   | 00.0 | 151                                               | 21.2 | +27                                               | 03.4 | 138                                               | 54.0 | +24                                               | 28.8 |
| 1   | 252                                   | 02.5 | 166                                               | 23.8 |                                                   | 03.1 | 153                                               | 54.8 |                                                   | 28.7 |
| 2   | 267                                   | 05.0 | 181                                               | 26.4 |                                                   | 02.8 | 168                                               | 55.5 |                                                   | 28.6 |
| 3   | 282                                   | 07.4 | 196                                               | 28.9 |                                                   | 02.5 | 183                                               | 56.2 |                                                   | 28.5 |
| 4   | 297                                   | 09.9 | 211                                               | 31.5 |                                                   | 02.2 | 198                                               | 57.0 |                                                   | 28.4 |
| 5   | 312                                   | 12.3 | 226                                               | 34.1 | +27                                               | 01.9 | 213                                               | 57.7 | +24                                               | 28.3 |
| 6   | 327                                   | 14.8 | 241                                               | 36.7 | +27                                               | 01.6 | 228                                               | 58.4 | +24                                               | 28.2 |
| 7   | 342                                   | 17.3 | 256                                               | 39.3 |                                                   | 01.4 | 243                                               | 59.2 |                                                   | 28.1 |
| 8   | 357                                   | 19.7 | 271                                               | 41.9 |                                                   | 01.1 | 258                                               | 59.9 |                                                   | 28.0 |
| 9   | 12                                    | 22.2 | 286                                               | 44.5 |                                                   | 00.8 | 274                                               | 00.6 |                                                   | 28.0 |
| 10  | 27                                    | 24.7 | 301                                               | 47.2 |                                                   | 00.5 | 289                                               | 01.3 |                                                   | 27.9 |
| 11  | 42                                    | 27.1 | 316                                               | 49.8 | +27                                               | 00.2 | 304                                               | 02.1 | +24                                               | 27.8 |
| 12  | 57                                    | 29.6 | 331                                               | 52.4 | +26                                               | 59.9 | 319                                               | 02.8 | +24                                               | 27.7 |
| 13  | 72                                    | 32.1 | 346                                               | 55.0 |                                                   | 59.6 | 334                                               | 03.5 |                                                   | 27.6 |
| 14  | 87                                    | 34.5 | 1                                                 | 57.7 |                                                   | 59.3 | 349                                               | 04.3 |                                                   | 27.5 |
| 15  | 102                                   | 37.0 | 17                                                | 00.3 |                                                   | 59.0 | 4                                                 | 05.0 |                                                   | 27.4 |
| 16  | 117                                   | 39.5 | 32                                                | 02.9 |                                                   | 58.7 | 19                                                | 05.7 |                                                   | 27.3 |
| 17  | 132                                   | 41.9 | 47                                                | 05.6 | +26                                               | 58.4 | 34                                                | 06.5 | +24                                               | 27.2 |
| 18  | 147                                   | 44.4 | 62                                                | 08.2 | +26                                               | 58.1 | 49                                                | 07.2 | +24                                               | 27.1 |
| 19  | 162                                   | 46.8 | 77                                                | 10.9 |                                                   | 57.8 | 64                                                | 07.9 |                                                   | 27.0 |
| 20  | 177                                   | 49.3 | 92                                                | 13.6 |                                                   | 57.5 | 79                                                | 08.6 |                                                   | 26.9 |
| 21  | 192                                   | 51.8 | 107                                               | 16.2 |                                                   | 57.2 | 94                                                | 09.4 |                                                   | 26.9 |
| 22  | 207                                   | 54.2 | 122                                               | 18.9 |                                                   | 56.9 | 109                                               | 10.1 |                                                   | 26.8 |
| 23  | 222                                   | 56.7 | 137                                               | 21.6 |                                                   | 56.6 | 124                                               | 10.8 |                                                   | 26.7 |
| 24  | 237                                   | 59.2 | 152                                               | 24.3 | +26                                               | 56.2 | 139                                               | 11.6 | +24                                               | 26.6 |
| Dif | —                                     |      | +26                                               |      | -3                                                |      | +7                                                |      | -1                                                |      |
|     |                                       |      |                                                   |      |                                                   |      |                                                   | +24  |                                                   | 0    |
|     |                                       |      |                                                   |      |                                                   |      |                                                   |      | +22                                               |      |

| UT  | SOL                                                             |      |                                                   |      | ● LUNA                                                                                                                                                                                                                                             |                     |                                                   |                    | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |          | Puesta de Luna                                    |       |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|--------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|----------|---------------------------------------------------|-------|-----|------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 5 |      |                                                   |      | Edad: 0 <sup>d</sup> 8 PHE {<br>SD: 14 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 57 <sup>m</sup> R <sup>o</sup> : 50 <sup>m</sup><br>4 <sup>h</sup> : 54 <sup>m</sup> 1<br>12 <sup>h</sup> : 54 <sup>m</sup> 0<br>20 <sup>h</sup> : 54 <sup>m</sup> 0 |                     |                                                   |                    |         |                          |                                                   |               |                |          |                                                   |       |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                                                                                                                                                                               |                     | Dif                                               |                    |         | Náutico                  | Civil                                             |               | Hora           | R°       | Hora                                              | R°    |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                                  | '                   | °                                                 | '                  | °       | h m                      | h m                                               | h m           | h m m          | h m m    | h m m                                             | h m m |     |      |
| 0   | 180                                                             | 52.6 | +20                                               | 00.3 | 172                                                                                                                                                                                                                                                | 08.5                | +23                                               | 59.4               | 60 N    | ** **                    | 2 02                                              | 3 11          | 3 12 15        | 23 11 73 |                                                   |       |     |      |
| 1   | 195                                                             | 52.5 |                                                   | 00.9 | 186                                                                                                                                                                                                                                                | 39.4 <sup>119</sup> | +24                                               | 06.5 <sup>71</sup> | 58      | ** **                    | 27                                                | 25            | 33 22          | 22 43 68 |                                                   |       |     |      |
| 2   | 210                                                             | 52.5 |                                                   | 01.4 | 201                                                                                                                                                                                                                                                | 10.2 <sup>118</sup> |                                                   | 13.6 <sup>71</sup> | 56      | 1 19                     | 2 46                                              | 38            | 3 50 27        | 22 65    |                                                   |       |     |      |
| 3   | 225                                                             | 52.5 |                                                   | 01.9 | 215                                                                                                                                                                                                                                                | 41.0 <sup>118</sup> |                                                   | 20.5 <sup>69</sup> | 54      | 1 51                     | 3 02                                              | 49            | 4 05 29        | 22 04 66 |                                                   |       |     |      |
| 4   | 240                                                             | 52.4 |                                                   | 02.4 | 230                                                                                                                                                                                                                                                | 11.7 <sup>117</sup> |                                                   | 27.4 <sup>69</sup> | 52      | 2 14                     | 15                                                | 3 59          | 18 32          | 21 50 61 |                                                   |       |     |      |
| 5   | 255                                                             | 52.4 | +20                                               | 02.9 | 244                                                                                                                                                                                                                                                | 42.4 <sup>117</sup> | +24                                               | 34.1 <sup>67</sup> | 50      | 2 32                     | 3 27                                              | 4 07          | 4 29 34        | 21 37 60 |                                                   |       |     |      |
| 6   | 270                                                             | 52.4 | +20                                               | 03.5 | 259                                                                                                                                                                                                                                                | 13.0 <sup>116</sup> | +24                                               | 40.7 <sup>66</sup> | 45      | 3 06                     | 3 51                                              | 4 26          | 4 53 37        | 21 10 58 |                                                   |       |     |      |
| 7   | 285                                                             | 52.3 |                                                   | 04.0 | 273                                                                                                                                                                                                                                                | 43.6 <sup>116</sup> |                                                   | 47.2 <sup>65</sup> | 40      | 30                       | 4 09                                              | 40            | 5 12 39        | 20 49 57 |                                                   |       |     |      |
| 8   | 300                                                             | 52.3 |                                                   | 04.5 | 288                                                                                                                                                                                                                                                | 14.1 <sup>115</sup> |                                                   | 53.6 <sup>64</sup> | 35      | 3 50                     | 24                                                | 4 53          | 28 41          | 32 55    |                                                   |       |     |      |
| 9   | 315                                                             | 52.2 |                                                   | 05.0 | 302                                                                                                                                                                                                                                                | 44.6 <sup>115</sup> | +24                                               | 59.9 <sup>63</sup> | 30      | 4 05                     | 37                                                | 5 04          | 5 42 43        | 20 16 55 |                                                   |       |     |      |
| 10  | 330                                                             | 52.2 |                                                   | 05.5 | 317                                                                                                                                                                                                                                                | 15.1 <sup>115</sup> | +25                                               | 06.0 <sup>61</sup> | 20      | 30                       | 4 58                                              | 22            | 6 05 46        | 19 51 53 |                                                   |       |     |      |
| 11  | 345                                                             | 52.2 | +20                                               | 06.0 | 331                                                                                                                                                                                                                                                | 45.5 <sup>114</sup> | +25                                               | 12.1 <sup>61</sup> | 10 N    | 4 49                     | 5 16                                              | 5 38          | 6 26 47        | 19 29 52 |                                                   |       |     |      |
| 12  | 0                                                               | 52.1 | +20                                               | 06.5 | 346                                                                                                                                                                                                                                                | 15.8 <sup>113</sup> | +25                                               | 18.0 <sup>59</sup> | 0       | 5 05                     | 5 31                                              | 5 53          | 6 45 50        | 19 09 50 |                                                   |       |     |      |
| 13  | 15                                                              | 52.1 |                                                   | 07.1 | 0                                                                                                                                                                                                                                                  | 46.1 <sup>113</sup> |                                                   | 23.8 <sup>58</sup> | 10 S    | 20                       | 5 45                                              | 6 08          | 7 04 52        | 18 48 49 |                                                   |       |     |      |
| 14  | 30                                                              | 52.0 |                                                   | 07.6 | 15                                                                                                                                                                                                                                                 | 16.4 <sup>113</sup> |                                                   | 29.5 <sup>57</sup> | 20      | 33                       | 6 00                                              | 23            | 25 54          | 27 47    |                                                   |       |     |      |
| 15  | 45                                                              | 52.0 |                                                   | 08.1 | 29                                                                                                                                                                                                                                                 | 46.6 <sup>112</sup> |                                                   | 35.0 <sup>55</sup> | 30      | 46                       | 15                                                | 41            | 7 49 56        | 18 01 46 |                                                   |       |     |      |
| 16  | 60                                                              | 52.0 |                                                   | 08.6 | 44                                                                                                                                                                                                                                                 | 16.7 <sup>111</sup> |                                                   | 40.5 <sup>55</sup> | 35      | 5 53                     | 24                                                | 6 51          | 8 04 57        | 17 47 44 |                                                   |       |     |      |
| 17  | 75                                                              | 51.9 | +20                                               | 09.1 | 58                                                                                                                                                                                                                                                 | 46.9 <sup>112</sup> | +25                                               | 45.8 <sup>53</sup> | 40      | 6 01                     | 6 34                                              | 7 03          | 8 20 59        | 17 30 43 |                                                   |       |     |      |
| 18  | 90                                                              | 51.9 | +20                                               | 09.6 | 73                                                                                                                                                                                                                                                 | 16.9 <sup>110</sup> | +25                                               | 51.0 <sup>52</sup> | 45      | 6 08                     | 6 44                                              | 7 17          | 8 40 61        | 17 09 41 |                                                   |       |     |      |
| 19  | 105                                                             | 51.8 |                                                   | 10.1 | 87                                                                                                                                                                                                                                                 | 47.0 <sup>111</sup> | +25                                               | 56.1 <sup>51</sup> | 50      | 17                       | 6 57                                              | 34            | 9 05 65        | 16 43 39 |                                                   |       |     |      |
| 20  | 120                                                             | 51.8 |                                                   | 10.6 | 102                                                                                                                                                                                                                                                | 17.0 <sup>110</sup> | +26                                               | 01.1 <sup>50</sup> | 52      | 21                       | 7 03                                              | 42            | 17 66          | 31 37    |                                                   |       |     |      |
| 21  | 135                                                             | 51.8 |                                                   | 11.1 | 116                                                                                                                                                                                                                                                | 46.9 <sup>109</sup> |                                                   | 05.9 <sup>48</sup> | 54      | 25                       | 10                                                | 7 50          | 31 68          | 17 34    |                                                   |       |     |      |
| 22  | 150                                                             | 51.7 |                                                   | 11.6 | 131                                                                                                                                                                                                                                                | 16.9 <sup>110</sup> |                                                   | 10.6 <sup>47</sup> | 56      | 30                       | 17                                                | 8 00          | 9 47 72        | 16 00 32 |                                                   |       |     |      |
| 23  | 165                                                             | 51.7 |                                                   | 12.1 | 145                                                                                                                                                                                                                                                | 46.7 <sup>108</sup> |                                                   | 15.2 <sup>46</sup> | 58      | 35                       | 25                                                | 12            | 10 07 75       | 15 40 28 |                                                   |       |     |      |
| 24  | 180                                                             | 51.6 | +20                                               | 12.7 | 160                                                                                                                                                                                                                                                | 16.6 <sup>109</sup> | +26                                               | 19.7 <sup>45</sup> | 60 S    | 6 40                     | 7 33                                              | 8 25          | 10 31 82       | 15 16 21 |                                                   |       |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                                                                    |                     | MARTE                                             |                    |         |                          | JÚPITER                                           |               |                |          | SATURNO                                           |       |     |      |
|     | PMG 8 <sup>h</sup> 06 <sup>m</sup> 7                            |      | Mag: -4.5<br>PMG: 13 <sup>h</sup> 48 <sup>m</sup> |      |                                                                                                                                                                                                                                                    |                     | Mag: +1.7<br>PMG: 14 <sup>h</sup> 43 <sup>m</sup> |                    |         |                          | Mag: -2.2<br>PMG: 18 <sup>h</sup> 50 <sup>m</sup> |               |                |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 52 <sup>m</sup> |       |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                                                                                                                                                                                |                     | hG ♂                                              |                    | Dec     |                          | hG ♃                                              |               | Dec            |          | hG ♄                                              |       | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                                  | '                   | °                                                 | '                  | °       | '                        | °                                                 | '             | °              | '        | °                                                 | '     | °   | '    |
| 0   | 237                                                             | 59.2 | 152                                               | 24.3 | +26                                                                                                                                                                                                                                                | 56.2                | 139                                               | 11.6               | +24     | 26.6                     | 76                                                | 40.1          | +9             | 17.5     | 136                                               | 20.6  | +22 | 39.6 |
| 1   | 253                                                             | 01.6 | 167                                               | 26.9 |                                                                                                                                                                                                                                                    | 55.9                | 154                                               | 12.3               |         | 26.5                     | 91                                                | 42.4          |                | 17.4     | 151                                               | 22.7  |     | 39.6 |
| 2   | 268                                                             | 04.1 | 182                                               | 29.6 |                                                                                                                                                                                                                                                    | 55.6                | 169                                               | 13.0               |         | 26.4                     | 106                                               | 44.8          |                | 17.4     | 166                                               | 24.9  |     | 39.6 |
| 3   | 283                                                             | 06.6 | 197                                               | 32.3 |                                                                                                                                                                                                                                                    | 55.3                | 184                                               | 13.8               |         | 26.3                     | 121                                               | 47.2          |                | 17.3     | 181                                               | 27.1  |     | 39.6 |
| 4   | 298                                                             | 09.0 | 212                                               | 35.0 |                                                                                                                                                                                                                                                    | 55.0                | 199                                               | 14.5               |         | 26.2                     | 136                                               | 49.5          |                | 17.3     | 196                                               | 29.2  |     | 39.5 |
| 5   | 313                                                             | 11.5 | 227                                               | 37.7 | +26                                                                                                                                                                                                                                                | 54.7                | 214                                               | 15.2               | +24     | 26.1                     | 151                                               | 51.9          | +9             | 17.2     | 211                                               | 31.4  | +22 | 39.5 |
| 6   | 328                                                             | 14.0 | 242                                               | 40.4 | +26                                                                                                                                                                                                                                                | 54.4                | 229                                               | 15.9               | +24     | 26.0                     | 166                                               | 54.3          | +9             | 17.2     | 226                                               | 33.6  | +22 | 39.5 |
| 7   | 343                                                             | 16.4 | 257                                               | 43.2 |                                                                                                                                                                                                                                                    | 54.1                | 244                                               | 16.7               |         | 25.9                     | 181                                               | 56.6          |                | 17.1     | 241                                               | 35.8  |     | 39.5 |
| 8   | 358                                                             | 18.9 | 272                                               | 45.9 |                                                                                                                                                                                                                                                    | 53.7                | 259                                               | 17.4               |         | 25.8                     | 196                                               | 59.0          |                | 17.1     | 256                                               | 37.9  |     | 39.5 |
| 9   | 13                                                              | 21.3 | 287                                               | 48.6 |                                                                                                                                                                                                                                                    | 53.4                | 274                                               | 18.1               |         | 25.7                     | 212                                               | 01.3          |                | 17.0     | 271                                               | 40.1  |     | 39.5 |
| 10  | 28                                                              | 23.8 | 302                                               | 51.3 |                                                                                                                                                                                                                                                    | 53.1                | 289                                               | 18.9               |         | 25.6                     | 227                                               | 03.7          |                | 17.0     | 286                                               | 42.3  |     | 39.4 |
| 11  | 43                                                              | 26.3 | 317                                               | 54.1 | +26                                                                                                                                                                                                                                                | 52.8                | 304                                               | 19.6               | +24     | 25.5                     | 242                                               | 06.1          | +9             | 16.9     | 301                                               | 44.4  | +22 | 39.4 |
| 12  | 58                                                              | 28.7 | 332                                               | 56.8 | +26                                                                                                                                                                                                                                                | 52.5                | 319                                               | 20.3               | +24     | 25.4                     | 257                                               | 08.4          | +9             | 16.9     | 316                                               | 46.6  | +22 | 39.4 |
| 13  | 73                                                              | 31.2 | 347                                               | 59.5 |                                                                                                                                                                                                                                                    | 52.2                | 334                                               | 21.1               |         | 25.3                     | 272                                               | 10.8          |                | 16.8     | 331                                               | 48.8  |     | 39.4 |
| 14  | 88                                                              | 33.7 | 3                                                 | 02.3 |                                                                                                                                                                                                                                                    | 51.8                | 349                                               | 21.8               |         | 25.2                     | 287                                               | 13.1          |                | 16.8     | 346                                               | 50.9  |     | 39.4 |
| 15  | 103                                                             | 36.1 | 18                                                | 05.0 |                                                                                                                                                                                                                                                    | 51.5                | 4                                                 | 22.5               |         | 25.1                     | 302                                               | 15.5          |                | 16.7     | 1                                                 | 53.1  |     | 39.4 |
| 16  | 118                                                             | 38.6 | 33                                                | 07.8 |                                                                                                                                                                                                                                                    | 51.2                | 19                                                | 23.3               |         | 25.0                     | 317                                               | 17.9          |                | 16.7     | 16                                                | 55.3  |     | 39.3 |
| 17  | 133                                                             | 41.1 | 48                                                | 10.5 | +26                                                                                                                                                                                                                                                | 50.9                | 34                                                | 24.0               | +24     | 24.9                     | 332                                               | 20.2          | +9             | 16.6     | 31                                                | 57.5  | +22 | 39.3 |
| 18  | 148                                                             | 43.5 | 63                                                | 13.3 | +26                                                                                                                                                                                                                                                | 50.5                | 49                                                | 24.7               | +24     | 24.8                     | 347                                               | 22.6          | +9             | 16.6     | 46                                                | 59.6  | +22 | 39.3 |
| 19  | 163                                                             | 46.0 | 78                                                | 16.1 |                                                                                                                                                                                                                                                    | 50.2                | 64                                                | 25.5               |         | 24.7                     | 2                                                 | 24.9          |                | 16.5     | 62                                                | 01.8  |     | 39.3 |
| 20  | 178                                                             | 48.5 | 93                                                | 18.8 |                                                                                                                                                                                                                                                    | 49.9                | 79                                                | 26.2               |         | 24.6                     | 17                                                | 27.3          |                | 16.5     | 77                                                | 04.0  |     | 39.3 |
| 21  | 193                                                             | 50.9 | 108                                               | 21.6 |                                                                                                                                                                                                                                                    | 49.5                | 94                                                | 26.9               |         | 24.5                     | 32                                                | 29.6          |                | 16.4     | 92                                                | 06.1  |     | 39.3 |
| 22  | 208                                                             | 53.4 | 123                                               | 24.4 |                                                                                                                                                                                                                                                    | 49.2                | 109                                               | 27.6               |         | 24.4                     | 47                                                | 32.0          |                | 16.4     | 107                                               | 08.3  |     | 39.2 |
| 23  | 223                                                             | 55.8 | 138                                               | 27.2 |                                                                                                                                                                                                                                                    | 48.9                | 124                                               | 28.4               |         | 24.3                     | 62                                                | 34.4          |                | 16.3     | 122                                               | 10.5  |     | 39.2 |
| 24  | 238                                                             | 58.3 | 153                                               | 30.0 | +26                                                                                                                                                                                                                                                | 48.6                | 139                                               | 29.1               | +24     | 24.2                     | 77                                                | 36.7          | +9             | 16.3     | 137                                               | 12.6  | +22 | 39.2 |
| Dif | —                                                               |      | +27                                               |      | -3                                                                                                                                                                                                                                                 |                     | +7                                                |                    | -1      |                          | +24                                               |               | -1             |          | +22                                               |       | 0   |      |



| UT | SOL                                    |      |     | ● LUNA                 |                                                                                                                           |                     | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |      | Puesta de Luna |      |    |    |    |
|----|----------------------------------------|------|-----|------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------|---------|---------------|----------------------|-------|----------------|------|----------------|------|----|----|----|
|    | SD: 15 <sup>h</sup> 8                  |      |     | Edad: 1 <sup>d</sup> 8 | PHE {<br>4 <sup>h</sup> : 54 <sup>h</sup> 0<br>12 <sup>h</sup> : 54 <sup>h</sup> 0<br>20 <sup>h</sup> : 54 <sup>h</sup> 0 |                     |         |               |                      |       |                |      |                |      |    |    |    |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 6 |      |     |                        |                                                                                                                           |                     |         |               |                      |       |                |      |                |      |    |    |    |
|    | hG ☉                                   |      | Dec | hG ☾ Dif               |                                                                                                                           | Dec                 | Dif     |               |                      | Civil | Náutico        | Hora | R°             | Hora | R° |    |    |
| h  | °                                      | '    | °   | '                      | °                                                                                                                         | '                   | °       | '             | h                    | m     | h              | m    | h              | m    | h  | m  |    |
| 0  | 180                                    | 51.6 | +20 | 12.7                   | 160                                                                                                                       | 16.6                | +26     | 19.7          | 60 N                 | 20    | 46             | 21   | 57             | **   | ** | 3  | 27 |
| 1  | 195                                    | 51.6 |     | 13.2                   | 174                                                                                                                       | 46.4 <sup>108</sup> |         | 24.0          | 58                   | 31    |                | 31   |                | **   | ** | 3  | 55 |
| 2  | 210                                    | 51.5 |     | 13.7                   | 189                                                                                                                       | 16.2 <sup>108</sup> |         | 28.3          | 56                   | 18    |                | 21   | 11             | 22   | 42 | 4  | 17 |
| 3  | 225                                    | 51.5 |     | 14.2                   | 203                                                                                                                       | 45.9 <sup>107</sup> |         | 32.4          | 54                   | 20    | 07             | 20   | 55             | 22   | 08 | 34 | 42 |
| 4  | 240                                    | 51.5 |     | 14.7                   | 218                                                                                                                       | 15.6 <sup>107</sup> |         | 36.4          | 52                   | 19    | 57             | 41   |                | 21   | 44 | 4  | 50 |
| 5  | 255                                    | 51.4 | +20 | 15.2                   | 232                                                                                                                       | 45.2 <sup>106</sup> | +26     | 40.2          | 50                   | 19    | 48             | 20   | 29             | 21   | 25 | 5  | 03 |
| 6  | 270                                    | 51.4 | +20 | 15.7                   | 247                                                                                                                       | 14.9 <sup>107</sup> | +26     | 43.9          | 45                   | 19    | 29             | 20   | 04             | 20   | 50 | 5  | 30 |
| 7  | 285                                    | 51.3 |     | 16.2                   | 261                                                                                                                       | 44.5 <sup>106</sup> |         | 47.5          | 40                   | 14    |                | 19   | 45             | 24   |    | 5  | 51 |
| 8  | 300                                    | 51.3 |     | 16.7                   | 276                                                                                                                       | 14.1 <sup>106</sup> |         | 51.0          | 35                   | 19    | 01             | 30   |                | 20   | 05 | 6  | 09 |
| 9  | 315                                    | 51.2 |     | 17.2                   | 290                                                                                                                       | 43.6 <sup>105</sup> |         | 54.3          | 30                   | 18    | 50             | 19   | 17             | 19   | 49 | 25 | 48 |
| 10 | 330                                    | 51.2 |     | 17.7                   | 305                                                                                                                       | 13.1 <sup>105</sup> | +26     | 57.5          | 20                   | 31    |                | 18   | 55             | 24   |    | 6  | 51 |
| 11 | 345                                    | 51.1 | +20 | 18.2                   | 319                                                                                                                       | 42.6 <sup>105</sup> | +27     | 00.6          | 10 N                 | 18    | 15             | 18   | 38             | 19   | 04 | 7  | 13 |
| 12 | 0                                      | 51.1 | +20 | 18.7                   | 334                                                                                                                       | 12.0 <sup>104</sup> | +27     | 03.6          | 0                    | 18    | 00             | 18   | 22             | 18   | 48 | 7  | 35 |
| 13 | 15                                     | 51.1 |     | 19.2                   | 348                                                                                                                       | 41.5 <sup>105</sup> |         | 06.4          | 10 S                 | 17    | 45             | 18   | 08             | 33   |    | 7  | 56 |
| 14 | 30                                     | 51.0 |     | 19.7                   | 3                                                                                                                         | 10.9 <sup>104</sup> |         | 09.1          | 20                   | 29    |                | 17   | 53             | 20   |    | 8  | 19 |
| 15 | 45                                     | 51.0 |     | 20.2                   | 17                                                                                                                        | 40.2 <sup>103</sup> |         | 11.7          | 30                   | 11    |                | 37   |                | 18   | 06 | 8  | 45 |
| 16 | 60                                     | 50.9 |     | 20.7                   | 32                                                                                                                        | 09.6 <sup>104</sup> |         | 14.1          | 35                   | 17    | 01             | 28   |                | 17   | 59 | 9  | 01 |
| 17 | 75                                     | 50.9 | +20 | 21.2                   | 46                                                                                                                        | 38.9 <sup>103</sup> | +27     | 16.4          | 40                   | 16    | 49             | 17   | 18             | 17   | 52 | 9  | 19 |
| 18 | 90                                     | 50.8 | +20 | 21.7                   | 61                                                                                                                        | 08.2 <sup>103</sup> | +27     | 18.6          | 45                   | 16    | 35             | 17   | 07             | 17   | 43 | 9  | 41 |
| 19 | 105                                    | 50.8 |     | 22.2                   | 75                                                                                                                        | 37.5 <sup>103</sup> |         | 20.7          | 50                   | 18    |                | 16   | 54             | 34   |    | 10 | 10 |
| 20 | 120                                    | 50.7 |     | 22.6                   | 90                                                                                                                        | 06.8 <sup>103</sup> |         | 22.6          | 52                   | 10    |                | 48   |                | 30   |    | 23 | 57 |
| 21 | 135                                    | 50.7 |     | 23.1                   | 104                                                                                                                       | 36.1 <sup>103</sup> |         | 24.4          | 54                   | 16    | 01             | 42   |                | 26   |    | 39 | 58 |
| 22 | 150                                    | 50.6 |     | 23.6                   | 119                                                                                                                       | 05.3 <sup>102</sup> |         | 26.0          | 56                   | 15    | 51             | 35   |                | 21   |    | 10 | 59 |
| 23 | 165                                    | 50.6 |     | 24.1                   | 133                                                                                                                       | 34.5 <sup>102</sup> |         | 27.6          | 58                   | 39    |                | 26   |                | 16   |    | 11 | 22 |
| 24 | 180                                    | 50.5 | +20 | 24.6                   | 148                                                                                                                       | 03.7 <sup>102</sup> | +27     | 29.0          | 60 S                 | 15    | 26             | 16   | 17             | 17   | 11 | 11 | 53 |

| UT  | ARIES                            |      | VENUS                                |      | MARTE                                |      | JÚPITER                              |      | SATURNO                              |      |      |      |  |  |  |  |
|-----|----------------------------------|------|--------------------------------------|------|--------------------------------------|------|--------------------------------------|------|--------------------------------------|------|------|------|--|--|--|--|
|     | PMG                              |      | Mag: -4.5                            |      | Mag: +1.7                            |      | Mag: -2.1                            |      | Mag: +0.1                            |      |      |      |  |  |  |  |
|     | 8 <sup>h</sup> 02 <sup>m</sup> 8 |      | PMG: 13 <sup>h</sup> 43 <sup>m</sup> |      | PMG: 14 <sup>h</sup> 41 <sup>m</sup> |      | PMG: 18 <sup>h</sup> 47 <sup>m</sup> |      | PMG: 14 <sup>h</sup> 49 <sup>m</sup> |      |      |      |  |  |  |  |
|     | hG ♈                             |      | hG ♀                                 |      | hG ♂                                 |      | hG ♃                                 |      | hG ♄                                 |      |      |      |  |  |  |  |
| h   | °                                | '    | °                                    | '    | °                                    | '    | °                                    | '    | °                                    | '    |      |      |  |  |  |  |
| 0   | 238                              | 58.3 | 153                                  | 30.0 | 139                                  | 29.1 | 77                                   | 36.7 | 137                                  | 12.6 |      |      |  |  |  |  |
| 1   | 254                              | 00.8 | 168                                  | 32.8 | 154                                  | 29.8 | 92                                   | 39.1 | 152                                  | 14.8 |      |      |  |  |  |  |
| 2   | 269                              | 03.2 | 183                                  | 35.6 | 169                                  | 30.6 | 107                                  | 41.4 | 167                                  | 17.0 |      |      |  |  |  |  |
| 3   | 284                              | 05.7 | 198                                  | 38.4 | 184                                  | 31.3 | 122                                  | 43.8 | 182                                  | 19.1 |      |      |  |  |  |  |
| 4   | 299                              | 08.2 | 213                                  | 41.2 | 199                                  | 32.0 | 137                                  | 46.1 | 197                                  | 21.3 |      |      |  |  |  |  |
| 5   | 314                              | 10.6 | 228                                  | 44.0 | 214                                  | 32.8 | 152                                  | 48.5 | 212                                  | 23.5 |      |      |  |  |  |  |
| 6   | 329                              | 13.1 | 243                                  | 46.8 | 229                                  | 33.5 | 167                                  | 50.8 | 227                                  | 25.6 |      |      |  |  |  |  |
| 7   | 344                              | 15.6 | 258                                  | 49.7 | 244                                  | 34.2 | 182                                  | 53.2 | 242                                  | 27.8 |      |      |  |  |  |  |
| 8   | 359                              | 18.0 | 273                                  | 52.5 | 259                                  | 35.0 | 197                                  | 55.6 | 257                                  | 30.0 |      |      |  |  |  |  |
| 9   | 14                               | 20.5 | 288                                  | 55.3 | 274                                  | 35.7 | 212                                  | 57.9 | 272                                  | 32.2 |      |      |  |  |  |  |
| 10  | 29                               | 23.0 | 303                                  | 58.2 | 289                                  | 36.4 | 228                                  | 00.3 | 287                                  | 34.3 |      |      |  |  |  |  |
| 11  | 44                               | 25.4 | 319                                  | 01.0 | 304                                  | 37.2 | 243                                  | 02.6 | 302                                  | 36.5 |      |      |  |  |  |  |
| 12  | 59                               | 27.9 | 334                                  | 03.8 | 319                                  | 37.9 | 258                                  | 05.0 | 317                                  | 38.7 |      |      |  |  |  |  |
| 13  | 74                               | 30.3 | 349                                  | 06.7 | 334                                  | 38.6 | 273                                  | 07.3 | 332                                  | 40.8 |      |      |  |  |  |  |
| 14  | 89                               | 32.8 | 4                                    | 09.6 | 349                                  | 39.4 | 288                                  | 09.7 | 347                                  | 43.0 |      |      |  |  |  |  |
| 15  | 104                              | 35.3 | 19                                   | 12.4 | 4                                    | 40.1 | 303                                  | 12.0 | 2                                    | 45.2 |      |      |  |  |  |  |
| 16  | 119                              | 37.7 | 34                                   | 15.3 | 43.1                                 | 19   | 40.8                                 | 318  | 14.4                                 | 17   | 47.3 |      |  |  |  |  |
| 17  | 134                              | 40.2 | 49                                   | 18.2 | 34                                   | 41.6 | 333                                  | 16.7 | 32                                   | 49.5 |      |      |  |  |  |  |
| 18  | 149                              | 42.7 | 64                                   | 21.0 | 49                                   | 42.3 | 348                                  | 19.1 | 47                                   | 51.7 |      |      |  |  |  |  |
| 19  | 164                              | 45.1 | 79                                   | 23.9 | 64                                   | 43.0 | 3                                    | 21.4 | 62                                   | 53.8 |      |      |  |  |  |  |
| 20  | 179                              | 47.6 | 94                                   | 26.8 | 41.7                                 | 79   | 43.8                                 | 18   | 23.8                                 | 77   | 56.0 |      |  |  |  |  |
| 21  | 194                              | 50.1 | 109                                  | 29.7 | 41.3                                 | 94   | 44.5                                 | 33   | 26.1                                 | 92   | 58.2 |      |  |  |  |  |
| 22  | 209                              | 52.5 | 124                                  | 32.6 | 41.0                                 | 109  | 45.2                                 | 48   | 28.5                                 | 108  | 00.3 |      |  |  |  |  |
| 23  | 224                              | 55.0 | 139                                  | 35.5 | 40.6                                 | 124  | 46.0                                 | 63   | 30.8                                 | 123  | 02.5 |      |  |  |  |  |
| 24  | 239                              | 57.4 | 154                                  | 38.4 | +26                                  | 40.3 | 139                                  | 46.7 | +24                                  | 21.6 | 78   | 33.2 |  |  |  |  |
| Dif | —                                |      | +28                                  |      | -3                                   |      | +24                                  |      | -1                                   |      | +22  |      |  |  |  |  |

| UT | SOL                                                             |      |     |      | ● LUNA                                                                                                                         |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna      |       |    | Puesta de Luna      |       |    |    |
|----|-----------------------------------------------------------------|------|-----|------|--------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------|--------------------------|-------|---------------|---------------------|-------|----|---------------------|-------|----|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 7 |      |     |      | Edad: 2 <sup>d</sup> 8 PHE {<br>SD: 14 <sup>h</sup> 7<br>PMG: 14 <sup>h</sup> 38 <sup>m</sup> R <sup>o</sup> : 51 <sup>m</sup> |      |     |      |         |                          |       |               | Hora R <sup>o</sup> |       |    | Hora R <sup>o</sup> |       |    |    |
|    | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                           |      | Dif |      |         |                          |       |               |                     |       |    |                     |       |    |    |
| h  | °                                                               | '    | °   | '    | °                                                                                                                              | '    | °   | '    | °       | h                        | m     | h             | m                   | h     | m  | h                   | m     | h  | m  |
| 0  | 180                                                             | 50.5 | +20 | 24.6 | 148                                                                                                                            | 03.7 | +27 | 29.0 | 12      | 60 N                     | ** ** | 1 56          | 3 06                | 3 59  | 59 | 0 24                | 48    |    |    |
| 1  | 195                                                             | 50.5 |     | 25.1 | 162                                                                                                                            | 32.9 |     | 30.2 | 12      | 58                       | ** ** | 2 22          | 22                  | 4 32  | 57 | ** **               | ** ** |    |    |
| 2  | 210                                                             | 50.5 |     | 25.6 | 177                                                                                                                            | 02.1 |     | 31.4 | 12      | 56                       | 1 10  | 42            | 35                  | 4 56  | 56 | ** **               | ** ** |    |    |
| 3  | 225                                                             | 50.4 |     | 26.1 | 191                                                                                                                            | 31.3 |     | 32.3 | 9       | 54                       | 1 45  | 2 58          | 46                  | 5 16  | 55 | 23 58               | 3     |    |    |
| 4  | 240                                                             | 50.4 |     | 26.6 | 206                                                                                                                            | 00.4 |     | 33.2 | 9       | 52                       | 2 09  | 3 12          | 3 56                | 32    | 55 | 42                  | 38    |    |    |
| 5  | 255                                                             | 50.3 | +20 | 27.1 | 220                                                                                                                            | 29.6 | +27 | 33.9 | 7       | 50                       | 2 28  | 3 24          | 4 05                | 5 46  | 55 | 23 28               | 40    |    |    |
| 6  | 270                                                             | 50.3 | +20 | 27.5 | 234                                                                                                                            | 58.7 | +27 | 34.5 | 6       | 45                       | 3 03  | 3 48          | 4 24                | 6 15  | 54 | 22 59               | 43    |    |    |
| 7  | 285                                                             | 50.2 |     | 28.0 | 249                                                                                                                            | 27.9 |     | 35.0 | 5       | 40                       | 28    | 4 08          | 39                  | 38    | 54 | 37                  | 44    |    |    |
| 8  | 300                                                             | 50.2 |     | 28.5 | 263                                                                                                                            | 57.0 |     | 35.3 | 3       | 35                       | 3 48  | 23            | 4 52                | 6 57  | 53 | 18                  | 46    |    |    |
| 9  | 315                                                             | 50.1 |     | 29.0 | 278                                                                                                                            | 26.1 |     | 35.5 | 2       | 30                       | 4 04  | 36            | 5 03                | 7 13  | 53 | 22                  | 02    | 47 |    |
| 10 | 330                                                             | 50.1 |     | 29.5 | 292                                                                                                                            | 55.3 |     | 35.6 | 1       | 20                       | 29    | 4 58          | 22                  | 7 40  | 52 | 21                  | 35    | 48 |    |
| 11 | 345                                                             | 50.0 | +20 | 30.0 | 307                                                                                                                            | 24.4 | +27 | 35.6 | 0       | 10 N                     | 4 49  | 5 15          | 5 38                | 8 04  | 51 | 21                  | 12    | 50 |    |
| 12 | 0                                                               | 50.0 | +20 | 30.5 | 321                                                                                                                            | 53.5 | +27 | 35.4 | 2       | 0                        | 5 05  | 5 31          | 5 53                | 8 25  | 52 | 20                  | 50    | 51 |    |
| 13 | 15                                                              | 49.9 |     | 30.9 | 336                                                                                                                            | 22.6 |     | 35.0 | 4       | 10 S                     | 20    | 5 46          | 6 08                | 8 47  | 51 | 28                  | 52    |    |    |
| 14 | 30                                                              | 49.9 |     | 31.4 | 350                                                                                                                            | 51.7 |     | 34.6 | 4       | 20                       | 34    | 6 01          | 24                  | 9 11  | 50 | 20                  | 05    | 53 |    |
| 15 | 45                                                              | 49.8 |     | 31.9 | 5                                                                                                                              | 20.8 |     | 34.0 | 6       | 30                       | 47    | 17            | 42                  | 38    | 49 | 19                  | 38    | 54 |    |
| 16 | 60                                                              | 49.8 |     | 32.4 | 19                                                                                                                             | 50.0 |     | 33.2 | 8       | 35                       | 5 54  | 25            | 6 53                | 9 55  | 48 | 22                  | 55    |    |    |
| 17 | 75                                                              | 49.7 | +20 | 32.9 | 34                                                                                                                             | 19.1 | +27 | 32.4 | 8       | 40                       | 6 02  | 6 35          | 7 05                | 10 13 | 48 | 19                  | 03    | 56 |    |
| 18 | 90                                                              | 49.7 | +20 | 33.4 | 48                                                                                                                             | 48.2 | +27 | 31.4 | 10      | 45                       | 6 10  | 6 46          | 7 19                | 10 36 | 47 | 18                  | 40    | 58 |    |
| 19 | 105                                                             | 49.6 |     | 33.8 | 63                                                                                                                             | 17.4 |     | 30.3 | 11      | 50                       | 19    | 7 00          | 36                  | 11 05 | 46 | 18                  | 11    | 60 |    |
| 20 | 120                                                             | 49.6 |     | 34.3 | 77                                                                                                                             | 46.5 |     | 29.0 | 13      | 52                       | 24    | 06            | 44                  | 20    | 44 | 17                  | 56    | 61 |    |
| 21 | 135                                                             | 49.5 |     | 34.8 | 92                                                                                                                             | 15.7 |     | 27.6 | 14      | 54                       | 28    | 12            | 7 53                | 37    | 43 | 40                  | 62    |    |    |
| 22 | 150                                                             | 49.4 |     | 35.3 | 106                                                                                                                            | 44.8 |     | 26.1 | 15      | 56                       | 33    | 20            | 8 04                | 11    | 57 | 41                  | 17    | 20 | 64 |
| 23 | 165                                                             | 49.4 |     | 35.7 | 121                                                                                                                            | 14.0 |     | 24.4 | 17      | 58                       | 38    | 28            | 15                  | 12    | 22 | 39                  | 16    | 55 | 66 |
| 24 | 180                                                             | 49.3 | +20 | 36.2 | 135                                                                                                                            | 43.2 | +27 | 22.6 | 18      | 60 S                     | 6 43  | 7 37          | 8 29                | 12 55 | 35 | 16                  | 21    | 71 |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 7 <sup>h</sup> 58 <sup>m</sup> 9 |      | Mag: -4.5<br>PMG: 13 <sup>h</sup> 39 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 40 <sup>m</sup> |      | Mag: -2.1<br>PMG: 18 <sup>h</sup> 43 <sup>m</sup> |      | Mag: +0.1<br>PMG: 14 <sup>h</sup> 46 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 239                                   | 57.4 | 154                                               | 38.4 | +26                                               | 40.3 | 139                                               | 46.7 | +24                                               | 21.6 | 78  | 33.2 | +9 | 15.0 | 138 | 04.7 | +22 | 38.8 |
| 1   | 254                                   | 59.9 | 169                                               | 41.3 |                                                   | 39.9 | 154                                               | 47.4 |                                                   | 21.5 | 93  | 35.5 |    | 14.9 | 153 | 06.8 |     | 38.8 |
| 2   | 270                                   | 02.4 | 184                                               | 44.2 |                                                   | 39.6 | 169                                               | 48.2 |                                                   | 21.4 | 108 | 37.9 |    | 14.9 | 168 | 09.0 |     | 38.7 |
| 3   | 285                                   | 04.8 | 199                                               | 47.1 |                                                   | 39.2 | 184                                               | 48.9 |                                                   | 21.3 | 123 | 40.2 |    | 14.8 | 183 | 11.2 |     | 38.7 |
| 4   | 300                                   | 07.3 | 214                                               | 50.0 |                                                   | 38.8 | 199                                               | 49.6 |                                                   | 21.2 | 138 | 42.6 |    | 14.8 | 198 | 13.3 |     | 38.7 |
| 5   | 315                                   | 09.8 | 229                                               | 53.0 | +26                                               | 38.5 | 214                                               | 50.4 | +24                                               | 21.1 | 153 | 44.9 | +9 | 14.7 | 213 | 15.5 | +22 | 38.7 |
| 6   | 330                                   | 12.2 | 244                                               | 55.9 | +26                                               | 38.1 | 229                                               | 51.1 | +24                                               | 21.0 | 168 | 47.3 | +9 | 14.7 | 228 | 17.7 | +22 | 38.7 |
| 7   | 345                                   | 14.7 | 259                                               | 58.8 |                                                   | 37.8 | 244                                               | 51.8 |                                                   | 20.9 | 183 | 49.6 |    | 14.6 | 243 | 19.8 |     | 38.7 |
| 8   | 0                                     | 17.2 | 275                                               | 01.8 |                                                   | 37.4 | 259                                               | 52.6 |                                                   | 20.7 | 198 | 52.0 |    | 14.5 | 258 | 22.0 |     | 38.6 |
| 9   | 15                                    | 19.6 | 290                                               | 04.7 |                                                   | 37.0 | 274                                               | 53.3 |                                                   | 20.6 | 213 | 54.3 |    | 14.5 | 273 | 24.2 |     | 38.6 |
| 10  | 30                                    | 22.1 | 305                                               | 07.7 |                                                   | 36.7 | 289                                               | 54.0 |                                                   | 20.5 | 228 | 56.7 |    | 14.4 | 288 | 26.3 |     | 38.6 |
| 11  | 45                                    | 24.6 | 320                                               | 10.6 | +26                                               | 36.3 | 304                                               | 54.8 | +24                                               | 20.4 | 243 | 59.0 | +9 | 14.4 | 303 | 28.5 | +22 | 38.6 |
| 12  | 60                                    | 27.0 | 335                                               | 13.6 | +26                                               | 35.9 | 319                                               | 55.5 | +24                                               | 20.3 | 259 | 01.4 | +9 | 14.3 | 318 | 30.7 | +22 | 38.6 |
| 13  | 75                                    | 29.5 | 350                                               | 16.5 |                                                   | 35.5 | 334                                               | 56.2 |                                                   | 20.2 | 274 | 03.7 |    | 14.3 | 333 | 32.8 |     | 38.5 |
| 14  | 90                                    | 31.9 | 5                                                 | 19.5 |                                                   | 35.2 | 349                                               | 57.0 |                                                   | 20.1 | 289 | 06.1 |    | 14.2 | 348 | 35.0 |     | 38.5 |
| 15  | 105                                   | 34.4 | 20                                                | 22.5 |                                                   | 34.8 | 4                                                 | 57.7 |                                                   | 19.9 | 304 | 08.4 |    | 14.2 | 3   | 37.2 |     | 38.5 |
| 16  | 120                                   | 36.9 | 35                                                | 25.5 |                                                   | 34.4 | 19                                                | 58.4 |                                                   | 19.8 | 319 | 10.7 |    | 14.1 | 18  | 39.3 |     | 38.5 |
| 17  | 135                                   | 39.3 | 50                                                | 28.4 | +26                                               | 34.1 | 34                                                | 59.2 | +24                                               | 19.7 | 334 | 13.1 | +9 | 14.0 | 33  | 41.5 | +22 | 38.5 |
| 18  | 150                                   | 41.8 | 65                                                | 31.4 | +26                                               | 33.7 | 49                                                | 59.9 | +24                                               | 19.6 | 349 | 15.4 | +9 | 14.0 | 48  | 43.6 | +22 | 38.5 |
| 19  | 165                                   | 44.3 | 80                                                | 34.4 |                                                   | 33.3 | 65                                                | 00.6 |                                                   | 19.5 | 4   | 17.8 |    | 13.9 | 63  | 45.8 |     | 38.4 |
| 20  | 180                                   | 46.7 | 95                                                | 37.4 |                                                   | 32.9 | 80                                                | 01.4 |                                                   | 19.4 | 19  | 20.1 |    | 13.9 | 78  | 48.0 |     | 38.4 |
| 21  | 195                                   | 49.2 | 110                                               | 40.4 |                                                   | 32.6 | 95                                                | 02.1 |                                                   | 19.2 | 34  | 22.5 |    | 13.8 | 93  | 50.1 |     | 38.4 |
| 22  | 210                                   | 51.7 | 125                                               | 43.4 |                                                   | 32.2 | 110                                               | 02.8 |                                                   | 19.1 | 49  | 24.8 |    | 13.8 | 108 | 52.3 |     | 38.4 |
| 23  | 225                                   | 54.1 | 140                                               | 46.4 |                                                   | 31.8 | 125                                               | 03.6 |                                                   | 19.0 | 64  | 27.2 |    | 13.7 | 123 | 54.5 |     | 38.4 |
| 24  | 240                                   | 56.6 | 155                                               | 49.4 | +26                                               | 31.4 | 140                                               | 04.3 | +24                                               | 18.9 | 79  | 29.5 | +9 | 13.6 | 138 | 56.6 | +22 | 38.3 |
| Dif | —                                     |      | +30 -4                                            |      | +7 -1                                             |      | +23 -1                                            |      | +22 0                                             |      |     |      |    |      |     |      |     |      |

| UT  | SOL                                    |      |                                                   | ● LUNA                 |                     |                                                                                                                                                                                | Latitud  | Puesta de Sol | Final del crepúsculo                              |          |         | Salida de Luna                                    |          | Puesta de Luna |       |  |
|-----|----------------------------------------|------|---------------------------------------------------|------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------|---------------------------------------------------|----------|---------|---------------------------------------------------|----------|----------------|-------|--|
|     | SD: 15 <sup>h</sup> 8                  |      |                                                   | Edad: 3 <sup>d</sup> 8 | PHE {               | 4 <sup>h</sup> : 54 <sup>1</sup> / <sub>1</sub><br>12 <sup>h</sup> : 54 <sup>2</sup> / <sub>2</sub><br>20 <sup>h</sup> : 54 <sup>3</sup> / <sub>3</sub><br>R°: 50 <sup>m</sup> |          |               | Final del crepúsculo                              |          |         | Salida de Luna                                    |          | Puesta de Luna |       |  |
|     | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 8 |      |                                                   |                        |                     |                                                                                                                                                                                |          |               |                                                   |          |         |                                                   |          |                |       |  |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                   | Dif                 | Dec                                                                                                                                                                            | Dif      |               |                                                   | Civil    | Náutico | Hora                                              | R°       | Hora           | R°    |  |
| h   | °                                      | '    | °                                                 | °                      | '                   | °                                                                                                                                                                              | '        | °             | h m                                               | h m      | h m     | h m m                                             | h m m    | h m m          | h m m |  |
| 0   | 180                                    | 49.3 | +20 36.2                                          | 135                    | 43.2                | +27 22.6                                                                                                                                                                       | 19       | 60 N          | 20 51                                             | 22 04    | ** **   | 4 58 80                                           | 1 12 24  |                |       |  |
| 1   | 195                                    | 49.3 | 36.7                                              | 150                    | 12.4 <sup>102</sup> | 20.7                                                                                                                                                                           | 19       | 58            | 35                                                | 21 36    | ** **   | 5 29 74                                           | 0 41 30  |                |       |  |
| 2   | 210                                    | 49.2 | 37.2                                              | 164                    | 41.6 <sup>102</sup> | 18.7                                                                                                                                                                           | 20       | 56            | 21                                                | 21 15    | 22 52   | 5 52 70                                           | 0 17 34  |                |       |  |
| 3   | 225                                    | 49.2 | 37.7                                              | 179                    | 10.8 <sup>102</sup> | 16.5                                                                                                                                                                           | 22       | 54            | 10                                                | 20 58    | 22 14   | 6 11 68                                           | ** ** *  | **             |       |  |
| 4   | 240                                    | 49.1 | 38.1                                              | 193                    | 40.1 <sup>103</sup> | 14.2                                                                                                                                                                           | 23       | 52            | 20 00                                             | 44       | 21 48   | 27 66                                             | ** ** *  | **             |       |  |
| 5   | 255                                    | 49.1 | +20 38.6                                          | 208                    | 09.3 <sup>102</sup> | +27 11.7                                                                                                                                                                       | 25       | 50            | 19 50                                             | 20 32    | 21 29   | 6 41 64                                           | ** ** *  | **             |       |  |
| 6   | 270                                    | 49.0 | +20 39.1                                          | 222                    | 38.6 <sup>103</sup> | +27 09.1                                                                                                                                                                       | 26       | 45            | 19 31                                             | 20 07    | 20 52   | 7 09 61                                           | 23 42 34 |                |       |  |
| 7   | 285                                    | 49.0 | 39.5                                              | 237                    | 07.9 <sup>103</sup> | 06.4                                                                                                                                                                           | 27       | 40            | 16                                                | 19 47    | 27      | 32 59                                             | 21 37    |                |       |  |
| 8   | 300                                    | 48.9 | 40.0                                              | 251                    | 37.2 <sup>103</sup> | 03.6                                                                                                                                                                           | 28       | 35            | 19 03                                             | 32       | 20 07   | 7 50 57                                           | 23 04 39 |                |       |  |
| 9   | 315                                    | 48.9 | 40.5                                              | 266                    | 06.5 <sup>103</sup> | +27 00.6                                                                                                                                                                       | 30       | 30            | 18 52                                             | 19 18    | 19 50   | 8 06 56                                           | 22 49 41 |                |       |  |
| 10  | 330                                    | 48.8 | 41.0                                              | 280                    | 35.9 <sup>104</sup> | +26 57.5                                                                                                                                                                       | 31       | 20            | 32                                                | 18 56    | 25      | 32 54                                             | 23 45    |                |       |  |
| 11  | 345                                    | 48.7 | +20 41.4                                          | 295                    | 05.3 <sup>104</sup> | +26 54.3                                                                                                                                                                       | 32       | 10 N          | 18 16                                             | 18 38    | 19 05   | 8 55 52                                           | 22 02 47 |                |       |  |
| 12  | 0                                      | 48.7 | +20 41.9                                          | 309                    | 34.7 <sup>104</sup> | +26 50.9                                                                                                                                                                       | 34       | 0             | 18 00                                             | 18 22    | 18 48   | 9 17 50                                           | 21 41 49 |                |       |  |
| 13  | 15                                     | 48.6 | 42.4                                              | 324                    | 04.1 <sup>104</sup> | 47.4                                                                                                                                                                           | 35       | 10 S          | 17 45                                             | 18 07    | 33      | 9 38 48                                           | 21 20 52 |                |       |  |
| 14  | 30                                     | 48.6 | 42.8                                              | 338                    | 33.5 <sup>104</sup> | 43.8                                                                                                                                                                           | 36       | 20            | 29                                                | 17 52    | 19      | 10 01 46                                          | 20 58 54 |                |       |  |
| 15  | 45                                     | 48.5 | 43.3                                              | 353                    | 03.0 <sup>105</sup> | 40.1                                                                                                                                                                           | 37       | 30            | 10                                                | 36       | 18 05   | 27 44                                             | 32 57    |                |       |  |
| 16  | 60                                     | 48.5 | 43.8                                              | 7                      | 32.5 <sup>105</sup> | 36.2                                                                                                                                                                           | 39       | 35            | 17 00                                             | 27       | 17 58   | 10 43 42                                          | 20 17 59 |                |       |  |
| 17  | 75                                     | 48.4 | +20 44.2                                          | 22                     | 02.0 <sup>105</sup> | +26 32.2                                                                                                                                                                       | 40       | 40            | 16 48                                             | 17 17    | 17 50   | 11 01 41                                          | 19 59 61 |                |       |  |
| 18  | 90                                     | 48.4 | +20 44.7                                          | 36                     | 31.6 <sup>106</sup> | +26 28.1                                                                                                                                                                       | 41       | 45            | 16 33                                             | 17 06    | 17 42   | 11 23 38                                          | 19 38 63 |                |       |  |
| 19  | 105                                    | 48.3 | 45.2                                              | 51                     | 01.2 <sup>106</sup> | 23.8                                                                                                                                                                           | 43       | 50            | 16                                                | 16 52    | 33      | 11 51 35                                          | 19 11 67 |                |       |  |
| 20  | 120                                    | 48.2 | 45.6                                              | 65                     | 30.8 <sup>106</sup> | 19.4                                                                                                                                                                           | 44       | 52            | 16 07                                             | 46       | 28      | 12 04 33                                          | 18 57 70 |                |       |  |
| 21  | 135                                    | 48.2 | 46.1                                              | 80                     | 00.5 <sup>107</sup> | 14.9                                                                                                                                                                           | 45       | 54            | 15 58                                             | 39       | 24      | 20 30                                             | 42 72    |                |       |  |
| 22  | 150                                    | 48.1 | 46.6                                              | 94                     | 30.1 <sup>106</sup> | 10.3                                                                                                                                                                           | 46       | 56            | 48                                                | 32       | 19      | 12 38 28                                          | 24 75    |                |       |  |
| 23  | 165                                    | 48.1 | 47.0                                              | 108                    | 59.8 <sup>107</sup> | 05.5                                                                                                                                                                           | 48       | 58            | 36                                                | 24       | 14      | 13 01 23                                          | 18 01 80 |                |       |  |
| 24  | 180                                    | 48.0 | +20 47.5                                          | 123                    | 29.6 <sup>108</sup> | +26 00.7                                                                                                                                                                       | 48       | 60 S          | 15 22                                             | 16 14    | 17 08   | 13 30 16                                          | 17 32 88 |                |       |  |
| UT  | ARIES                                  |      | VENUS                                             |                        |                     | MARTE                                                                                                                                                                          |          |               | JÚPITER                                           |          |         | SATURNO                                           |          |                |       |  |
|     | PMG: 7 <sup>h</sup> 54 <sup>m</sup> 9  |      | Mag: -4.5<br>PMG: 13 <sup>h</sup> 34 <sup>m</sup> |                        |                     | Mag: +1.7<br>PMG: 14 <sup>h</sup> 39 <sup>m</sup>                                                                                                                              |          |               | Mag: -2.1<br>PMG: 18 <sup>h</sup> 39 <sup>m</sup> |          |         | Mag: +0.1<br>PMG: 14 <sup>h</sup> 42 <sup>m</sup> |          |                |       |  |
|     | hG ♈                                   | hG ♀ | Dec                                               |                        | hG ♂                | Dec                                                                                                                                                                            |          | hG ♃          | Dec                                               |          | hG ♄    | Dec                                               |          |                |       |  |
| h   | °                                      | '    | °                                                 | °                      | '                   | °                                                                                                                                                                              | '        | °             | °                                                 | '        | °       | °                                                 | '        | °              | '     |  |
| 0   | 240                                    | 56.6 | 155 49.4                                          | +26 31.4               | 140 04.3            | +24 18.9                                                                                                                                                                       | 79 29.5  | +9 13.6       | 138 56.6                                          | +22 38.3 |         |                                                   |          |                |       |  |
| 1   | 255                                    | 59.1 | 170 52.5                                          | 31.0                   | 155 05.0            | 18.8                                                                                                                                                                           | 94 31.8  | 13.6          | 153 58.8                                          | 38.3     |         |                                                   |          |                |       |  |
| 2   | 271                                    | 01.5 | 185 55.5                                          | 30.6                   | 170 05.8            | 18.7                                                                                                                                                                           | 109 34.2 | 13.5          | 169 01.0                                          | 38.3     |         |                                                   |          |                |       |  |
| 3   | 286                                    | 04.0 | 200 58.5                                          | 30.3                   | 185 06.5            | 18.5                                                                                                                                                                           | 124 36.5 | 13.5          | 184 03.1                                          | 38.3     |         |                                                   |          |                |       |  |
| 4   | 301                                    | 06.4 | 216 01.5                                          | 29.9                   | 200 07.2            | 18.4                                                                                                                                                                           | 139 38.9 | 13.4          | 199 05.3                                          | 38.3     |         |                                                   |          |                |       |  |
| 5   | 316                                    | 08.9 | 231 04.6                                          | +26 29.5               | 215 08.0            | +24 18.3                                                                                                                                                                       | 154 41.2 | +9 13.4       | 214 07.5                                          | +22 38.2 |         |                                                   |          |                |       |  |
| 6   | 331                                    | 11.4 | 246 07.6                                          | +26 29.1               | 230 08.7            | +24 18.2                                                                                                                                                                       | 169 43.6 | +9 13.3       | 229 09.6                                          | +22 38.2 |         |                                                   |          |                |       |  |
| 7   | 346                                    | 13.8 | 261 10.7                                          | 28.7                   | 245 09.4            | 18.1                                                                                                                                                                           | 184 45.9 | 13.2          | 244 11.8                                          | 38.2     |         |                                                   |          |                |       |  |
| 8   | 1                                      | 16.3 | 276 13.7                                          | 28.3                   | 260 10.2            | 17.9                                                                                                                                                                           | 199 48.2 | 13.2          | 259 13.9                                          | 38.2     |         |                                                   |          |                |       |  |
| 9   | 16                                     | 18.8 | 291 16.8                                          | 27.9                   | 275 10.9            | 17.8                                                                                                                                                                           | 214 50.6 | 13.1          | 274 16.1                                          | 38.2     |         |                                                   |          |                |       |  |
| 10  | 31                                     | 21.2 | 306 19.8                                          | 27.5                   | 290 11.7            | 17.7                                                                                                                                                                           | 229 52.9 | 13.1          | 289 18.3                                          | 38.2     |         |                                                   |          |                |       |  |
| 11  | 46                                     | 23.7 | 321 22.9                                          | +26 27.1               | 305 12.4            | +24 17.6                                                                                                                                                                       | 244 55.3 | +9 13.0       | 304 20.4                                          | +22 38.1 |         |                                                   |          |                |       |  |
| 12  | 61                                     | 26.2 | 336 26.0                                          | +26 26.7               | 320 13.1            | +24 17.5                                                                                                                                                                       | 259 57.6 | +9 13.0       | 319 22.6                                          | +22 38.1 |         |                                                   |          |                |       |  |
| 13  | 76                                     | 28.6 | 351 29.0                                          | 26.4                   | 335 13.9            | 17.3                                                                                                                                                                           | 274 59.9 | 12.9          | 334 24.8                                          | 38.1     |         |                                                   |          |                |       |  |
| 14  | 91                                     | 31.1 | 6 32.1                                            | 26.0                   | 350 14.6            | 17.2                                                                                                                                                                           | 290 02.3 | 12.8          | 349 26.9                                          | 38.1     |         |                                                   |          |                |       |  |
| 15  | 106                                    | 33.6 | 21 35.2                                           | 25.6                   | 5 15.3              | 17.1                                                                                                                                                                           | 305 04.6 | 12.8          | 4 29.1                                            | 38.1     |         |                                                   |          |                |       |  |
| 16  | 121                                    | 36.0 | 36 38.3                                           | 25.2                   | 20 16.1             | 17.0                                                                                                                                                                           | 320 07.0 | 12.7          | 19 31.3                                           | 38.0     |         |                                                   |          |                |       |  |
| 17  | 136                                    | 38.5 | 51 41.4                                           | +26 24.8               | 35 16.8             | +24 16.8                                                                                                                                                                       | 335 09.3 | +9 12.7       | 34 33.4                                           | +22 38.0 |         |                                                   |          |                |       |  |
| 18  | 151                                    | 40.9 | 66 44.5                                           | +26 24.4               | 50 17.5             | +24 16.7                                                                                                                                                                       | 350 11.6 | +9 12.6       | 49 35.6                                           | +22 38.0 |         |                                                   |          |                |       |  |
| 19  | 166                                    | 43.4 | 81 47.6                                           | 24.0                   | 65 18.3             | 16.6                                                                                                                                                                           | 5 14.0   | 12.5          | 64 37.7                                           | 38.0     |         |                                                   |          |                |       |  |
| 20  | 181                                    | 45.9 | 96 50.7                                           | 23.6                   | 80 19.0             | 16.5                                                                                                                                                                           | 20 16.3  | 12.5          | 79 39.9                                           | 38.0     |         |                                                   |          |                |       |  |
| 21  | 196                                    | 48.3 | 111 53.8                                          | 23.1                   | 95 19.7             | 16.3                                                                                                                                                                           | 35 18.6  | 12.4          | 94 42.1                                           | 38.0     |         |                                                   |          |                |       |  |
| 22  | 211                                    | 50.8 | 126 56.9                                          | 22.7                   | 110 20.5            | 16.2                                                                                                                                                                           | 50 21.0  | 12.4          | 109 44.2                                          | 37.9     |         |                                                   |          |                |       |  |
| 23  | 226                                    | 53.3 | 142 00.0                                          | 22.3                   | 125 21.2            | 16.1                                                                                                                                                                           | 65 23.3  | 12.3          | 124 46.4                                          | 37.9     |         |                                                   |          |                |       |  |
| 24  | 241                                    | 55.7 | 157 03.2                                          | +26 21.9               | 140 22.0            | +24 16.0                                                                                                                                                                       | 80 25.7  | +9 12.2       | 139 48.6                                          | +22 37.9 |         |                                                   |          |                |       |  |
| Dif | —                                      |      | +31                                               |                        | -4                  |                                                                                                                                                                                | +7       |               | -1                                                |          | +23     |                                                   | -1       |                | +22   |  |

| UT | SOL                                                |      |          | ☾ LUNA                                                                     |                                                                                                           |          | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |    |   |
|----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|----------|---------|--------------------------|-------|---------------|----------------|-------|----------------|-------|----|---|
|    | SD: 15'8<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 8 |      |          | Edad: 4 <sup>d</sup> 8<br>SD: 14'8<br>PMG: 16 <sup>h</sup> 19 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 54'4<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'6<br>R°: 48 <sup>m</sup> |          |         |                          |       |               |                |       |                |       |    |   |
|    | hG ☉                                               | Dec  | Dif      |                                                                            |                                                                                                           | Náutico  |         | Civil                    | Hora  |               | R°             | Hora  | R°             |       |    |   |
| h  | °                                                  | '    | °        | °                                                                          | '                                                                                                         | °        | '       | h                        | m     | h             | m              | h     | m              | h     | m  | m |
| 0  | 180                                                | 48.0 | +20 47.5 | 123                                                                        | 29.6                                                                                                      | +26 00.7 | 51      | 60 N                     | ** ** | 1 49          | 3 02           | 6 18  | 90             | 1 36  | 12 |   |
| 1  | 195                                                | 48.0 |          | 137                                                                        | 59.4 <sup>108</sup>                                                                                       | +25 55.6 | 51      | 58                       | ** ** | 2 17          | 18             | 6 43  | 83             | 1 11  | 18 |   |
| 2  | 210                                                | 47.9 | 48.4     | 152                                                                        | 29.2 <sup>108</sup>                                                                                       |          | 50.5    | 56                       | 1 01  | 38            | 32             | 7 02  | 79             | 0 51  | 23 |   |
| 3  | 225                                                | 47.8 | 48.9     | 166                                                                        | 59.0 <sup>108</sup>                                                                                       |          | 45.3    | 54                       | 1 39  | 2 55          | 43             | 19 75 |                | 35    | 25 |   |
| 4  | 240                                                | 47.8 | 49.3     | 181                                                                        | 28.9 <sup>109</sup>                                                                                       |          | 39.9    | 52                       | 2 05  | 3 09          | 3 54           | 33 72 |                | 20    | 29 |   |
| 5  | 255                                                | 47.7 | +20 49.8 | 195                                                                        | 58.8 <sup>109</sup>                                                                                       | +25 34.4 | 55      | 50                       | 2 25  | 3 21          | 4 03           | 7 45  | 70             | 0 08  | 30 |   |
| 6  | 270                                                | 47.7 | +20 50.2 | 210                                                                        | 28.7 <sup>109</sup>                                                                                       | +25 28.7 | 57      | 45                       | 3 01  | 3 47          | 4 22           | 8 10  | 66             | ** ** | ** |   |
| 7  | 285                                                | 47.6 | 50.7     | 224                                                                        | 58.7 <sup>110</sup>                                                                                       |          | 23.0    | 40                       | 27    | 4 06          | 37             | 31 62 |                | 23 58 | 32 |   |
| 8  | 300                                                | 47.5 | 51.2     | 239                                                                        | 28.8 <sup>111</sup>                                                                                       |          | 17.1    | 35                       | 3 47  | 22            | 4 50           | 8 47  | 60             | 43    | 35 |   |
| 9  | 315                                                | 47.5 | 51.6     | 253                                                                        | 58.8 <sup>110</sup>                                                                                       |          | 11.1    | 30                       | 4 03  | 35            | 5 02           | 9 02  | 57             | 30    | 37 |   |
| 10 | 330                                                | 47.4 | 52.1     | 268                                                                        | 28.9 <sup>111</sup>                                                                                       | +25 05.0 | 61      | 20                       | 29    | 4 57          | 21             | 26 54 |                | 23 08 | 41 |   |
| 11 | 345                                                | 47.4 | +20 52.5 | 282                                                                        | 59.1 <sup>112</sup>                                                                                       | +24 58.8 | 62      | 10 N                     | 4 49  | 5 15          | 5 38           | 9 47  | 51             | 22 49 | 44 |   |
| 12 | 0                                                  | 47.3 | +20 53.0 | 297                                                                        | 29.2 <sup>111</sup>                                                                                       | +24 52.4 | 64      | 0                        | 5 05  | 5 31          | 5 53           | 10 07 | 48             | 22 30 | 48 |   |
| 13 | 15                                                 | 47.2 | 53.4     | 311                                                                        | 59.5 <sup>113</sup>                                                                                       |          | 46.0    | 10 S                     | 20    | 5 46          | 6 09           | 26 46 |                | 22 12 | 51 |   |
| 14 | 30                                                 | 47.2 | 53.9     | 326                                                                        | 29.7 <sup>112</sup>                                                                                       |          | 39.4    | 20                       | 34    | 6 01          | 25             | 10 47 | 43             | 21 52 | 54 |   |
| 15 | 45                                                 | 47.1 | 54.3     | 341                                                                        | 00.0 <sup>113</sup>                                                                                       |          | 32.7    | 30                       | 48    | 18            | 43             | 11 11 | 40             | 29    | 59 |   |
| 16 | 60                                                 | 47.1 | 54.8     | 355                                                                        | 30.4 <sup>114</sup>                                                                                       |          | 25.9    | 35                       | 5 56  | 27            | 6 54           | 25 37 |                | 16    | 61 |   |
| 17 | 75                                                 | 47.0 | +20 55.2 | 10                                                                         | 00.7 <sup>113</sup>                                                                                       | +24 18.9 | 70      | 40                       | 6 03  | 6 37          | 7 06           | 11 42 | 34             | 21 00 | 64 |   |
| 18 | 90                                                 | 46.9 | +20 55.7 | 24                                                                         | 31.2 <sup>115</sup>                                                                                       | +24 11.9 | 70      | 45                       | 6 12  | 6 48          | 7 21           | 12 01 | 31             | 20 41 | 68 |   |
| 19 | 105                                                | 46.9 | 56.1     | 39                                                                         | 01.6 <sup>114</sup>                                                                                       | +24 04.7 | 72      | 50                       | 22    | 7 02          | 39             | 26 26 |                | 18    | 72 |   |
| 20 | 120                                                | 46.8 | 56.6     | 53                                                                         | 32.1 <sup>115</sup>                                                                                       | +23 57.4 | 73      | 52                       | 26    | 08            | 47             | 37 25 |                | 20 07 | 74 |   |
| 21 | 135                                                | 46.7 | 57.0     | 68                                                                         | 02.7 <sup>116</sup>                                                                                       |          | 50.0    | 54                       | 30    | 15            | 7 56           | 12 50 | 22             | 19 54 | 77 |   |
| 22 | 150                                                | 46.7 | 57.5     | 82                                                                         | 33.3 <sup>116</sup>                                                                                       |          | 42.5    | 56                       | 35    | 22            | 8 07           | 13 06 | 18             | 39    | 81 |   |
| 23 | 165                                                | 46.6 | 57.9     | 97                                                                         | 03.9 <sup>116</sup>                                                                                       |          | 34.9    | 58                       | 41    | 31            | 19             | 24 14 |                | 21    | 86 |   |
| 24 | 180                                                | 46.6 | +20 58.4 | 111                                                                        | 34.6 <sup>117</sup>                                                                                       | +23 27.1 | 78      | 60 S                     | 6 46  | 7 40          | 8 33           | 13 46 | 8              | 19 00 | 92 |   |

| UT  | ARIES                                   |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|-----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG<br>7 <sup>h</sup> 51 <sup>m</sup> 0 |      | Mag: -4.4<br>PMG: 13 <sup>h</sup> 29 <sup>m</sup> |      | Mag: +1.7<br>PMG: 14 <sup>h</sup> 38 <sup>m</sup> |     | Mag: -2.1<br>PMG: 18 <sup>h</sup> 35 <sup>m</sup> |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 39 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                    | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                       | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 241                                     | 55.7 | 157                                               | 03.2 | +26 21.9                                          | 140 | 22.0                                              | +24 16.0 | 80                                                | 25.7 | +9 12.2 | 139 | 48.6 | +22 37.9 |
| 1   | 256                                     | 58.2 | 172                                               | 06.3 | 21.5                                              | 155 | 22.7                                              | 15.8     | 95                                                | 28.0 | 12.2    | 154 | 50.7 | 37.9     |
| 2   | 272                                     | 00.7 | 187                                               | 09.4 | 21.1                                              | 170 | 23.4                                              | 15.7     | 110                                               | 30.3 | 12.1    | 169 | 52.9 | 37.9     |
| 3   | 287                                     | 03.1 | 202                                               | 12.6 | 20.7                                              | 185 | 24.2                                              | 15.6     | 125                                               | 32.7 | 12.1    | 184 | 55.0 | 37.8     |
| 4   | 302                                     | 05.6 | 217                                               | 15.7 | 20.3                                              | 200 | 24.9                                              | 15.5     | 140                                               | 35.0 | 12.0    | 199 | 57.2 | 37.8     |
| 5   | 317                                     | 08.1 | 232                                               | 18.8 | +26 19.9                                          | 215 | 25.6                                              | +24 15.3 | 155                                               | 37.3 | +9 11.9 | 214 | 59.4 | +22 37.8 |
| 6   | 332                                     | 10.5 | 247                                               | 22.0 | +26 19.5                                          | 230 | 26.4                                              | +24 15.2 | 170                                               | 39.7 | +9 11.9 | 230 | 01.5 | +22 37.8 |
| 7   | 347                                     | 13.0 | 262                                               | 25.1 | 19.0                                              | 245 | 27.1                                              | 15.1     | 185                                               | 42.0 | 11.8    | 245 | 03.7 | 37.8     |
| 8   | 2                                       | 15.4 | 277                                               | 28.3 | 18.6                                              | 260 | 27.8                                              | 15.0     | 200                                               | 44.3 | 11.8    | 260 | 05.8 | 37.7     |
| 9   | 17                                      | 17.9 | 292                                               | 31.5 | 18.2                                              | 275 | 28.6                                              | 14.8     | 215                                               | 46.7 | 11.7    | 275 | 08.0 | 37.7     |
| 10  | 32                                      | 20.4 | 307                                               | 34.6 | 17.8                                              | 290 | 29.3                                              | 14.7     | 230                                               | 49.0 | 11.6    | 290 | 10.2 | 37.7     |
| 11  | 47                                      | 22.8 | 322                                               | 37.8 | +26 17.4                                          | 305 | 30.1                                              | +24 14.6 | 245                                               | 51.3 | +9 11.6 | 305 | 12.3 | +22 37.7 |
| 12  | 62                                      | 25.3 | 337                                               | 41.0 | +26 17.0                                          | 320 | 30.8                                              | +24 14.4 | 260                                               | 53.7 | +9 11.5 | 320 | 14.5 | +22 37.7 |
| 13  | 77                                      | 27.8 | 352                                               | 44.2 | 16.5                                              | 335 | 31.5                                              | 14.3     | 275                                               | 56.0 | 11.5    | 335 | 16.7 | 37.7     |
| 14  | 92                                      | 30.2 | 7                                                 | 47.4 | 16.1                                              | 350 | 32.3                                              | 14.2     | 290                                               | 58.3 | 11.4    | 350 | 18.8 | 37.6     |
| 15  | 107                                     | 32.7 | 22                                                | 50.6 | 15.7                                              | 5   | 33.0                                              | 14.1     | 306                                               | 00.7 | 11.3    | 5   | 21.0 | 37.6     |
| 16  | 122                                     | 35.2 | 37                                                | 53.8 | 15.3                                              | 20  | 33.7                                              | 13.9     | 321                                               | 03.0 | 11.3    | 20  | 23.1 | 37.6     |
| 17  | 137                                     | 37.6 | 52                                                | 57.0 | +26 14.8                                          | 35  | 34.5                                              | +24 13.8 | 336                                               | 05.3 | +9 11.2 | 35  | 25.3 | +22 37.6 |
| 18  | 152                                     | 40.1 | 68                                                | 00.2 | +26 14.4                                          | 50  | 35.2                                              | +24 13.7 | 351                                               | 07.7 | +9 11.1 | 50  | 27.5 | +22 37.6 |
| 19  | 167                                     | 42.5 | 83                                                | 03.4 | 14.0                                              | 65  | 36.0                                              | 13.5     | 6                                                 | 10.0 | 11.1    | 65  | 29.6 | 37.5     |
| 20  | 182                                     | 45.0 | 98                                                | 06.6 | 13.6                                              | 80  | 36.7                                              | 13.4     | 21                                                | 12.3 | 11.0    | 80  | 31.8 | 37.5     |
| 21  | 197                                     | 47.5 | 113                                               | 09.8 | 13.1                                              | 95  | 37.4                                              | 13.3     | 36                                                | 14.7 | 11.0    | 95  | 33.9 | 37.5     |
| 22  | 212                                     | 49.9 | 128                                               | 13.0 | 12.7                                              | 110 | 38.2                                              | 13.1     | 51                                                | 17.0 | 10.9    | 110 | 36.1 | 37.5     |
| 23  | 227                                     | 52.4 | 143                                               | 16.2 | 12.3                                              | 125 | 38.9                                              | 13.0     | 66                                                | 19.3 | 10.8    | 125 | 38.3 | 37.5     |
| 24  | 242                                     | 54.9 | 158                                               | 19.5 | +26 11.8                                          | 140 | 39.7                                              | +24 12.9 | 81                                                | 21.7 | +9 10.8 | 140 | 40.4 | +22 37.4 |
| Dif | —                                       |      | +32                                               | -4   |                                                   | +7  | -1                                                |          | +23                                               | -1   |         | +22 | 0    |          |

| UT | SOL                                    |      |          | ☾ LUNA                 |                                                                                                                           |                       | Latitud | Puesta de Sol | Final del crepúsculo                 |       |                | Salida de Luna      |          | Puesta de Luna |    |
|----|----------------------------------------|------|----------|------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|---------------|--------------------------------------|-------|----------------|---------------------|----------|----------------|----|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 5 <sup>d</sup> 8 | PHE {<br>4 <sup>h</sup> : 54 <sup>h</sup> 8<br>12 <sup>h</sup> : 55 <sup>h</sup> 0<br>20 <sup>h</sup> : 55 <sup>h</sup> 1 | Final del crepúsculo  |         |               | Salida de Luna                       |       | Puesta de Luna |                     |          |                |    |
|    | PMG: 11 <sup>h</sup> 56 <sup>m</sup> 9 |      |          |                        |                                                                                                                           | SD: 14 <sup>h</sup> 9 |         |               | PMG: 17 <sup>h</sup> 07 <sup>m</sup> |       |                | R°: 46 <sup>m</sup> |          |                |    |
|    | hG ☉                                   | Dec  |          | hG ☾                   | Dif                                                                                                                       | Dec                   | Dif     |               |                                      | Civil | Náutico        | Hora                | R°       | Hora           | R° |
| h  | °                                      | '    | °        | °                      | '                                                                                                                         | °                     | '       | °             | h m                                  | h m   | h m            | h m m               | m        | h m m          | m  |
| 0  | 180                                    | 46.6 | +20 58.4 | 111                    | 34.6                                                                                                                      | +23 27.1              | 78      | 60 N          | 20 55                                | 22 10 | ** **          | 7 48 92             | 1 48 5   |                |    |
| 1  | 195                                    | 46.5 | 58.8     | 126                    | 05.3 <sup>117</sup>                                                                                                       | 19.3                  | 80      | 58            | 38                                   | 21 41 | ** **          | 8 06 86             | 29 11    |                |    |
| 2  | 210                                    | 46.4 | 59.3     | 140                    | 36.0 <sup>117</sup>                                                                                                       | 11.3                  | 81      | 56            | 25                                   | 20    | 23 03          | 21 82               | 14 15    |                |    |
| 3  | 225                                    | 46.4 | +20 59.7 | 155                    | 06.8 <sup>118</sup>                                                                                                       | +23 03.2              | 81      | 54            | 13                                   | 21 02 | 22 20          | 34 79               | 1 00 19  |                |    |
| 4  | 240                                    | 46.3 | +21 00.2 | 169                    | 37.7 <sup>119</sup>                                                                                                       | +22 55.0              | 82      | 52            | 20 02                                | 20 47 | 21 53          | 45 76               | 0 49 21  |                |    |
| 5  | 255                                    | 46.2 | +21 00.6 | 184                    | 08.6 <sup>119</sup>                                                                                                       | +22 46.7              | 83      | 50            | 19 53                                | 20 35 | 21 32          | 8 55 73             | 0 38 24  |                |    |
| 6  | 270                                    | 46.2 | +21 01.0 | 198                    | 39.5 <sup>119</sup>                                                                                                       | +22 38.3              | 84      | 45            | 19 33                                | 20 09 | 20 55          | 9 16 68             | 0 16 28  |                |    |
| 7  | 285                                    | 46.1 | 01.5     | 213                    | 10.5 <sup>120</sup>                                                                                                       | 29.8                  | 85      | 40            | 18                                   | 19 49 | 29             | 33 64               | ** ** *  |                |    |
| 8  | 300                                    | 46.0 | 01.9     | 227                    | 41.5 <sup>120</sup>                                                                                                       | 21.2                  | 86      | 35            | 19 04                                | 33    | 20 08          | 47 61               | ** ** *  |                |    |
| 9  | 315                                    | 46.0 | 02.4     | 242                    | 12.6 <sup>121</sup>                                                                                                       | 12.5                  | 87      | 30            | 18 53                                | 19 20 | 19 52          | 9 59 59             | ** ** *  |                |    |
| 10 | 330                                    | 45.9 | 02.8     | 256                    | 43.7 <sup>121</sup>                                                                                                       | +22 03.6              | 89      | 20            | 33                                   | 18 57 | 26             | 10 20 54            | 23 49 38 |                |    |
| 11 | 345                                    | 45.8 | +21 03.3 | 271                    | 14.8 <sup>121</sup>                                                                                                       | +21 54.7              | 89      | 10 N          | 18 16                                | 18 39 | 19 05          | 10 38 51            | 23 33 42 |                |    |
| 12 | 0                                      | 45.8 | +21 03.7 | 285                    | 46.0 <sup>122</sup>                                                                                                       | +21 45.7              | 90      | 0             | 18 01                                | 18 23 | 18 48          | 10 55 47            | 23 18 46 |                |    |
| 13 | 15                                     | 45.7 | 04.1     | 300                    | 17.3 <sup>123</sup>                                                                                                       | 36.5                  | 92      | 10 S          | 17 45                                | 18 07 | 33             | 11 12 43            | 23 03 50 |                |    |
| 14 | 30                                     | 45.6 | 04.6     | 314                    | 48.5 <sup>122</sup>                                                                                                       | 27.3                  | 92      | 20            | 29                                   | 17 52 | 19             | 30 40               | 22 46 54 |                |    |
| 15 | 45                                     | 45.6 | 05.0     | 329                    | 19.9 <sup>124</sup>                                                                                                       | 17.9                  | 94      | 30            | 17 10                                | 36    | 18 05          | 11 51 35            | 28 58    |                |    |
| 16 | 60                                     | 45.5 | 05.4     | 343                    | 51.2 <sup>123</sup>                                                                                                       | +21 08.4              | 95      | 35            | 16 59                                | 26    | 17 57          | 12 02 33            | 17 61    |                |    |
| 17 | 75                                     | 45.4 | +21 05.9 | 358                    | 22.6 <sup>124</sup>                                                                                                       | +20 58.9              | 95      | 40            | 16 46                                | 17 16 | 17 49          | 12 16 30            | 22 04 65 |                |    |
| 18 | 90                                     | 45.4 | +21 06.3 | 12                     | 54.1 <sup>125</sup>                                                                                                       | +20 49.2              | 97      | 45            | 16 32                                | 17 04 | 17 41          | 12 32 26            | 21 49 68 |                |    |
| 19 | 105                                    | 45.3 | 06.7     | 27                     | 25.6 <sup>125</sup>                                                                                                       | 39.5                  | 97      | 50            | 14                                   | 16 51 | 31             | 12 52 21            | 30 74    |                |    |
| 20 | 120                                    | 45.2 | 07.2     | 41                     | 57.1 <sup>125</sup>                                                                                                       | 29.6                  | 99      | 52            | 16 05                                | 44    | 27             | 13 02 18            | 21 77    |                |    |
| 21 | 135                                    | 45.2 | 07.6     | 56                     | 28.7 <sup>126</sup>                                                                                                       | 19.6                  | 100     | 54            | 15 56                                | 37    | 22             | 12 16               | 11 80    |                |    |
| 22 | 150                                    | 45.1 | 08.0     | 71                     | 00.3 <sup>126</sup>                                                                                                       | +20 09.6              | 100     | 56            | 45                                   | 30    | 17             | 24 12               | 21 00 83 |                |    |
| 23 | 165                                    | 45.0 | 08.5     | 85                     | 31.9 <sup>126</sup>                                                                                                       | +19 59.4              | 102     | 58            | 33                                   | 21    | 12             | 38 8                | 20 47 87 |                |    |
| 24 | 180                                    | 45.0 | +21 08.9 | 100                    | 03.6 <sup>127</sup>                                                                                                       | +19 49.1              | 103     | 60 S          | 15 19                                | 16 12 | 17 06          | 13 54 3             | 20 32 92 |                |    |

| UT  | ARIES                            |      | VENUS                                |          | MARTE                                |          | JÚPITER                              |         | SATURNO                              |          |
|-----|----------------------------------|------|--------------------------------------|----------|--------------------------------------|----------|--------------------------------------|---------|--------------------------------------|----------|
|     | PMG                              |      | Mag: -4.4                            |          | Mag: +1.7                            |          | Mag: -2.1                            |         | Mag: +0.1                            |          |
|     | 7 <sup>h</sup> 47 <sup>m</sup> 1 |      | PMG: 13 <sup>h</sup> 24 <sup>m</sup> |          | PMG: 14 <sup>h</sup> 37 <sup>m</sup> |          | PMG: 18 <sup>h</sup> 32 <sup>m</sup> |         | PMG: 14 <sup>h</sup> 35 <sup>m</sup> |          |
|     | hG ♈                             | hG ♀ | Dec                                  | hG ♂     | Dec                                  | hG ♃     | Dec                                  | hG ♄    | Dec                                  |          |
| h   | °                                | '    | °                                    | °        | '                                    | °        | '                                    | °       | '                                    |          |
| 0   | 242                              | 54.9 | 158 19.5                             | +26 11.8 | 140 39.7                             | +24 12.9 | 81 21.7                              | +9 10.8 | 140 40.4                             | +22 37.4 |
| 1   | 257                              | 57.3 | 173 22.7                             | 11.4     | 155 40.4                             | 12.7     | 96 24.0                              | 10.7    | 155 42.6                             | 37.4     |
| 2   | 272                              | 59.8 | 188 26.0                             | 11.0     | 170 41.1                             | 12.6     | 111 26.3                             | 10.6    | 170 44.7                             | 37.4     |
| 3   | 288                              | 02.3 | 203 29.2                             | 10.5     | 185 41.9                             | 12.5     | 126 28.6                             | 10.6    | 185 46.9                             | 37.4     |
| 4   | 303                              | 04.7 | 218 32.5                             | 10.1     | 200 42.6                             | 12.3     | 141 31.0                             | 10.5    | 200 49.1                             | 37.4     |
| 5   | 318                              | 07.2 | 233 35.7                             | +26 09.7 | 215 43.3                             | +24 12.2 | 156 33.3                             | +9 10.5 | 215 51.2                             | +22 37.3 |
| 6   | 333                              | 09.7 | 248 39.0                             | +26 09.2 | 230 44.1                             | +24 12.1 | 171 35.6                             | +9 10.4 | 230 53.4                             | +22 37.3 |
| 7   | 348                              | 12.1 | 263 42.2                             | 08.8     | 245 44.8                             | 11.9     | 186 38.0                             | 10.3    | 245 55.5                             | 37.3     |
| 8   | 3                                | 14.6 | 278 45.5                             | 08.3     | 260 45.6                             | 11.8     | 201 40.3                             | 10.3    | 260 57.7                             | 37.3     |
| 9   | 18                               | 17.0 | 293 48.8                             | 07.9     | 275 46.3                             | 11.7     | 216 42.6                             | 10.2    | 275 59.9                             | 37.3     |
| 10  | 33                               | 19.5 | 308 52.0                             | 07.4     | 290 47.0                             | 11.5     | 231 44.9                             | 10.1    | 291 02.0                             | 37.2     |
| 11  | 48                               | 22.0 | 323 55.3                             | +26 07.0 | 305 47.8                             | +24 11.4 | 246 47.3                             | +9 10.1 | 306 04.2                             | +22 37.2 |
| 12  | 63                               | 24.4 | 338 58.6                             | +26 06.6 | 320 48.5                             | +24 11.2 | 261 49.6                             | +9 10.0 | 321 06.3                             | +22 37.2 |
| 13  | 78                               | 26.9 | 354 01.9                             | 06.1     | 335 49.3                             | 11.1     | 276 51.9                             | 10.0    | 336 08.5                             | 37.2     |
| 14  | 93                               | 29.4 | 9 05.2                               | 05.7     | 350 50.0                             | 11.0     | 291 54.2                             | 09.9    | 351 10.7                             | 37.2     |
| 15  | 108                              | 31.8 | 24 08.5                              | 05.2     | 5 50.7                               | 10.8     | 306 56.6                             | 09.8    | 6 12.8                               | 37.2     |
| 16  | 123                              | 34.3 | 39 11.8                              | 04.8     | 20 51.5                              | 10.7     | 321 58.9                             | 09.8    | 21 15.0                              | 37.1     |
| 17  | 138                              | 36.8 | 54 15.1                              | +26 04.3 | 35 52.2                              | +24 10.6 | 337 01.2                             | +9 09.7 | 36 17.1                              | +22 37.1 |
| 18  | 153                              | 39.2 | 69 18.4                              | +26 03.9 | 50 52.9                              | +24 10.4 | 352 03.5                             | +9 09.6 | 51 19.3                              | +22 37.1 |
| 19  | 168                              | 41.7 | 84 21.7                              | 03.4     | 65 53.7                              | 10.3     | 7 05.9                               | 09.6    | 66 21.4                              | 37.1     |
| 20  | 183                              | 44.2 | 99 25.0                              | 02.9     | 80 54.4                              | 10.1     | 22 08.2                              | 09.5    | 81 23.6                              | 37.1     |
| 21  | 198                              | 46.6 | 114 28.4                             | 02.5     | 95 55.2                              | 10.0     | 37 10.5                              | 09.4    | 96 25.8                              | 37.0     |
| 22  | 213                              | 49.1 | 129 31.7                             | 02.0     | 110 55.9                             | 09.9     | 52 12.8                              | 09.4    | 111 27.9                             | 37.0     |
| 23  | 228                              | 51.5 | 144 35.0                             | 01.6     | 125 56.6                             | 09.7     | 67 15.2                              | 09.3    | 126 30.1                             | 37.0     |
| 24  | 243                              | 54.0 | 159 38.4                             | +26 01.1 | 140 57.4                             | +24 09.6 | 82 17.5                              | +9 09.2 | 141 32.2                             | +22 37.0 |
| Dif | —                                |      | +33 -4                               | -4       | +7 -1                                | -1       | +23 -1                               | -1      | +22                                  | 0        |

| UT | SOL                                                             |      |          |  LUNA |                                                                                                                                                  |                         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |      |
|----|-----------------------------------------------------------------|------|----------|----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|---------|--------------------------|------|---------------|----------------|-------|----------------|-------|------|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 1 |      |          | Edad: 6 <sup>d</sup> 8                                                                 | PHE {<br>4 <sup>h</sup> : 55 <sup>h</sup> 3<br>12 <sup>h</sup> : 55 <sup>h</sup> 6<br>20 <sup>h</sup> : 55 <sup>h</sup> 8<br>Rº: 45 <sup>m</sup> | Dif                     |         | Rº                       |      |               | Rº             |       |                |       |      |
|    | hG ☉                                                            | Dec  |          | hG ☾                                                                                   |                                                                                                                                                  | Dif                     |         | Dec                      | Dif  |               | Náutico        | Civil | Hora           | Rº    | Hora |
| h  | °                                                               | '    | °        | °                                                                                      | '                                                                                                                                                | °                       | °       | h                        | m    | h             | m              | h     | m              | h     | m    |
| 0  | 180                                                             | 45.0 | +21 08.9 | 100                                                                                    | 03.6                                                                                                                                             | +19 49.1                | 60 N    | ** **                    | 1 43 | 2 59          | 9 20           | 91    | 1 53           | 3     |      |
| 1  | 195                                                             | 44.9 | 09.3     | 114                                                                                    | 35.3 <sup>127</sup>                                                                                                                              | 38.8 <sup>103</sup>     | 58      | ** **                    | 2 12 | 3 15          | 32 87          |       | 40             | 7     |      |
| 2  | 210                                                             | 44.8 | 09.8     | 129                                                                                    | 07.1 <sup>128</sup>                                                                                                                              | 28.3 <sup>105</sup>     | 56      | 0 51                     | 34   | 29            | 43 83          |       | 29             | 10    |      |
| 3  | 225                                                             | 44.8 | 10.2     | 143                                                                                    | 38.9 <sup>128</sup>                                                                                                                              | 17.8 <sup>105</sup>     | 54      | 1 34                     | 2 52 | 41            | 9 53           | 79    | 19             | 13    |      |
| 4  | 240                                                             | 44.7 | 10.6     | 158                                                                                    | 10.8 <sup>129</sup>                                                                                                                              | +19 07.2 <sup>106</sup> | 52      | 2 01                     | 3 06 | 3 51          | 10 01          | 77    | 10             | 16    |      |
| 5  | 255                                                             | 44.6 | +21 11.1 | 172                                                                                    | 42.7 <sup>129</sup>                                                                                                                              | +18 56.4 <sup>108</sup> | 50      | 2 21                     | 3 19 | 4 01          | 10 08          | 75    | 1 02           | 18    |      |
| 6  | 270                                                             | 44.6 | +21 11.5 | 187                                                                                    | 14.6 <sup>129</sup>                                                                                                                              | +18 45.6 <sup>108</sup> | 45      | 2 58                     | 3 45 | 4 20          | 10 24          | 70    | 0 44           | 24    |      |
| 7  | 285                                                             | 44.5 | 11.9     | 201                                                                                    | 46.5 <sup>129</sup>                                                                                                                              | 34.7 <sup>109</sup>     | 40      | 3 25                     | 4 05 | 36            | 37 66          |       | 30             | 28    |      |
| 8  | 300                                                             | 44.4 | 12.3     | 216                                                                                    | 18.5 <sup>130</sup>                                                                                                                              | 23.7 <sup>110</sup>     | 35      | 3 45                     | 21   | 4 49          | 48 62          |       | 18             | 31    |      |
| 9  | 315                                                             | 44.4 | 12.8     | 230                                                                                    | 50.6 <sup>131</sup>                                                                                                                              | 12.6 <sup>111</sup>     | 30      | 4 02                     | 34   | 5 01          | 10 58          | 59    | 0 07           | 34    |      |
| 10 | 330                                                             | 44.3 | 13.2     | 245                                                                                    | 22.7 <sup>131</sup>                                                                                                                              | +18 01.4 <sup>112</sup> | 20      | 28                       | 4 57 | 21            | 11 14          | 54    | ** **          | ** ** |      |
| 11 | 345                                                             | 44.2 | +21 13.6 | 259                                                                                    | 54.8 <sup>131</sup>                                                                                                                              | +17 50.1 <sup>113</sup> | 10 N    | 4 48                     | 5 15 | 5 38          | 11 29          | 49    | ** **          | ** ** |      |
| 12 | 0                                                               | 44.1 | +21 14.0 | 274                                                                                    | 26.9 <sup>131</sup>                                                                                                                              | +17 38.7 <sup>114</sup> | 0       | 5 05                     | 5 31 | 5 53          | 11 42          | 46    | ** **          | ** ** |      |
| 13 | 15                                                              | 44.1 | 14.5     | 288                                                                                    | 59.1 <sup>132</sup>                                                                                                                              | 27.3 <sup>114</sup>     | 10 S    | 21                       | 5 47 | 6 09          | 11 55          | 42    | 23             | 53    | 49   |
| 14 | 30                                                              | 44.0 | 14.9     | 303                                                                                    | 31.3 <sup>132</sup>                                                                                                                              | 15.7 <sup>116</sup>     | 20      | 35                       | 6 02 | 26            | 12 10          | 37    | 40             | 54    |      |
| 15 | 45                                                              | 43.9 | 15.3     | 318                                                                                    | 03.5 <sup>132</sup>                                                                                                                              | +17 04.1 <sup>116</sup> | 30      | 49                       | 19   | 45            | 26 32          |       | 26             | 59    |      |
| 16 | 60                                                              | 43.9 | 15.7     | 332                                                                                    | 35.8 <sup>133</sup>                                                                                                                              | +16 52.3 <sup>118</sup> | 35      | 5 57                     | 28   | 6 56          | 35 29          |       | 18             | 62    |      |
| 17 | 75                                                              | 43.8 | +21 16.2 | 347                                                                                    | 08.1 <sup>133</sup>                                                                                                                              | +16 40.5 <sup>118</sup> | 40      | 6 05                     | 6 38 | 7 08          | 12 46          | 26    | 23             | 09    | 65   |
| 18 | 90                                                              | 43.7 | +21 16.6 | 1                                                                                      | 40.5 <sup>134</sup>                                                                                                                              | +16 28.6 <sup>119</sup> | 45      | 6 14                     | 6 50 | 7 23          | 12 58          | 22    | 22             | 57    | 70   |
| 19 | 105                                                             | 43.6 | 17.0     | 16                                                                                     | 12.8 <sup>133</sup>                                                                                                                              | 16.7 <sup>119</sup>     | 50      | 23                       | 7 04 | 41            | 13 13          | 17    | 44             | 75    |      |
| 20 | 120                                                             | 43.6 | 17.4     | 30                                                                                     | 45.2 <sup>134</sup>                                                                                                                              | +16 04.6 <sup>121</sup> | 52      | 28                       | 10   | 49            | 20 15          |       | 38             | 77    |      |
| 21 | 135                                                             | 43.5 | 17.8     | 45                                                                                     | 17.7 <sup>135</sup>                                                                                                                              | +15 52.5 <sup>121</sup> | 54      | 33                       | 17   | 7 59          | 28 12          |       | 31             | 80    |      |
| 22 | 150                                                             | 43.4 | 18.2     | 59                                                                                     | 50.1 <sup>134</sup>                                                                                                                              | 40.2 <sup>123</sup>     | 56      | 38                       | 25   | 8 10          | 36 10          |       | 23             | 83    |      |
| 23 | 165                                                             | 43.4 | 18.7     | 74                                                                                     | 22.6 <sup>135</sup>                                                                                                                              | 27.9 <sup>123</sup>     | 58      | 43                       | 34   | 22            | 46 6           |       | 14             | 87    |      |
| 24 | 180                                                             | 43.3 | +21 19.1 | 88                                                                                     | 55.1 <sup>135</sup>                                                                                                                              | +15 15.5 <sup>124</sup> | 60 S    | 6 49                     | 7 43 | 8 36          | 13 57          | 2     | 22             | 04    | 91   |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 7 <sup>h</sup> 43 <sup>m</sup> 1 |      | Mag: -4.3<br>PMG: 13 <sup>h</sup> 18 <sup>m</sup> |          | Mag: +1.7<br>PMG: 14 <sup>h</sup> 35 <sup>m</sup> |          | Mag: -2.1<br>PMG: 18 <sup>h</sup> 28 <sup>m</sup> |         | Mag: +0.1<br>PMG: 14 <sup>h</sup> 32 <sup>m</sup> |          |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec      |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                 | '        |
| 0   | 243                                   | 54.0 | 159 38.4                                          | +26 01.1 | 140 57.4                                          | +24 09.6 | 82 17.5                                           | +9 09.2 | 141 32.2                                          | +22 37.0 |
| 1   | 258                                   | 56.5 | 174 41.7                                          | 00.7     | 155 58.1                                          | 09.4     | 97 19.8                                           | 09.2    | 156 34.4                                          | 37.0     |
| 2   | 273                                   | 58.9 | 189 45.1                                          | +26 00.2 | 170 58.9                                          | 09.3     | 112 22.1                                          | 09.1    | 171 36.6                                          | 36.9     |
| 3   | 289                                   | 01.4 | 204 48.4                                          | +25 59.7 | 185 59.6                                          | 09.2     | 127 24.5                                          | 09.0    | 186 38.7                                          | 36.9     |
| 4   | 304                                   | 03.9 | 219 51.8                                          | 59.3     | 201 00.3                                          | 09.0     | 142 26.8                                          | 09.0    | 201 40.9                                          | 36.9     |
| 5   | 319                                   | 06.3 | 234 55.1                                          | +25 58.8 | 216 01.1                                          | +24 08.9 | 157 29.1                                          | +9 08.9 | 216 43.0                                          | +22 36.9 |
| 6   | 334                                   | 08.8 | 249 58.5                                          | +25 58.3 | 231 01.8                                          | +24 08.7 | 172 31.4                                          | +9 08.9 | 231 45.2                                          | +22 36.9 |
| 7   | 349                                   | 11.3 | 265 01.9                                          | 57.9     | 246 02.6                                          | 08.6     | 187 33.7                                          | 08.8    | 246 47.3                                          | 36.8     |
| 8   | 4                                     | 13.7 | 280 05.2                                          | 57.4     | 261 03.3                                          | 08.4     | 202 36.1                                          | 08.7    | 261 49.5                                          | 36.8     |
| 9   | 19                                    | 16.2 | 295 08.6                                          | 56.9     | 276 04.1                                          | 08.3     | 217 38.4                                          | 08.7    | 276 51.7                                          | 36.8     |
| 10  | 34                                    | 18.7 | 310 12.0                                          | 56.5     | 291 04.8                                          | 08.2     | 232 40.7                                          | 08.6    | 291 53.8                                          | 36.8     |
| 11  | 49                                    | 21.1 | 325 15.4                                          | +25 56.0 | 306 05.5                                          | +24 08.0 | 247 43.0                                          | +9 08.5 | 306 56.0                                          | +22 36.8 |
| 12  | 64                                    | 23.6 | 340 18.8                                          | +25 55.5 | 321 06.3                                          | +24 07.9 | 262 45.4                                          | +9 08.5 | 321 58.1                                          | +22 36.7 |
| 13  | 79                                    | 26.0 | 355 22.2                                          | 55.0     | 336 07.0                                          | 07.7     | 277 47.7                                          | 08.4    | 337 00.3                                          | 36.7     |
| 14  | 94                                    | 28.5 | 10 25.5                                           | 54.6     | 351 07.8                                          | 07.6     | 292 50.0                                          | 08.3    | 352 02.4                                          | 36.7     |
| 15  | 109                                   | 31.0 | 25 28.9                                           | 54.1     | 6 08.5                                            | 07.4     | 307 52.3                                          | 08.3    | 7 04.6                                            | 36.7     |
| 16  | 124                                   | 33.4 | 40 32.4                                           | 53.6     | 21 09.2                                           | 07.3     | 322 54.6                                          | 08.2    | 22 06.8                                           | 36.7     |
| 17  | 139                                   | 35.9 | 55 35.8                                           | +25 53.1 | 36 10.0                                           | +24 07.1 | 337 57.0                                          | +9 08.1 | 37 08.9                                           | +22 36.6 |
| 18  | 154                                   | 38.4 | 70 39.2                                           | +25 52.7 | 51 10.7                                           | +24 07.0 | 352 59.3                                          | +9 08.1 | 52 11.1                                           | +22 36.6 |
| 19  | 169                                   | 40.8 | 85 42.6                                           | 52.2     | 66 11.5                                           | 06.9     | 8 01.6                                            | 08.0    | 67 13.2                                           | 36.6     |
| 20  | 184                                   | 43.3 | 100 46.0                                          | 51.7     | 81 12.2                                           | 06.7     | 23 03.9                                           | 07.9    | 82 15.4                                           | 36.6     |
| 21  | 199                                   | 45.8 | 115 49.4                                          | 51.2     | 96 12.9                                           | 06.6     | 38 06.2                                           | 07.9    | 97 17.5                                           | 36.6     |
| 22  | 214                                   | 48.2 | 130 52.9                                          | 50.7     | 111 13.7                                          | 06.4     | 53 08.5                                           | 07.8    | 112 19.7                                          | 36.5     |
| 23  | 229                                   | 50.7 | 145 56.3                                          | 50.2     | 126 14.4                                          | 06.3     | 68 10.9                                           | 07.7    | 127 21.9                                          | 36.5     |
| 24  | 244                                   | 53.1 | 160 59.8                                          | +25 49.8 | 141 15.2                                          | +24 06.1 | 83 13.2                                           | +9 07.7 | 142 24.0                                          | +22 36.5 |
| Dif | —                                     |      | +34                                               | -5       | +7                                                | -1       | +23                                               | -1      | +22                                               | 0        |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                           |     |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |      |    |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|-------------------------|---------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|------|----|
|     | SD: 15°8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 2 |      |                                                   | Edad: 7 <sup>d</sup> 8 PHE {<br>4 <sup>h</sup> : 56'0<br>12 <sup>h</sup> : 56'3<br>20 <sup>h</sup> : 56'6<br>R°: 45 <sup>m</sup> |     |                                                   |                         |               |                                                   |       |                |                                                   |                |      |    |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                             | Dif | Dec                                               |                         |               | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora | R° |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                 | °                       | h m           | h m                                               | h m   | h m m          | h m m                                             | h m m          |      |    |
| 0   | 180                                                | 43.3 | +21                                               | 19.1                                                                                                                             | 88  | 55.1                                              | +15 15.5                | 60 N          | 20 59                                             | 22 17 | ** **          | 10 51 92                                          | 1 56 2         |      |    |
| 1   | 195                                                | 43.2 |                                                   | 19.5                                                                                                                             | 103 | 27.7 <sup>136</sup>                               | +15 03.1 <sup>124</sup> | 58            | 42                                                | 21 46 | ** **          | 10 59 87                                          | 47 5           |      |    |
| 2   | 210                                                | 43.1 |                                                   | 19.9                                                                                                                             | 118 | 00.2 <sup>135</sup>                               | +14 50.5 <sup>126</sup> | 56            | 28                                                | 24    | 23 15          | 11 06 84                                          | 39 9           |      |    |
| 3   | 225                                                | 43.1 |                                                   | 20.3                                                                                                                             | 132 | 32.8 <sup>136</sup>                               | 37.9 <sup>126</sup>     | 54            | 16                                                | 21 06 | 22 26          | 12 81                                             | 32 12          |      |    |
| 4   | 240                                                | 43.0 |                                                   | 20.7                                                                                                                             | 147 | 05.4 <sup>136</sup>                               | 25.2 <sup>127</sup>     | 52            | 20 05                                             | 20 50 | 21 57          | 18 78                                             | 26 14          |      |    |
| 5   | 255                                                | 42.9 | +21                                               | 21.2                                                                                                                             | 161 | 38.1 <sup>137</sup>                               | +14 12.4 <sup>128</sup> | 50            | 19 55                                             | 20 37 | 21 36          | 11 23 75                                          | 1 20 16        |      |    |
| 6   | 270                                                | 42.8 | +21                                               | 21.6                                                                                                                             | 176 | 10.7 <sup>136</sup>                               | +13 59.6 <sup>128</sup> | 45            | 19 35                                             | 20 11 | 20 58          | 11 34 70                                          | 1 08 21        |      |    |
| 7   | 285                                                | 42.8 |                                                   | 22.0                                                                                                                             | 190 | 43.4 <sup>137</sup>                               | 46.6 <sup>130</sup>     | 40            | 19                                                | 19 51 | 31             | 43 66                                             | 0 58 24        |      |    |
| 8   | 300                                                | 42.7 |                                                   | 22.4                                                                                                                             | 205 | 16.1 <sup>137</sup>                               | 33.6 <sup>130</sup>     | 35            | 19 06                                             | 35    | 20 10          | 50 63                                             | 49 28          |      |    |
| 9   | 315                                                | 42.6 |                                                   | 22.8                                                                                                                             | 219 | 48.8 <sup>137</sup>                               | 20.6 <sup>130</sup>     | 30            | 18 54                                             | 19 21 | 19 53          | 11 57 59                                          | 41 31          |      |    |
| 10  | 330                                                | 42.6 |                                                   | 23.2                                                                                                                             | 234 | 21.6 <sup>138</sup>                               | +13 07.4 <sup>132</sup> | 20            | 34                                                | 18 58 | 27             | 12 08 54                                          | 27 37          |      |    |
| 11  | 345                                                | 42.5 | +21                                               | 23.6                                                                                                                             | 248 | 54.3 <sup>137</sup>                               | +12 54.2 <sup>132</sup> | 10 N          | 18 17                                             | 18 39 | 19 06          | 12 18 49                                          | 0 15 41        |      |    |
| 12  | 0                                                  | 42.4 | +21                                               | 24.0                                                                                                                             | 263 | 27.1 <sup>138</sup>                               | +12 40.9 <sup>133</sup> | 0             | 18 01                                             | 18 23 | 18 49          | 12 28 44                                          | 0 04 45        |      |    |
| 13  | 15                                                 | 42.3 |                                                   | 24.4                                                                                                                             | 277 | 59.9 <sup>138</sup>                               | 27.5 <sup>134</sup>     | 10 S          | 17 45                                             | 18 07 | 33             | 37 40                                             | ** ** **       |      |    |
| 14  | 30                                                 | 42.2 |                                                   | 24.8                                                                                                                             | 292 | 32.7 <sup>138</sup>                               | 14.1 <sup>134</sup>     | 20            | 28                                                | 17 52 | 19             | 47 35                                             | ** ** **       |      |    |
| 15  | 45                                                 | 42.2 |                                                   | 25.2                                                                                                                             | 307 | 05.5 <sup>138</sup>                               | +12 00.6 <sup>135</sup> | 30            | 17 09                                             | 35    | 18 04          | 12 58 30                                          | ** ** **       |      |    |
| 16  | 60                                                 | 42.1 |                                                   | 25.7                                                                                                                             | 321 | 38.3 <sup>138</sup>                               | +11 47.0 <sup>136</sup> | 35            | 16 58                                             | 26    | 17 57          | 13 04 28                                          | ** ** **       |      |    |
| 17  | 75                                                 | 42.0 | +21                                               | 26.1                                                                                                                             | 336 | 11.2 <sup>139</sup>                               | +11 33.4 <sup>136</sup> | 40            | 16 45                                             | 17 15 | 17 49          | 13 12 24                                          | ** ** **       |      |    |
| 18  | 90                                                 | 41.9 | +21                                               | 26.5                                                                                                                             | 350 | 44.0 <sup>138</sup>                               | +11 19.7 <sup>137</sup> | 45            | 16 30                                             | 17 03 | 17 40          | 13 20 20                                          | ** ** **       |      |    |
| 19  | 105                                                | 41.9 |                                                   | 26.9                                                                                                                             | 5   | 16.9 <sup>139</sup>                               | +11 05.9 <sup>138</sup> | 50            | 12                                                | 16 49 | 30             | 30 15                                             | 23 59 76       |      |    |
| 20  | 120                                                | 41.8 |                                                   | 27.3                                                                                                                             | 19  | 49.8 <sup>139</sup>                               | +10 52.0 <sup>139</sup> | 52            | 16 03                                             | 43    | 25             | 35 13                                             | 55 79          |      |    |
| 21  | 135                                                | 41.7 |                                                   | 27.7                                                                                                                             | 34  | 22.7 <sup>139</sup>                               | 38.1 <sup>139</sup>     | 54            | 15 54                                             | 35    | 20             | 40 10                                             | 51 81          |      |    |
| 22  | 150                                                | 41.6 |                                                   | 28.1                                                                                                                             | 48  | 55.6 <sup>139</sup>                               | 24.2 <sup>139</sup>     | 56            | 43                                                | 28    | 15             | 46 7                                              | 46 84          |      |    |
| 23  | 165                                                | 41.6 |                                                   | 28.5                                                                                                                             | 63  | 28.5 <sup>139</sup>                               | +10 10.1 <sup>141</sup> | 58            | 30                                                | 19    | 09             | 52 4                                              | 41 87          |      |    |
| 24  | 180                                                | 41.5 | +21                                               | 28.9                                                                                                                             | 78  | 01.4 <sup>139</sup>                               | +9 56.0 <sup>141</sup>  | 60 S          | 15 16                                             | 16 09 | 17 03          | 13 59 1                                           | 23 35 91       |      |    |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                  |     | MARTE                                             |                         |               | JÚPITER                                           |       |                | SATURNO                                           |                |      |    |
|     | PMG: 7 <sup>h</sup> 39 <sup>m</sup> 2              |      | Mag: -4.3<br>PMG: 13 <sup>h</sup> 13 <sup>m</sup> |                                                                                                                                  |     | Mag: +1.7<br>PMG: 14 <sup>h</sup> 34 <sup>m</sup> |                         |               | Mag: -2.1<br>PMG: 18 <sup>h</sup> 24 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 14 <sup>h</sup> 28 <sup>m</sup> |                |      |    |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                              |     | hG ♂                                              | Dec                     |               | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |      |    |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                 | °                       | '             | °                                                 | '     | °              | '                                                 | °              | '    |    |
| 0   | 244                                                | 53.1 | 160                                               | 59.8                                                                                                                             | +25 | 49.8                                              | 141                     | 15.2          | +24                                               | 06.1  | 83             | 13.2                                              | +9             | 07.7 |    |
| 1   | 259                                                | 55.6 | 176                                               | 03.2                                                                                                                             |     | 49.3                                              | 156                     | 15.9          |                                                   | 06.0  | 98             | 15.5                                              |                | 07.6 |    |
| 2   | 274                                                | 58.1 | 191                                               | 06.6                                                                                                                             |     | 48.8                                              | 171                     | 16.7          |                                                   | 05.8  | 113            | 17.8                                              |                | 07.5 |    |
| 3   | 290                                                | 00.5 | 206                                               | 10.1                                                                                                                             |     | 48.3                                              | 186                     | 17.4          |                                                   | 05.7  | 128            | 20.1                                              |                | 07.4 |    |
| 4   | 305                                                | 03.0 | 221                                               | 13.6                                                                                                                             |     | 47.8                                              | 201                     | 18.1          |                                                   | 05.5  | 143            | 22.4                                              |                | 07.4 |    |
| 5   | 320                                                | 05.5 | 236                                               | 17.0                                                                                                                             | +25 | 47.3                                              | 216                     | 18.9          | +24                                               | 05.4  | 158            | 24.8                                              | +9             | 07.3 |    |
| 6   | 335                                                | 07.9 | 251                                               | 20.5                                                                                                                             | +25 | 46.8                                              | 231                     | 19.6          | +24                                               | 05.2  | 173            | 27.1                                              | +9             | 07.2 |    |
| 7   | 350                                                | 10.4 | 266                                               | 23.9                                                                                                                             |     | 46.3                                              | 246                     | 20.4          |                                                   | 05.1  | 188            | 29.4                                              |                | 07.2 |    |
| 8   | 5                                                  | 12.9 | 281                                               | 27.4                                                                                                                             |     | 45.8                                              | 261                     | 21.1          |                                                   | 04.9  | 203            | 31.7                                              |                | 07.1 |    |
| 9   | 20                                                 | 15.3 | 296                                               | 30.9                                                                                                                             |     | 45.3                                              | 276                     | 21.8          |                                                   | 04.8  | 218            | 34.0                                              |                | 07.0 |    |
| 10  | 35                                                 | 17.8 | 311                                               | 34.4                                                                                                                             |     | 44.8                                              | 291                     | 22.6          |                                                   | 04.6  | 233            | 36.3                                              |                | 07.0 |    |
| 11  | 50                                                 | 20.3 | 326                                               | 37.9                                                                                                                             | +25 | 44.3                                              | 306                     | 23.3          | +24                                               | 04.5  | 248            | 38.6                                              | +9             | 06.9 |    |
| 12  | 65                                                 | 22.7 | 341                                               | 41.4                                                                                                                             | +25 | 43.8                                              | 321                     | 24.1          | +24                                               | 04.3  | 263            | 41.0                                              | +9             | 06.8 |    |
| 13  | 80                                                 | 25.2 | 356                                               | 44.8                                                                                                                             |     | 43.3                                              | 336                     | 24.8          |                                                   | 04.2  | 278            | 43.3                                              |                | 06.8 |    |
| 14  | 95                                                 | 27.6 | 11                                                | 48.3                                                                                                                             |     | 42.8                                              | 351                     | 25.6          |                                                   | 04.0  | 293            | 45.6                                              |                | 06.7 |    |
| 15  | 110                                                | 30.1 | 26                                                | 51.8                                                                                                                             |     | 42.3                                              | 6                       | 26.3          |                                                   | 03.9  | 308            | 47.9                                              |                | 06.6 |    |
| 16  | 125                                                | 32.6 | 41                                                | 55.4                                                                                                                             |     | 41.8                                              | 21                      | 27.0          |                                                   | 03.7  | 323            | 50.2                                              |                | 06.6 |    |
| 17  | 140                                                | 35.0 | 56                                                | 58.9                                                                                                                             | +25 | 41.3                                              | 36                      | 27.8          | +24                                               | 03.6  | 338            | 52.5                                              | +9             | 06.5 |    |
| 18  | 155                                                | 37.5 | 72                                                | 02.4                                                                                                                             | +25 | 40.8                                              | 51                      | 28.5          | +24                                               | 03.4  | 353            | 54.8                                              | +9             | 06.4 |    |
| 19  | 170                                                | 40.0 | 87                                                | 05.9                                                                                                                             |     | 40.3                                              | 66                      | 29.3          |                                                   | 03.3  | 8              | 57.2                                              |                | 06.3 |    |
| 20  | 185                                                | 42.4 | 102                                               | 09.4                                                                                                                             |     | 39.8                                              | 81                      | 30.0          |                                                   | 03.1  | 23             | 59.5                                              |                | 06.3 |    |
| 21  | 200                                                | 44.9 | 117                                               | 12.9                                                                                                                             |     | 39.3                                              | 96                      | 30.8          |                                                   | 02.9  | 39             | 01.8                                              |                | 06.2 |    |
| 22  | 215                                                | 47.4 | 132                                               | 16.5                                                                                                                             |     | 38.8                                              | 111                     | 31.5          |                                                   | 02.8  | 54             | 04.1                                              |                | 06.1 |    |
| 23  | 230                                                | 49.8 | 147                                               | 20.0                                                                                                                             |     | 38.3                                              | 126                     | 32.3          |                                                   | 02.6  | 69             | 06.4                                              |                | 06.1 |    |
| 24  | 245                                                | 52.3 | 162                                               | 23.5                                                                                                                             | +25 | 37.8                                              | 141                     | 33.0          | +24                                               | 02.5  | 84             | 08.7                                              | +9             | 06.0 |    |
| Dif | —                                                  |      | +35                                               |                                                                                                                                  |     | -5                                                | +7                      |               |                                                   | -2    |                |                                                   | +23 -1         |      |    |
| 0   |                                                    |      |                                                   |                                                                                                                                  |     |                                                   |                         |               |                                                   |       |                |                                                   |                |      |    |

| UT  | SOL                                                             |      |                                                   |      | LUNA                                                                                        |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |       |                                                   | Puesta de Luna |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|----------------|-----|------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 3 |      |                                                   |      | Edad: 8 <sup>d</sup> 8 PHE<br>SD: 15 <sup>h</sup> 4<br>PMG: 19 <sup>h</sup> 23 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |       |                                                   |                |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                        |                     | Dif                                               |                     |         | Náutico                  | Civil                                             |               | Hora           | R°    | Hora                                              | R°             |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                           | '                   | °                                                 | '                   | °       | h                        | m                                                 | h             | m              | h     | m                                                 | h              | m   | m    |
| 0   | 180                                                             | 41.5 | +21                                               | 28.9 | 78                                                                                          | 01.4                | +9                                                | 56.0                | 60 N    | ** **                    | 1 37                                              | 2 55          | 12 23          | 92    | 1 58                                              | 0              |     |      |
| 1   | 195                                                             | 41.4 |                                                   | 29.3 | 92                                                                                          | 34.3 <sup>139</sup> |                                                   | 41.9 <sup>141</sup> | 58      | ** **                    | 2 08                                              | 3 12          |                | 26 89 | 52                                                | 4              |     |      |
| 2   | 210                                                             | 41.3 |                                                   | 29.7 | 107                                                                                         | 07.2 <sup>139</sup> |                                                   | 27.7 <sup>142</sup> | 56      | 0 39                     | 30                                                | 26            |                | 30 85 | 48                                                | 7              |     |      |
| 3   | 225                                                             | 41.3 |                                                   | 30.1 | 121                                                                                         | 40.1 <sup>139</sup> | +9                                                | 13.4 <sup>143</sup> | 54      | 1 28                     | 2 49                                              | 39            |                | 33 83 | 44                                                | 9              |     |      |
| 4   | 240                                                             | 41.2 |                                                   | 30.5 | 136                                                                                         | 13.0 <sup>139</sup> | +8                                                | 59.1 <sup>143</sup> | 52      | 1 57                     | 3 04                                              | 49            |                | 36 80 | 40                                                | 12             |     |      |
| 5   | 255                                                             | 41.1 | +21                                               | 30.9 | 150                                                                                         | 45.9 <sup>139</sup> | +8                                                | 44.7 <sup>144</sup> | 50      | 2 18                     | 3 17                                              | 3 59          | 12 38          | 78    | 1 36                                              | 15             |     |      |
| 6   | 270                                                             | 41.0 | +21                                               | 31.3 | 165                                                                                         | 18.8 <sup>139</sup> | +8                                                | 30.2 <sup>145</sup> | 45      | 2 56                     | 3 43                                              | 4 19          | 12 44          | 72    | 1 29                                              | 19             |     |      |
| 7   | 285                                                             | 40.9 |                                                   | 31.7 | 179                                                                                         | 51.8 <sup>140</sup> |                                                   | 15.7 <sup>145</sup> | 40      | 3 23                     | 4 03                                              | 35            |                | 49 67 | 22                                                | 24             |     |      |
| 8   | 300                                                             | 40.9 |                                                   | 32.1 | 194                                                                                         | 24.7 <sup>139</sup> | +8                                                | 01.1 <sup>146</sup> | 35      | 3 44                     | 20                                                | 4 49          |                | 53 63 | 17                                                | 27             |     |      |
| 9   | 315                                                             | 40.8 |                                                   | 32.5 | 208                                                                                         | 57.6 <sup>139</sup> | +7                                                | 46.5 <sup>146</sup> | 30      | 4 01                     | 34                                                | 5 00          | 12 56          | 61    | 12                                                | 30             |     |      |
| 10  | 330                                                             | 40.7 |                                                   | 32.8 | 223                                                                                         | 30.5 <sup>139</sup> |                                                   | 31.9 <sup>146</sup> | 20      | 28                       | 4 56                                              | 20            | 13 02          | 55    | 1 04                                              | 35             |     |      |
| 11  | 345                                                             | 40.6 | +21                                               | 33.2 | 238                                                                                         | 03.4 <sup>139</sup> | +7                                                | 17.1 <sup>148</sup> | 10 N    | 4 48                     | 5 15                                              | 5 38          | 13 07          | 50    | 0 56                                              | 40             |     |      |
| 12  | 0                                                               | 40.5 | +21                                               | 33.6 | 252                                                                                         | 36.3 <sup>139</sup> | +7                                                | 02.4 <sup>147</sup> | 0       | 5 06                     | 5 31                                              | 5 54          | 13 12          | 46    | 0 49                                              | 45             |     |      |
| 13  | 15                                                              | 40.5 |                                                   | 34.0 | 267                                                                                         | 09.1 <sup>138</sup> | +6                                                | 47.5 <sup>149</sup> | 10 S    | 21                       | 5 47                                              | 6 10          | 17             | 41    | 42                                                | 49             |     |      |
| 14  | 30                                                              | 40.4 |                                                   | 34.4 | 281                                                                                         | 42.0 <sup>139</sup> |                                                   | 32.7 <sup>148</sup> | 20      | 36                       | 6 03                                              | 26            | 22             | 36    | 34                                                | 54             |     |      |
| 15  | 45                                                              | 40.3 |                                                   | 34.8 | 296                                                                                         | 14.9 <sup>139</sup> |                                                   | 17.7 <sup>150</sup> | 30      | 50                       | 20                                                | 46            | 28             | 31    | 25                                                | 60             |     |      |
| 16  | 60                                                              | 40.2 |                                                   | 35.2 | 310                                                                                         | 47.7 <sup>138</sup> | +6                                                | 02.8 <sup>149</sup> | 35      | 5 58                     | 29                                                | 6 57          | 32             | 27    | 20                                                | 63             |     |      |
| 17  | 75                                                              | 40.1 | +21                                               | 35.6 | 325                                                                                         | 20.5 <sup>138</sup> | +5                                                | 47.7 <sup>151</sup> | 40      | 6 06                     | 6 40                                              | 7 10          | 13 36          | 23    | 0 14                                              | 67             |     |      |
| 18  | 90                                                              | 40.1 | +21                                               | 36.0 | 339                                                                                         | 53.3 <sup>138</sup> | +5                                                | 32.7 <sup>150</sup> | 45      | 6 15                     | 6 52                                              | 7 25          | 13 40          | 19    | 0 07                                              | 71             |     |      |
| 19  | 105                                                             | 40.0 |                                                   | 36.4 | 354                                                                                         | 26.1 <sup>138</sup> |                                                   | 17.6 <sup>151</sup> | 50      | 25                       | 7 06                                              | 43            | 45             | 15    | ** **                                             | ** **          |     |      |
| 20  | 120                                                             | 39.9 |                                                   | 36.8 | 8                                                                                           | 58.9 <sup>138</sup> | +5                                                | 02.4 <sup>152</sup> | 52      | 30                       | 13                                                | 7 52          | 48             | 12    | ** **                                             | ** **          |     |      |
| 21  | 135                                                             | 39.8 |                                                   | 37.1 | 23                                                                                          | 31.7 <sup>138</sup> | +4                                                | 47.2 <sup>152</sup> | 54      | 35                       | 20                                                | 8 02          | 50             | 10    | ** **                                             | ** **          |     |      |
| 22  | 150                                                             | 39.7 |                                                   | 37.5 | 38                                                                                          | 04.4 <sup>137</sup> |                                                   | 31.9 <sup>153</sup> | 56      | 40                       | 28                                                | 13            | 53             | 7     | ** **                                             | ** **          |     |      |
| 23  | 165                                                             | 39.7 |                                                   | 37.9 | 52                                                                                          | 37.1 <sup>137</sup> |                                                   | 16.7 <sup>152</sup> | 58      | 46                       | 36                                                | 25            | 13 56          | 5     | ** **                                             | ** **          |     |      |
| 24  | 180                                                             | 39.6 | +21                                               | 38.3 | 67                                                                                          | 09.9 <sup>138</sup> | +4                                                | 01.3 <sup>154</sup> | 60 S    | 6 52                     | 7 46                                              | 8 40          | 14 00          | 1     | ** **                                             | ** **          |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                             |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |       | SATURNO                                           |                |     |      |
|     | PMG<br>7 <sup>h</sup> 35 <sup>m</sup> 3                         |      | Mag: -4.2<br>PMG: 13 <sup>h</sup> 07 <sup>m</sup> |      |                                                                                             |                     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 33 <sup>m</sup> |                     |         |                          | Mag: -2.1<br>PMG: 18 <sup>h</sup> 21 <sup>m</sup> |               |                |       | Mag: +0.1<br>PMG: 14 <sup>h</sup> 25 <sup>m</sup> |                |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                         |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |       | hG ♄                                              |                | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                           | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '     | °                                                 | '              | °   | '    |
| 0   | 245                                                             | 52.3 | 162                                               | 23.5 | +25                                                                                         | 37.8                | 141                                               | 33.0                | +24     | 02.5                     | 84                                                | 08.7          | +9             | 06.0  | 143                                               | 15.7           | +22 | 36.0 |
| 1   | 260                                                             | 54.8 | 177                                               | 27.1 |                                                                                             | 37.3                | 156                                               | 33.7                |         | 02.3                     | 99                                                | 11.0          |                | 05.9  | 158                                               | 17.9           |     | 36.0 |
| 2   | 275                                                             | 57.2 | 192                                               | 30.6 |                                                                                             | 36.7                | 171                                               | 34.5                |         | 02.2                     | 114                                               | 13.3          |                | 05.9  | 173                                               | 20.0           |     | 36.0 |
| 3   | 290                                                             | 59.7 | 207                                               | 34.2 |                                                                                             | 36.2                | 186                                               | 35.2                |         | 02.0                     | 129                                               | 15.6          |                | 05.8  | 188                                               | 22.2           |     | 36.0 |
| 4   | 306                                                             | 02.1 | 222                                               | 37.7 |                                                                                             | 35.7                | 201                                               | 36.0                |         | 01.9                     | 144                                               | 18.0          |                | 05.7  | 203                                               | 24.3           |     | 35.9 |
| 5   | 321                                                             | 04.6 | 237                                               | 41.3 | +25                                                                                         | 35.2                | 216                                               | 36.7                | +24     | 01.7                     | 159                                               | 20.3          | +9             | 05.6  | 218                                               | 26.5           | +22 | 35.9 |
| 6   | 336                                                             | 07.1 | 252                                               | 44.8 | +25                                                                                         | 34.7                | 231                                               | 37.5                | +24     | 01.5                     | 174                                               | 22.6          | +9             | 05.6  | 233                                               | 28.7           | +22 | 35.9 |
| 7   | 351                                                             | 09.5 | 267                                               | 48.4 |                                                                                             | 34.2                | 246                                               | 38.2                |         | 01.4                     | 189                                               | 24.9          |                | 05.5  | 248                                               | 30.8           |     | 35.9 |
| 8   | 6                                                               | 12.0 | 282                                               | 52.0 |                                                                                             | 33.6                | 261                                               | 39.0                |         | 01.2                     | 204                                               | 27.2          |                | 05.4  | 263                                               | 33.0           |     | 35.9 |
| 9   | 21                                                              | 14.5 | 297                                               | 55.6 |                                                                                             | 33.1                | 276                                               | 39.7                |         | 01.1                     | 219                                               | 29.5          |                | 05.4  | 278                                               | 35.1           |     | 35.8 |
| 10  | 36                                                              | 16.9 | 312                                               | 59.1 |                                                                                             | 32.6                | 291                                               | 40.4                |         | 00.9                     | 234                                               | 31.8          |                | 05.3  | 293                                               | 37.3           |     | 35.8 |
| 11  | 51                                                              | 19.4 | 328                                               | 02.7 | +25                                                                                         | 32.1                | 306                                               | 41.2                | +24     | 00.7                     | 249                                               | 34.1          | +9             | 05.2  | 308                                               | 39.4           | +22 | 35.8 |
| 12  | 66                                                              | 21.9 | 343                                               | 06.3 | +25                                                                                         | 31.5                | 321                                               | 41.9                | +24     | 00.6                     | 264                                               | 36.4          | +9             | 05.1  | 323                                               | 41.6           | +22 | 35.8 |
| 13  | 81                                                              | 24.3 | 358                                               | 09.9 |                                                                                             | 31.0                | 336                                               | 42.7                |         | 00.4                     | 279                                               | 38.7          |                | 05.1  | 338                                               | 43.7           |     | 35.7 |
| 14  | 96                                                              | 26.8 | 13                                                | 13.5 |                                                                                             | 30.5                | 351                                               | 43.4                |         | 00.3                     | 294                                               | 41.0          |                | 05.0  | 353                                               | 45.9           |     | 35.7 |
| 15  | 111                                                             | 29.2 | 28                                                | 17.1 |                                                                                             | 30.0                | 6                                                 | 44.2                | +24     | 00.1                     | 309                                               | 43.3          |                | 04.9  | 8                                                 | 48.0           |     | 35.7 |
| 16  | 126                                                             | 31.7 | 43                                                | 20.7 |                                                                                             | 29.4                | 21                                                | 44.9                | +23     | 59.9                     | 324                                               | 45.6          |                | 04.9  | 23                                                | 50.2           |     | 35.7 |
| 17  | 141                                                             | 34.2 | 58                                                | 24.3 | +25                                                                                         | 28.9                | 36                                                | 45.7                | +23     | 59.8                     | 339                                               | 48.0          | +9             | 04.8  | 38                                                | 52.3           | +22 | 35.7 |
| 18  | 156                                                             | 36.6 | 73                                                | 27.9 | +25                                                                                         | 28.4                | 51                                                | 46.4                | +23     | 59.6                     | 354                                               | 50.3          | +9             | 04.7  | 53                                                | 54.5           | +22 | 35.6 |
| 19  | 171                                                             | 39.1 | 88                                                | 31.5 |                                                                                             | 27.8                | 66                                                | 47.1                |         | 59.5                     | 9                                                 | 52.6          |                | 04.6  | 68                                                | 56.6           |     | 35.6 |
| 20  | 186                                                             | 41.6 | 103                                               | 35.1 |                                                                                             | 27.3                | 81                                                | 47.9                |         | 59.3                     | 24                                                | 54.9          |                | 04.6  | 83                                                | 58.8           |     | 35.6 |
| 21  | 201                                                             | 44.0 | 118                                               | 38.7 |                                                                                             | 26.8                | 96                                                | 48.6                |         | 59.1                     | 39                                                | 57.2          |                | 04.5  | 99                                                | 01.0           |     | 35.6 |
| 22  | 216                                                             | 46.5 | 133                                               | 42.4 |                                                                                             | 26.2                | 111                                               | 49.4                |         | 59.0                     | 54                                                | 59.5          |                | 04.4  | 114                                               | 03.1           |     | 35.6 |
| 23  | 231                                                             | 49.0 | 148                                               | 46.0 |                                                                                             | 25.7                | 126                                               | 50.1                |         | 58.8                     | 70                                                | 01.8          |                | 04.4  | 129                                               | 05.3           |     | 35.5 |
| 24  | 246                                                             | 51.4 | 163                                               | 49.6 | +25                                                                                         | 25.2                | 141                                               | 50.9                | +23     | 58.7                     | 85                                                | 04.1          | +9             | 04.3  | 144                                               | 07.4           | +22 | 35.5 |
| Dif | —                                                               |      | +36                                               |      | -5                                                                                          |                     | +7                                                |                     | -2      |                          | +23                                               |               | -1             |       | +22                                               |                | 0   |      |



| UT  | SOL                                                 |      |                                                   | LUNA                                                                                                                           |                     |                                                   | Latitud             | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna                                    |          | Puesta de Luna |      |     |  |
|-----|-----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------|---------------------------------------------------|----------|---------------------------------------------------|----------|----------------|------|-----|--|
|     | SD: 15'8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> .4 |      |                                                   | Edad: 9 <sup>d</sup> .8 PHE { 4 <sup>h</sup> : 57'8<br>12 <sup>h</sup> : 58'1<br>20 <sup>h</sup> : 58'4<br>R°: 48 <sup>m</sup> |                     |                                                   |                     |               |                                                   |          |                                                   |          |                |      |     |  |
|     | hG ☉                                                | Dec  |                                                   | hG ☾                                                                                                                           | Dif                 | Dec                                               |                     |               | Dif                                               | Civil    | Náutico                                           | Hora     | R°             | Hora | R°  |  |
| h   | °                                                   | '    | °                                                 | °                                                                                                                              | '                   | °                                                 | '                   | h m           | h m                                               | h m      | h m                                               | h m      | m              |      |     |  |
| 0   | 180                                                 | 39.6 | +21 38.3                                          | 67                                                                                                                             | 09.9                | +4                                                | 01.3                | 60 N          | 21 03                                             | 22 24    | ** **                                             | 13 55 97 | 1 58 1         |      |     |  |
| 1   | 195                                                 | 39.5 | 38.7                                              | 81                                                                                                                             | 42.5 <sup>136</sup> | +3                                                | 46.0 <sup>153</sup> | 58            | 20 45                                             | 21 51    | ** **                                             | 55 93    | 56 4           |      |     |  |
| 2   | 210                                                 | 39.4 | 39.1                                              | 96                                                                                                                             | 15.2 <sup>137</sup> |                                                   | 30.6 <sup>154</sup> | 56            | 31                                                | 28       | 23 30                                             | 55 89    | 55 7           |      |     |  |
| 3   | 225                                                 | 39.3 | 39.5                                              | 110                                                                                                                            | 47.8 <sup>136</sup> | +3                                                | 15.1 <sup>155</sup> | 54            | 18                                                | 21 09    | 22 32                                             | 56 85    | 53 10          |      |     |  |
| 4   | 240                                                 | 39.2 | 39.8                                              | 125                                                                                                                            | 20.4 <sup>136</sup> | +2                                                | 59.6 <sup>155</sup> | 52            | 20 07                                             | 20 53    | 22 02                                             | 56 83    | 52 12          |      |     |  |
| 5   | 255                                                 | 39.2 | +21 40.2                                          | 139                                                                                                                            | 53.0 <sup>136</sup> | +2                                                | 44.1 <sup>155</sup> | 50            | 19 58                                             | 20 40    | 21 40                                             | 13 56 80 | 1 51 14        |      |     |  |
| 6   | 270                                                 | 39.1 | +21 40.6                                          | 154                                                                                                                            | 25.5 <sup>135</sup> | +2                                                | 28.6 <sup>155</sup> | 45            | 19 37                                             | 20 13    | 21 00                                             | 13 56 75 | 1 48 20        |      |     |  |
| 7   | 285                                                 | 39.0 | 41.0                                              | 168                                                                                                                            | 58.0 <sup>135</sup> | +2                                                | 13.0 <sup>156</sup> | 40            | 21                                                | 19 53    | 20 33                                             | 56 71    | 46 23          |      |     |  |
| 8   | 300                                                 | 38.9 | 41.4                                              | 183                                                                                                                            | 30.5 <sup>135</sup> | +1                                                | 57.4 <sup>156</sup> | 35            | 19 07                                             | 36       | 20 12                                             | 56 67    | 44 27          |      |     |  |
| 9   | 315                                                 | 38.8 | 41.7                                              | 198                                                                                                                            | 02.9 <sup>134</sup> |                                                   | 41.7 <sup>157</sup> | 30            | 18 55                                             | 19 22    | 19 55                                             | 57 63    | 42 31          |      |     |  |
| 10  | 330                                                 | 38.7 | 42.1                                              | 212                                                                                                                            | 35.4 <sup>135</sup> |                                                   | 26.1 <sup>156</sup> | 20            | 35                                                | 18 59    | 28                                                | 57 57    | 39 36          |      |     |  |
| 11  | 345                                                 | 38.7 | +21 42.5                                          | 227                                                                                                                            | 07.7 <sup>133</sup> | +1                                                | 10.3 <sup>158</sup> | 10 N          | 18 17                                             | 18 40    | 19 07                                             | 13 57 52 | 1 36 41        |      |     |  |
| 12  | 0                                                   | 38.6 | +21 42.9                                          | 241                                                                                                                            | 40.1 <sup>134</sup> | +0                                                | 54.6 <sup>157</sup> | 0             | 18 01                                             | 18 23    | 18 49                                             | 13 58 47 | 1 34 45        |      |     |  |
| 13  | 15                                                  | 38.5 | 43.2                                              | 256                                                                                                                            | 12.4 <sup>133</sup> |                                                   | 38.9 <sup>157</sup> | 10 S          | 17 45                                             | 18 08    | 34                                                | 58 42    | 31 51          |      |     |  |
| 14  | 30                                                  | 38.4 | 43.6                                              | 270                                                                                                                            | 44.6 <sup>132</sup> |                                                   | 23.1 <sup>158</sup> | 20            | 28                                                | 17 52    | 19                                                | 58 37    | 28 56          |      |     |  |
| 15  | 45                                                  | 38.3 | 44.0                                              | 285                                                                                                                            | 16.8 <sup>132</sup> | +0                                                | 07.3 <sup>158</sup> | 30            | 17 08                                             | 34       | 18 04                                             | 59 31    | 25 61          |      |     |  |
| 16  | 60                                                  | 38.2 | 44.4                                              | 299                                                                                                                            | 49.0 <sup>132</sup> | -0                                                | 08.6 <sup>159</sup> | 35            | 16 57                                             | 25       | 17 56                                             | 59 28    | 23 65          |      |     |  |
| 17  | 75                                                  | 38.2 | +21 44.7                                          | 314                                                                                                                            | 21.1 <sup>131</sup> | -0                                                | 24.4 <sup>158</sup> | 40            | 16 44                                             | 17 14    | 17 48                                             | 13 59 24 | 1 21 68        |      |     |  |
| 18  | 90                                                  | 38.1 | +21 45.1                                          | 328                                                                                                                            | 53.2 <sup>131</sup> | -0                                                | 40.3 <sup>159</sup> | 45            | 16 29                                             | 17 02    | 17 39                                             | 13 59 20 | 1 18 73        |      |     |  |
| 19  | 105                                                 | 38.0 | 45.5                                              | 343                                                                                                                            | 25.2 <sup>130</sup> | -0                                                | 56.2 <sup>159</sup> | 50            | 10                                                | 16 48    | 28                                                | 14 00 15 | 15 79          |      |     |  |
| 20  | 120                                                 | 37.9 | 45.9                                              | 357                                                                                                                            | 57.2 <sup>130</sup> | -1                                                | 12.1 <sup>159</sup> | 52            | 16 01                                             | 41       | 24                                                | 00 13    | 14 81          |      |     |  |
| 21  | 135                                                 | 37.8 | 46.2                                              | 12                                                                                                                             | 29.2 <sup>130</sup> |                                                   | 28.1 <sup>160</sup> | 54            | 15 52                                             | 34       | 19                                                | 00 10    | 12 84          |      |     |  |
| 22  | 150                                                 | 37.7 | 46.6                                              | 27                                                                                                                             | 01.0 <sup>128</sup> | -1                                                | 44.0 <sup>159</sup> | 56            | 40                                                | 26       | 13                                                | 00 8     | 10 87          |      |     |  |
| 23  | 165                                                 | 37.6 | 47.0                                              | 41                                                                                                                             | 32.9 <sup>129</sup> | -2                                                | 00.0 <sup>160</sup> | 58            | 28                                                | 17       | 08                                                | 01 4     | 08 91          |      |     |  |
| 24  | 180                                                 | 37.6 | +21 47.3                                          | 56                                                                                                                             | 04.6 <sup>127</sup> | -2                                                | 15.9 <sup>159</sup> | 60 S          | 15 13                                             | 16 06    | 17 01                                             | 14 01 1  | 1 06 94        |      |     |  |
| UT  | ARIES                                               |      | VENUS                                             |                                                                                                                                |                     | MARTE                                             |                     |               | JÚPITER                                           |          | SATURNO                                           |          |                |      |     |  |
|     | PMG: 7 <sup>h</sup> 31 <sup>m</sup> .3              |      | Mag: -4.2<br>PMG: 13 <sup>h</sup> 02 <sup>m</sup> |                                                                                                                                |                     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 32 <sup>m</sup> |                     |               | Mag: -2.1<br>PMG: 18 <sup>h</sup> 17 <sup>m</sup> |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 21 <sup>m</sup> |          |                |      |     |  |
|     | hG ♈                                                | Dec  |                                                   | hG ♀                                                                                                                           | Dec                 |                                                   | hG ♂                | Dec           |                                                   | hG ♃     | Dec                                               |          | hG ♄           | Dec  |     |  |
| h   | °                                                   | '    | °                                                 | °                                                                                                                              | '                   | °                                                 | '                   | °             | '                                                 | °        | '                                                 | °        | '              | °    | '   |  |
| 0   | 246                                                 | 51.4 | 163 49.6                                          | +25 25.2                                                                                                                       | 141 50.9            | +23 58.7                                          | 85 04.1             | +9 04.3       | 144 07.4                                          | +22 35.5 |                                                   |          |                |      |     |  |
| 1   | 261                                                 | 53.9 | 178 53.2                                          | 24.6                                                                                                                           | 156 51.6            | 58.5                                              | 100 06.4            | 04.2          | 159 09.6                                          | 35.5     |                                                   |          |                |      |     |  |
| 2   | 276                                                 | 56.4 | 193 56.9                                          | 24.1                                                                                                                           | 171 52.4            | 58.3                                              | 115 08.7            | 04.1          | 174 11.7                                          | 35.5     |                                                   |          |                |      |     |  |
| 3   | 291                                                 | 58.8 | 209 00.5                                          | 23.5                                                                                                                           | 186 53.1            | 58.2                                              | 130 11.0            | 04.1          | 189 13.9                                          | 35.5     |                                                   |          |                |      |     |  |
| 4   | 307                                                 | 01.3 | 224 04.2                                          | 23.0                                                                                                                           | 201 53.9            | 58.0                                              | 145 13.3            | 04.0          | 204 16.0                                          | 35.4     |                                                   |          |                |      |     |  |
| 5   | 322                                                 | 03.7 | 239 07.8                                          | +25 22.4                                                                                                                       | 216 54.6            | +23 57.8                                          | 160 15.6            | +9 03.9       | 219 18.2                                          | +22 35.4 |                                                   |          |                |      |     |  |
| 6   | 337                                                 | 06.2 | 254 11.5                                          | +25 21.9                                                                                                                       | 231 55.4            | +23 57.7                                          | 175 17.9            | +9 03.8       | 234 20.3                                          | +22 35.4 |                                                   |          |                |      |     |  |
| 7   | 352                                                 | 08.7 | 269 15.1                                          | 21.4                                                                                                                           | 246 56.1            | 57.5                                              | 190 20.2            | 03.8          | 249 22.5                                          | 35.4     |                                                   |          |                |      |     |  |
| 8   | 7                                                   | 11.1 | 284 18.8                                          | 20.8                                                                                                                           | 261 56.8            | 57.3                                              | 205 22.5            | 03.7          | 264 24.6                                          | 35.4     |                                                   |          |                |      |     |  |
| 9   | 22                                                  | 13.6 | 299 22.5                                          | 20.3                                                                                                                           | 276 57.6            | 57.2                                              | 220 24.8            | 03.6          | 279 26.8                                          | 35.3     |                                                   |          |                |      |     |  |
| 10  | 37                                                  | 16.1 | 314 26.1                                          | 19.7                                                                                                                           | 291 58.3            | 57.0                                              | 235 27.1            | 03.6          | 294 28.9                                          | 35.3     |                                                   |          |                |      |     |  |
| 11  | 52                                                  | 18.5 | 329 29.8                                          | +25 19.2                                                                                                                       | 306 59.1            | +23 56.8                                          | 250 29.4            | +9 03.5       | 309 31.1                                          | +22 35.3 |                                                   |          |                |      |     |  |
| 12  | 67                                                  | 21.0 | 344 33.5                                          | +25 18.6                                                                                                                       | 321 59.8            | +23 56.7                                          | 265 31.7            | +9 03.4       | 324 33.2                                          | +22 35.3 |                                                   |          |                |      |     |  |
| 13  | 82                                                  | 23.5 | 359 37.1                                          | 18.1                                                                                                                           | 337 00.6            | 56.5                                              | 280 34.0            | 03.3          | 339 35.4                                          | 35.2     |                                                   |          |                |      |     |  |
| 14  | 97                                                  | 25.9 | 14 40.8                                           | 17.5                                                                                                                           | 352 01.3            | 56.3                                              | 295 36.3            | 03.3          | 354 37.5                                          | 35.2     |                                                   |          |                |      |     |  |
| 15  | 112                                                 | 28.4 | 29 44.5                                           | 16.9                                                                                                                           | 7 02.1              | 56.2                                              | 310 38.6            | 03.2          | 9 39.7                                            | 35.2     |                                                   |          |                |      |     |  |
| 16  | 127                                                 | 30.8 | 44 48.2                                           | 16.4                                                                                                                           | 22 02.8             | 56.0                                              | 325 40.9            | 03.1          | 24 41.8                                           | 35.2     |                                                   |          |                |      |     |  |
| 17  | 142                                                 | 33.3 | 59 51.9                                           | +25 15.8                                                                                                                       | 37 03.6             | +23 55.8                                          | 340 43.2            | +9 03.0       | 39 44.0                                           | +22 35.2 |                                                   |          |                |      |     |  |
| 18  | 157                                                 | 35.8 | 74 55.6                                           | +25 15.3                                                                                                                       | 52 04.3             | +23 55.7                                          | 355 45.5            | +9 03.0       | 54 46.1                                           | +22 35.1 |                                                   |          |                |      |     |  |
| 19  | 172                                                 | 38.2 | 89 59.3                                           | 14.7                                                                                                                           | 67 05.1             | 55.5                                              | 10 47.8             | 02.9          | 69 48.3                                           | 35.1     |                                                   |          |                |      |     |  |
| 20  | 187                                                 | 40.7 | 105 03.0                                          | 14.2                                                                                                                           | 82 05.8             | 55.3                                              | 25 50.1             | 02.8          | 84 50.4                                           | 35.1     |                                                   |          |                |      |     |  |
| 21  | 202                                                 | 43.2 | 120 06.7                                          | 13.6                                                                                                                           | 97 06.6             | 55.2                                              | 40 52.4             | 02.7          | 99 52.6                                           | 35.1     |                                                   |          |                |      |     |  |
| 22  | 217                                                 | 45.6 | 135 10.4                                          | 13.0                                                                                                                           | 112 07.3            | 55.0                                              | 55 54.7             | 02.7          | 114 54.7                                          | 35.1     |                                                   |          |                |      |     |  |
| 23  | 232                                                 | 48.1 | 150 14.1                                          | 12.5                                                                                                                           | 127 08.1            | 54.8                                              | 70 57.0             | 02.6          | 129 56.9                                          | 35.0     |                                                   |          |                |      |     |  |
| 24  | 247                                                 | 50.6 | 165 17.8                                          | +25 11.9                                                                                                                       | 142 08.8            | +23 54.7                                          | 85 59.3             | +9 02.5       | 144 59.0                                          | +22 35.0 |                                                   |          |                |      |     |  |
| Dif | —                                                   |      | +37                                               |                                                                                                                                | -6                  |                                                   | +7                  |               | -2                                                |          | +23                                               |          | -1             |      | +22 |  |

| UT | SOL                                                             |      |          | LUNA                                                                                                                                                                                                                    |                     |                        | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |                |
|----|-----------------------------------------------------------------|------|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----------------|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 6 |      |          | Edad: 10 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 7<br>12 <sup>h</sup> : 59 <sup>m</sup> 1<br>20 <sup>h</sup> : 59 <sup>m</sup> 4<br>PMG: 20 <sup>h</sup> 56 <sup>m</sup> R <sup>o</sup> : 51 <sup>m</sup> |                     |                        |         |                          |         |               |                |      |                |      |                |
|    | hG ☉                                                            | Dec  |          | hG ☾                                                                                                                                                                                                                    | Dif                 | Dec                    |         | Dif                      | Náutico |               | Civil          | Hora | R <sup>o</sup> | Hora | R <sup>o</sup> |
| h  | °                                                               | '    | °        | °                                                                                                                                                                                                                       | '                   | °                      | '       | h                        | m       | h             | m              | h    | m              | h    | m              |
| 0  | 180                                                             | 37.6 | +21 47.3 | 56                                                                                                                                                                                                                      | 04.6                | -2 15.9                | 60 N    | ** *                     | 1 31    | 2 52          | 15 32          | 102  | 1 59           | 1    |                |
| 1  | 195                                                             | 37.5 | 47.7     | 70                                                                                                                                                                                                                      | 36.4 <sup>128</sup> | 31.9 <sup>160</sup>    | 58      | ** *                     | 2 04    | 3 09          | 28 98          |      | 2 00           | 5    |                |
| 2  | 210                                                             | 37.4 | 48.1     | 85                                                                                                                                                                                                                      | 08.0 <sup>126</sup> | -2 47.9 <sup>160</sup> | 56      | 0 24                     | 27      | 24            | 24 95          |      | 02             | 8    |                |
| 3  | 225                                                             | 37.3 | 48.5     | 99                                                                                                                                                                                                                      | 39.6 <sup>126</sup> | -3 03.9 <sup>160</sup> | 54      | 1 23                     | 2 46    | 36            | 21 91          |      | 03             | 1    |                |
| 4  | 240                                                             | 37.2 | 48.8     | 114                                                                                                                                                                                                                     | 11.2 <sup>126</sup> | 20.0 <sup>161</sup>    | 52      | 1 53                     | 3 01    | 47            | 19 88          |      | 04             | 14   |                |
| 5  | 255                                                             | 37.1 | +21 49.2 | 128                                                                                                                                                                                                                     | 42.7 <sup>125</sup> | -3 36.0 <sup>160</sup> | 50      | 2 15                     | 3 15    | 3 57          | 15 16          | 85   | 2 05           | 16   |                |
| 6  | 270                                                             | 37.0 | +21 49.6 | 143                                                                                                                                                                                                                     | 14.1 <sup>124</sup> | -3 52.0 <sup>160</sup> | 45      | 2 54                     | 3 41    | 4 18          | 15 11          | 79   | 2 08           | 20   |                |
| 7  | 285                                                             | 36.9 | 49.9     | 157                                                                                                                                                                                                                     | 45.4 <sup>123</sup> | -4 08.0 <sup>160</sup> | 40      | 3 22                     | 4 02    | 34            | 07 74          |      | 09             | 26   |                |
| 8  | 300                                                             | 36.9 | 50.3     | 172                                                                                                                                                                                                                     | 16.7 <sup>123</sup> | 24.1 <sup>161</sup>    | 35      | 3 43                     | 19      | 4 48          | 03 70          |      | 11             | 29   |                |
| 9  | 315                                                             | 36.8 | 50.6     | 186                                                                                                                                                                                                                     | 48.0 <sup>123</sup> | 40.1 <sup>160</sup>    | 30      | 4 00                     | 33      | 5 00          | 15 00          | 66   | 13             | 32   |                |
| 10 | 330                                                             | 36.7 | 51.0     | 201                                                                                                                                                                                                                     | 19.1 <sup>121</sup> | -4 56.1 <sup>160</sup> | 20      | 27                       | 4 56    | 20            | 14 54          | 60   | 15             | 38   |                |
| 11 | 345                                                             | 36.6 | +21 51.4 | 215                                                                                                                                                                                                                     | 50.2 <sup>121</sup> | -5 12.2 <sup>161</sup> | 10 N    | 4 48                     | 5 15    | 5 38          | 14 49          | 55   | 2 17           | 44   |                |
| 12 | 0                                                               | 36.5 | +21 51.7 | 230                                                                                                                                                                                                                     | 21.2 <sup>120</sup> | -5 28.2 <sup>160</sup> | 0       | 5 06                     | 5 32    | 5 54          | 14 45          | 50   | 2 19           | 49   |                |
| 13 | 15                                                              | 36.4 | 52.1     | 244                                                                                                                                                                                                                     | 52.2 <sup>120</sup> | -5 44.2 <sup>160</sup> | 10 S    | 21                       | 5 48    | 6 10          | 40 45          |      | 22             | 53   |                |
| 14 | 30                                                              | 36.3 | 52.5     | 259                                                                                                                                                                                                                     | 23.0 <sup>118</sup> | -6 00.2 <sup>160</sup> | 20      | 36                       | 6 03    | 27            | 35 40          |      | 24             | 58   |                |
| 15 | 45                                                              | 36.2 | 52.8     | 273                                                                                                                                                                                                                     | 53.8 <sup>118</sup> | 16.2 <sup>160</sup>    | 30      | 51                       | 21      | 47            | 30 34          |      | 26             | 65   |                |
| 16 | 60                                                              | 36.2 | 53.2     | 288                                                                                                                                                                                                                     | 24.6 <sup>118</sup> | 32.2 <sup>160</sup>    | 35      | 5 59                     | 30      | 6 58          | 27 31          |      | 28             | 68   |                |
| 17 | 75                                                              | 36.1 | +21 53.5 | 302                                                                                                                                                                                                                     | 55.2 <sup>116</sup> | -6 48.2 <sup>160</sup> | 40      | 6 08                     | 6 41    | 7 11          | 14 23          | 27   | 2 29           | 73   |                |
| 18 | 90                                                              | 36.0 | +21 53.9 | 317                                                                                                                                                                                                                     | 25.8 <sup>116</sup> | -7 04.2 <sup>160</sup> | 45      | 6 17                     | 6 53    | 7 27          | 14 19          | 23   | 2 31           | 77   |                |
| 19 | 105                                                             | 35.9 | 54.2     | 331                                                                                                                                                                                                                     | 56.3 <sup>115</sup> | 20.2 <sup>160</sup>    | 50      | 27                       | 7 08    | 45            | 15 17          |      | 34             | 82   |                |
| 20 | 120                                                             | 35.8 | 54.6     | 346                                                                                                                                                                                                                     | 26.7 <sup>114</sup> | 36.1 <sup>159</sup>    | 52      | 32                       | 15      | 7 54          | 13 14          |      | 35             | 85   |                |
| 21 | 135                                                             | 35.7 | 55.0     | 0                                                                                                                                                                                                                       | 57.0 <sup>113</sup> | -7 52.0 <sup>159</sup> | 54      | 37                       | 22      | 8 04          | 10 12          |      | 36             | 88   |                |
| 22 | 150                                                             | 35.6 | 55.3     | 15                                                                                                                                                                                                                      | 27.2 <sup>112</sup> | -8 07.9 <sup>159</sup> | 56      | 42                       | 30      | 15            | 08 9           |      | 37             | 91   |                |
| 23 | 165                                                             | 35.5 | 55.7     | 29                                                                                                                                                                                                                      | 57.4 <sup>112</sup> | 23.8 <sup>159</sup>    | 58      | 48                       | 39      | 28            | 05 5           |      | 39             | 94   |                |
| 24 | 180                                                             | 35.4 | +21 56.0 | 44                                                                                                                                                                                                                      | 27.4 <sup>110</sup> | -8 39.7 <sup>159</sup> | 60 S    | 6 54                     | 7 49    | 8 44          | 14 02          | 1    | 2 40           | 99   |                |

| UT  | ARIES                                |      | VENUS                                             |      | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                           |          |          |
|-----|--------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|----------|----------|
|     | PMG 7 <sup>h</sup> 27 <sup>m</sup> 4 |      | Mag: -4.1<br>PMG: 12 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 31 <sup>m</sup> |          | Mag: -2.1<br>PMG: 18 <sup>h</sup> 13 <sup>m</sup> |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 18 <sup>m</sup> |          |          |
|     | hG ♈                                 | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                              | Dec      |          |
| h   | °                                    | '    | °                                                 | '    | °                                                 | '        | °                                                 | '        | °                                                 | '        |          |
| 0   | 247                                  | 50.6 | 165                                               | 17.8 | +25 11.9                                          | 142 08.8 | +23 54.7                                          | 85 59.3  | +9 02.5                                           | 144 59.0 | +22 35.0 |
| 1   | 262                                  | 53.0 | 180                                               | 21.6 | 11.3                                              | 157 09.5 | 54.5                                              | 101 01.6 | 02.4                                              | 160 01.2 | 35.0     |
| 2   | 277                                  | 55.5 | 195                                               | 25.3 | 10.8                                              | 172 10.3 | 54.3                                              | 116 03.9 | 02.4                                              | 175 03.3 | 35.0     |
| 3   | 292                                  | 58.0 | 210                                               | 29.0 | 10.2                                              | 187 11.0 | 54.1                                              | 131 06.2 | 02.3                                              | 190 05.5 | 34.9     |
| 4   | 308                                  | 00.4 | 225                                               | 32.7 | 09.6                                              | 202 11.8 | 54.0                                              | 146 08.5 | 02.2                                              | 205 07.6 | 34.9     |
| 5   | 323                                  | 02.9 | 240                                               | 36.5 | +25 09.1                                          | 217 12.5 | +23 53.8                                          | 161 10.8 | +9 02.1                                           | 220 09.8 | +22 34.9 |
| 6   | 338                                  | 05.3 | 255                                               | 40.2 | +25 08.5                                          | 232 13.3 | +23 53.6                                          | 176 13.1 | +9 02.1                                           | 235 11.9 | +22 34.9 |
| 7   | 353                                  | 07.8 | 270                                               | 44.0 | 07.9                                              | 247 14.0 | 53.5                                              | 191 15.4 | 02.0                                              | 250 14.1 | 34.9     |
| 8   | 8                                    | 10.3 | 285                                               | 47.7 | 07.4                                              | 262 14.8 | 53.3                                              | 206 17.7 | 01.9                                              | 265 16.2 | 34.8     |
| 9   | 23                                   | 12.7 | 300                                               | 51.5 | 06.8                                              | 277 15.5 | 53.1                                              | 221 20.0 | 01.8                                              | 280 18.4 | 34.8     |
| 10  | 38                                   | 15.2 | 315                                               | 55.2 | 06.2                                              | 292 16.3 | 52.9                                              | 236 22.3 | 01.8                                              | 295 20.5 | 34.8     |
| 11  | 53                                   | 17.7 | 330                                               | 59.0 | +25 05.6                                          | 307 17.0 | +23 52.8                                          | 251 24.6 | +9 01.7                                           | 310 22.7 | +22 34.8 |
| 12  | 68                                   | 20.1 | 346                                               | 02.7 | +25 05.1                                          | 322 17.8 | +23 52.6                                          | 266 26.9 | +9 01.6                                           | 325 24.8 | +22 34.8 |
| 13  | 83                                   | 22.6 | 1                                                 | 06.5 | 04.5                                              | 337 18.5 | 52.4                                              | 281 29.2 | 01.5                                              | 340 27.0 | 34.7     |
| 14  | 98                                   | 25.1 | 16                                                | 10.2 | 03.9                                              | 352 19.3 | 52.2                                              | 296 31.5 | 01.4                                              | 355 29.1 | 34.7     |
| 15  | 113                                  | 27.5 | 31                                                | 14.0 | 03.3                                              | 7        | 20.0                                              | 311 33.8 | 01.4                                              | 10 31.3  | 34.7     |
| 16  | 128                                  | 30.0 | 46                                                | 17.8 | 02.7                                              | 22 20.8  | 51.9                                              | 326 36.1 | 01.3                                              | 25 33.4  | 34.7     |
| 17  | 143                                  | 32.5 | 61                                                | 21.6 | +25 02.2                                          | 37 21.5  | +23 51.7                                          | 341 38.4 | +9 01.2                                           | 40 35.6  | +22 34.6 |
| 18  | 158                                  | 34.9 | 76                                                | 25.3 | +25 01.6                                          | 52 22.3  | +23 51.5                                          | 356 40.6 | +9 01.1                                           | 55 37.7  | +22 34.6 |
| 19  | 173                                  | 37.4 | 91                                                | 29.1 | 01.0                                              | 67 23.0  | 51.4                                              | 11 42.9  | 01.1                                              | 70 39.9  | 34.6     |
| 20  | 188                                  | 39.8 | 106                                               | 32.9 | +25 00.4                                          | 82 23.8  | 51.2                                              | 26 45.2  | 01.0                                              | 85 42.0  | 34.6     |
| 21  | 203                                  | 42.3 | 121                                               | 36.7 | +24 59.8                                          | 97 24.5  | 51.0                                              | 41 47.5  | 00.9                                              | 100 44.2 | 34.6     |
| 22  | 218                                  | 44.8 | 136                                               | 40.5 | 59.2                                              | 112 25.3 | 50.8                                              | 56 49.8  | 00.8                                              | 115 46.3 | 34.5     |
| 23  | 233                                  | 47.2 | 151                                               | 44.3 | 58.6                                              | 127 26.0 | 50.7                                              | 71 52.1  | 00.8                                              | 130 48.5 | 34.5     |
| 24  | 248                                  | 49.7 | 166                                               | 48.1 | +24 58.1                                          | 142 26.8 | +23 50.5                                          | 86 54.4  | +9 00.7                                           | 145 50.6 | +22 34.5 |
| Dif | —                                    |      | +38                                               | -6   |                                                   | +7       | -2                                                | +23      | -1                                                | +21      | 0        |

| UT | SOL                                    |                       |                                      | LUNA                                                                                                                                              |      |          | Latitud | Puesta de Sol | Final del crepúsculo |       |       | Salida de Luna |          |       | Puesta de Luna |       |       |  |
|----|----------------------------------------|-----------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|-------|-------|----------------|----------|-------|----------------|-------|-------|--|
|    | SD: 15 <sup>h</sup> 8                  |                       |                                      | Edad: 11 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> /7<br>12 <sup>h</sup> : 60 <sup>m</sup> /0<br>20 <sup>h</sup> : 60 <sup>m</sup> /2 |      |          |         |               | Civil                |       |       | Náutico        |          |       | Hora R°        |       |       |  |
|    | PMG: 11 <sup>h</sup> 57 <sup>m</sup> 7 | SD: 16 <sup>h</sup> 2 | PMG: 21 <sup>h</sup> 47 <sup>m</sup> | R°: 56 <sup>m</sup>                                                                                                                               |      |          |         |               |                      |       |       |                |          |       |                |       |       |  |
|    | hG ☉                                   | Dec                   |                                      | hG ☾                                                                                                                                              | Dif  | Dec      | Dif     |               |                      |       |       |                |          |       |                |       |       |  |
| h  | °                                      | '                     | °                                    | °                                                                                                                                                 | '    | °        | '       | °             | h m                  | h m   | h m   | h m m          | h m m    | h m m | h m m          | h m m | h m m |  |
| 0  | 180                                    | 35.4                  | +21 56.0                             | 44                                                                                                                                                | 27.4 | -8 39.7  | 158     | 60 N          | 21 06                | 22 30 | ** ** | 17 14 111      | 2 00 2   |       |                |       |       |  |
| 1  | 195                                    | 35.3                  | 56.4                                 | 58                                                                                                                                                | 57.4 | -8 55.5  | 158     | 58            | 20 48                | 21 56 | ** ** | 17 06 105      | 05 6     |       |                |       |       |  |
| 2  | 210                                    | 35.3                  | 56.7                                 | 73                                                                                                                                                | 27.3 | -9 11.3  | 158     | 56            | 34                   | 31    | ** ** | 16 59 100      | 10 9     |       |                |       |       |  |
| 3  | 225                                    | 35.2                  | 57.1                                 | 87                                                                                                                                                | 57.1 | 27.1     | 158     | 54            | 21                   | 21 12 | 22 38 | 52 97          | 14 13    |       |                |       |       |  |
| 4  | 240                                    | 35.1                  | 57.4                                 | 102                                                                                                                                               | 26.8 | 42.9     | 158     | 52            | 10                   | 20 56 | 22 06 | 47 92          | 18 16    |       |                |       |       |  |
| 5  | 255                                    | 35.0                  | +21 57.8                             | 116                                                                                                                                               | 56.4 | -9 58.6  | 157     | 50            | 20 00                | 20 42 | 21 43 | 16 41 90       | 2 21 19  |       |                |       |       |  |
| 6  | 270                                    | 34.9                  | +21 58.1                             | 131                                                                                                                                               | 25.9 | -10 14.3 | 157     | 45            | 19 39                | 20 15 | 21 03 | 16 30 84       | 2 28 25  |       |                |       |       |  |
| 7  | 285                                    | 34.8                  | 58.5                                 | 145                                                                                                                                               | 55.3 | 29.9     | 156     | 40            | 22                   | 19 54 | 20 35 | 21 78          | 35 29    |       |                |       |       |  |
| 8  | 300                                    | 34.7                  | 58.8                                 | 160                                                                                                                                               | 24.6 | -10 45.6 | 157     | 35            | 19 08                | 37    | 20 13 | 13 74          | 40 33    |       |                |       |       |  |
| 9  | 315                                    | 34.6                  | 59.2                                 | 174                                                                                                                                               | 53.8 | -11 01.1 | 155     | 30            | 18 56                | 23    | 19 56 | 16 06 71       | 45 36    |       |                |       |       |  |
| 10 | 330                                    | 34.5                  | 59.5                                 | 189                                                                                                                                               | 22.9 | 16.7     | 156     | 20            | 36                   | 19 00 | 29    | 15 54 65       | 2 53 43  |       |                |       |       |  |
| 11 | 345                                    | 34.4                  | +21 59.9                             | 203                                                                                                                                               | 51.9 | -11 32.2 | 155     | 10 N          | 18 18                | 18 41 | 19 07 | 15 44 60       | 3 01 47  |       |                |       |       |  |
| 12 | 0                                      | 34.3                  | +22 00.2                             | 218                                                                                                                                               | 20.8 | -11 47.6 | 154     | 0             | 18 01                | 18 24 | 18 50 | 15 35 55       | 3 08 52  |       |                |       |       |  |
| 13 | 15                                     | 34.2                  | 00.6                                 | 232                                                                                                                                               | 49.6 | -12 03.0 | 154     | 10 S          | 17 45                | 18 08 | 34    | 25 50          | 15 57    |       |                |       |       |  |
| 14 | 30                                     | 34.2                  | 00.9                                 | 247                                                                                                                                               | 18.3 | 18.4     | 154     | 20            | 28                   | 17 51 | 19    | 15 45          | 22 63    |       |                |       |       |  |
| 15 | 45                                     | 34.1                  | 01.2                                 | 261                                                                                                                                               | 46.9 | 33.7     | 153     | 30            | 17 08                | 34    | 18 04 | 15 04 39       | 31 68    |       |                |       |       |  |
| 16 | 60                                     | 34.0                  | 01.6                                 | 276                                                                                                                                               | 15.4 | -12 48.9 | 152     | 35            | 16 56                | 24    | 17 56 | 14 58 36       | 36 72    |       |                |       |       |  |
| 17 | 75                                     | 33.9                  | +22 01.9                             | 290                                                                                                                                               | 43.8 | -13 04.1 | 152     | 40            | 16 43                | 17 13 | 17 47 | 14 50 32       | 3 42 76  |       |                |       |       |  |
| 18 | 90                                     | 33.8                  | +22 02.3                             | 305                                                                                                                                               | 12.0 | -13 19.2 | 151     | 45            | 16 28                | 17 01 | 17 38 | 14 42 27       | 3 48 81  |       |                |       |       |  |
| 19 | 105                                    | 33.7                  | 02.6                                 | 319                                                                                                                                               | 40.2 | 34.3     | 151     | 50            | 09                   | 16 46 | 27    | 32 21          | 3 56 87  |       |                |       |       |  |
| 20 | 120                                    | 33.6                  | 02.9                                 | 334                                                                                                                                               | 08.2 | -13 49.3 | 150     | 52            | 16 00                | 40    | 22    | 27 19          | 4 00 90  |       |                |       |       |  |
| 21 | 135                                    | 33.5                  | 03.3                                 | 348                                                                                                                                               | 36.2 | -14 04.3 | 150     | 54            | 15 50                | 32    | 17    | 22 16          | 04 93    |       |                |       |       |  |
| 22 | 150                                    | 33.4                  | 03.6                                 | 3 04.0                                                                                                                                            | 88   | 19.2     | 149     | 56            | 38                   | 24    | 12    | 17 12          | 08 97    |       |                |       |       |  |
| 23 | 165                                    | 33.3                  | 04.0                                 | 17 31.7                                                                                                                                           | 87   | 34.0     | 148     | 58            | 25                   | 15    | 17 06 | 10 9           | 13 102   |       |                |       |       |  |
| 24 | 180                                    | 33.2                  | +22 04.3                             | 31 59.3                                                                                                                                           | 86   | -14 48.7 | 147     | 60 S          | 15 10                | 16 04 | 16 59 | 14 03 4        | 4 19 106 |       |                |       |       |  |

| UT  | ARIES                            |                                      | VENUS     |                                      | MARTE     |                                      | JÚPITER   |                                      | SATURNO   |          |
|-----|----------------------------------|--------------------------------------|-----------|--------------------------------------|-----------|--------------------------------------|-----------|--------------------------------------|-----------|----------|
|     | PMG                              |                                      | Mag: -4.0 |                                      | Mag: +1.8 |                                      | Mag: -2.1 |                                      | Mag: +0.1 |          |
|     | 7 <sup>h</sup> 23 <sup>m</sup> 5 | PMG: 12 <sup>h</sup> 50 <sup>m</sup> |           | PMG: 14 <sup>h</sup> 29 <sup>m</sup> |           | PMG: 18 <sup>h</sup> 10 <sup>m</sup> |           | PMG: 14 <sup>h</sup> 15 <sup>m</sup> |           |          |
|     | hG ♈                             | hG ♀                                 | Dec       | hG ♂                                 | Dec       | hG ♃                                 | Dec       | hG ♄                                 | Dec       |          |
| h   | °                                | '                                    | °         | °                                    | '         | °                                    | '         | °                                    | '         |          |
| 0   | 248                              | 49.7                                 | 166 48.1  | +24 58.1                             | 142 26.8  | +23 50.5                             | 86 54.4   | +9 00.7                              | 145 50.6  | +22 34.5 |
| 1   | 263                              | 52.2                                 | 181 51.9  | 57.5                                 | 157 27.5  | 50.3                                 | 101 56.7  | 00.6                                 | 160 52.8  | 34.5     |
| 2   | 278                              | 54.6                                 | 196 55.7  | 56.9                                 | 172 28.3  | 50.1                                 | 116 59.0  | 00.5                                 | 175 54.9  | 34.5     |
| 3   | 293                              | 57.1                                 | 211 59.5  | 56.3                                 | 187 29.0  | 49.9                                 | 132 01.3  | 00.4                                 | 190 57.1  | 34.4     |
| 4   | 308                              | 59.6                                 | 227 03.3  | 55.7                                 | 202 29.8  | 49.8                                 | 147 03.6  | 00.4                                 | 205 59.2  | 34.4     |
| 5   | 324                              | 02.0                                 | 242 07.1  | +24 55.1                             | 217 30.5  | +23 49.6                             | 162 05.9  | +9 00.3                              | 221 01.4  | +22 34.4 |
| 6   | 339                              | 04.5                                 | 257 10.9  | +24 54.5                             | 232 31.3  | +23 49.4                             | 177 08.2  | +9 00.2                              | 236 03.5  | +22 34.4 |
| 7   | 354                              | 06.9                                 | 272 14.8  | 53.9                                 | 247 32.0  | 49.2                                 | 192 10.4  | +9 00.1                              | 251 05.7  | 34.3     |
| 8   | 9                                | 09.4                                 | 287 18.6  | 53.3                                 | 262 32.8  | 49.1                                 | 207 12.7  | +9 00.0                              | 266 07.8  | 34.3     |
| 9   | 24                               | 11.9                                 | 302 22.4  | 52.7                                 | 277 33.5  | 48.9                                 | 222 15.0  | +9 00.0                              | 281 10.0  | 34.3     |
| 10  | 39                               | 14.3                                 | 317 26.2  | 52.1                                 | 292 34.3  | 48.7                                 | 237 17.3  | +8 59.9                              | 296 12.1  | 34.3     |
| 11  | 54                               | 16.8                                 | 332 30.1  | +24 51.5                             | 307 35.0  | +23 48.5                             | 252 19.6  | +8 59.8                              | 311 14.3  | +22 34.3 |
| 12  | 69                               | 19.3                                 | 347 33.9  | +24 50.9                             | 322 35.8  | +23 48.3                             | 267 21.9  | +8 59.7                              | 326 16.4  | +22 34.2 |
| 13  | 84                               | 21.7                                 | 2 37.7    | 50.3                                 | 337 36.5  | 48.1                                 | 282 24.2  | 59.7                                 | 341 18.6  | 34.2     |
| 14  | 99                               | 24.2                                 | 17 41.6   | 49.7                                 | 352 37.3  | 48.0                                 | 297 26.5  | 59.6                                 | 356 20.7  | 34.2     |
| 15  | 114                              | 26.7                                 | 32 45.4   | 49.1                                 | 7 38.0    | 47.8                                 | 312 28.8  | 59.5                                 | 11 22.9   | 34.2     |
| 16  | 129                              | 29.1                                 | 47 49.3   | 48.5                                 | 22 38.8   | 47.6                                 | 327 31.0  | 59.4                                 | 26 25.0   | 34.1     |
| 17  | 144                              | 31.6                                 | 62 53.1   | +24 47.9                             | 37 39.5   | +23 47.4                             | 342 33.3  | +8 59.3                              | 41 27.1   | +22 34.1 |
| 18  | 159                              | 34.1                                 | 77 57.0   | +24 47.3                             | 52 40.3   | +23 47.2                             | 357 35.6  | +8 59.3                              | 56 29.3   | +22 34.1 |
| 19  | 174                              | 36.5                                 | 93 00.8   | 46.7                                 | 67 41.1   | 47.1                                 | 12 37.9   | 59.2                                 | 71 31.4   | 34.1     |
| 20  | 189                              | 39.0                                 | 108 04.7  | 46.1                                 | 82 41.8   | 46.9                                 | 27 40.2   | 59.1                                 | 86 33.6   | 34.1     |
| 21  | 204                              | 41.4                                 | 123 08.5  | 45.4                                 | 97 42.6   | 46.7                                 | 42 42.5   | 59.0                                 | 101 35.7  | 34.0     |
| 22  | 219                              | 43.9                                 | 138 12.4  | 44.8                                 | 112 43.3  | 46.5                                 | 57 44.8   | 58.9                                 | 116 37.9  | 34.0     |
| 23  | 234                              | 46.4                                 | 153 16.3  | 44.2                                 | 127 44.1  | 46.3                                 | 72 47.1   | 58.9                                 | 131 40.0  | 34.0     |
| 24  | 249                              | 48.8                                 | 168 20.1  | +24 43.6                             | 142 44.8  | +23 46.1                             | 87 49.3   | +8 58.8                              | 146 42.2  | +22 34.0 |
| Dif | —                                | +38                                  | -6        | +8                                   | -2        | +23                                  | -1        | +21                                  | 0         |          |

| UT  | SOL                                                             |      |     | LUNA                                                                                                                                                                                                       |     |      |                                                   |          | Latitud | Principio del crepúsculo                          |       | Salida de Sol | Salida de Luna                                    |      | Puesta de Luna |      |     |      |
|-----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|----------|---------|---------------------------------------------------|-------|---------------|---------------------------------------------------|------|----------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 9 |      |     | Edad: 12 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 60 <sup>s</sup> 5<br>12 <sup>h</sup> : 60 <sup>s</sup> 7<br>20 <sup>h</sup> : 60 <sup>s</sup> 9<br>PMG: 22 <sup>h</sup> 43 <sup>m</sup> R°: 62 <sup>m</sup> |     |      |                                                   |          |         |                                                   |       |               |                                                   |      |                |      |     |      |
|     | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                                                       | Dif | Dec  |                                                   | Dif      |         | Náutico                                           | Civil |               | Hora                                              | R°   | Hora           | R°   |     |      |
| h   | °                                                               | '    | °   | '                                                                                                                                                                                                          | °   | '    | °                                                 | '        | °       | h                                                 | m     | h             | m                                                 | h    | m              | h    | m   |      |
| 0   | 180                                                             | 33.2 | +22 | 04.3                                                                                                                                                                                                       | 31  | 59.3 | -14                                               | 48.7     | 60 N    | ** **                                             | 1 25  | 2 49          | 19 05                                             | 118  | 2 02           | 4    |     |      |
| 1   | 195                                                             | 33.1 |     | 04.6                                                                                                                                                                                                       | 46  | 26.7 | 84                                                | -15 03.4 | 58      | ** **                                             | 2 00  | 3 07          | 18 51                                             | 110  | 11             | 10   |     |      |
| 2   | 210                                                             | 33.0 |     | 05.0                                                                                                                                                                                                       | 60  | 54.1 | 84                                                | 18.0     | 56      | ** **                                             | 24    | 22            | 39                                                | 104  | 19             | 15   |     |      |
| 3   | 225                                                             | 32.9 |     | 05.3                                                                                                                                                                                                       | 75  | 21.3 | 82                                                | 32.5     | 54      | 1 18                                              | 43    | 34            | 29                                                | 99   | 27             | 18   |     |      |
| 4   | 240                                                             | 32.8 |     | 05.6                                                                                                                                                                                                       | 89  | 48.4 | 81                                                | -15 47.0 | 52      | 1 49                                              | 2 59  | 46            | 19                                                | 96   | 34             | 21   |     |      |
| 5   | 255                                                             | 32.7 | +22 | 06.0                                                                                                                                                                                                       | 104 | 15.4 | 80                                                | -16 01.3 | 50      | 2 12                                              | 3 13  | 3 56          | 18 11                                             | 92   | 2 40           | 24   |     |      |
| 6   | 270                                                             | 32.6 | +22 | 06.3                                                                                                                                                                                                       | 118 | 42.3 | 79                                                | -16 15.6 | 45      | 2 53                                              | 3 40  | 4 16          | 17 54                                             | 85   | 2 53           | 30   |     |      |
| 7   | 285                                                             | 32.6 |     | 06.6                                                                                                                                                                                                       | 133 | 09.0 | 77                                                | 29.8     | 40      | 3 21                                              | 4 01  | 33            | 39                                                | 82   | 3 04           | 35   |     |      |
| 8   | 300                                                             | 32.5 |     | 07.0                                                                                                                                                                                                       | 147 | 35.6 | 76                                                | 43.9     | 35      | 3 42                                              | 18    | 47            | 27                                                | 78   | 13             | 39   |     |      |
| 9   | 315                                                             | 32.4 |     | 07.3                                                                                                                                                                                                       | 162 | 02.1 | 75                                                | -16 58.0 | 30      | 4 00                                              | 32    | 4 59          | 17 17                                             | 74   | 21             | 43   |     |      |
| 10  | 330                                                             | 32.3 |     | 07.6                                                                                                                                                                                                       | 176 | 28.5 | 74                                                | -17 11.9 | 20      | 27                                                | 4 56  | 5 20          | 16 59                                             | 69   | 36             | 48   |     |      |
| 11  | 345                                                             | 32.2 | +22 | 08.0                                                                                                                                                                                                       | 190 | 54.8 | 73                                                | -17 25.7 | 10 N    | 4 48                                              | 5 15  | 5 38          | 16 44                                             | 64   | 3 48           | 53   |     |      |
| 12  | 0                                                               | 32.1 | +22 | 08.3                                                                                                                                                                                                       | 205 | 20.9 | 71                                                | -17 39.5 | 0       | 5 06                                              | 5 32  | 5 54          | 16 30                                             | 60   | 4 00           | 57   |     |      |
| 13  | 15                                                              | 32.0 |     | 08.6                                                                                                                                                                                                       | 219 | 46.9 | 70                                                | -17 53.1 | 10 S    | 22                                                | 5 48  | 6 11          | 15                                                | 56   | 12             | 62   |     |      |
| 14  | 30                                                              | 31.9 |     | 09.0                                                                                                                                                                                                       | 234 | 12.8 | 69                                                | -18 06.6 | 20      | 37                                                | 6 04  | 28            | 16                                                | 00   | 52             | 25   | 67  |      |
| 15  | 45                                                              | 31.8 |     | 09.3                                                                                                                                                                                                       | 248 | 38.5 | 67                                                | 20.1     | 30      | 5 52                                              | 22    | 48            | 15                                                | 43   | 47             | 39   | 73  |      |
| 16  | 60                                                              | 31.7 |     | 09.6                                                                                                                                                                                                       | 263 | 04.1 | 66                                                | 33.4     | 35      | 6 00                                              | 32    | 6 59          | 34                                                | 43   | 48             | 76   |     |      |
| 17  | 75                                                              | 31.6 | +22 | 09.9                                                                                                                                                                                                       | 277 | 29.6 | 65                                                | -18 46.6 | 40      | 6 09                                              | 6 42  | 7 13          | 15                                                | 22   | 40             | 4 58 | 80  |      |
| 18  | 90                                                              | 31.5 | +22 | 10.3                                                                                                                                                                                                       | 291 | 55.0 | 64                                                | -18 59.7 | 45      | 6 18                                              | 6 55  | 7 28          | 15                                                | 09   | 35             | 5 09 | 85  |      |
| 19  | 105                                                             | 31.4 |     | 10.6                                                                                                                                                                                                       | 306 | 20.2 | 62                                                | -19 12.7 | 50      | 29                                                | 7 10  | 47            | 14                                                | 53   | 30             | 23   | 91  |      |
| 20  | 120                                                             | 31.3 |     | 10.9                                                                                                                                                                                                       | 320 | 45.3 | 61                                                | 25.6     | 52      | 34                                                | 17    | 7 56          | 46                                                | 26   | 30             | 94   |     |      |
| 21  | 135                                                             | 31.2 |     | 11.2                                                                                                                                                                                                       | 335 | 10.3 | 60                                                | 38.3     | 54      | 39                                                | 24    | 8 07          | 38                                                | 23   | 37             | 98   |     |      |
| 22  | 150                                                             | 31.1 |     | 11.6                                                                                                                                                                                                       | 349 | 35.2 | 59                                                | -19 51.0 | 56      | 44                                                | 32    | 18            | 29                                                | 19   | 45             | 102  |     |      |
| 23  | 165                                                             | 31.0 |     | 11.9                                                                                                                                                                                                       | 3   | 59.9 | 57                                                | -20 03.5 | 58      | 50                                                | 42    | 31            | 19                                                | 13   | 5 55           | 107  |     |      |
| 24  | 180                                                             | 30.9 | +22 | 12.2                                                                                                                                                                                                       | 18  | 24.5 | 56                                                | -20 15.9 | 60 S    | 6 57                                              | 7 52  | 8 47          | 14 07                                             | 7    | 6 05           | 114  |     |      |
| UT  | ARIES                                                           |      |     | VENUS                                                                                                                                                                                                      |     |      | MARTE                                             |          |         | JÚPITER                                           |       |               | SATURNO                                           |      |                |      |     |      |
|     | PMG 7 <sup>h</sup> 19 <sup>m</sup> 5                            |      |     | Mag: -4.0<br>PMG: 12 <sup>h</sup> 43 <sup>m</sup>                                                                                                                                                          |     |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 28 <sup>m</sup> |          |         | Mag: -2.1<br>PMG: 18 <sup>h</sup> 06 <sup>m</sup> |       |               | Mag: +0.1<br>PMG: 14 <sup>h</sup> 11 <sup>m</sup> |      |                |      |     |      |
|     | hG ♈                                                            | Dec  |     | hG ♀                                                                                                                                                                                                       | Dec |      | hG ♂                                              | Dec      |         | hG ♃                                              | Dec   |               | hG ♄                                              | Dec  |                |      |     |      |
| h   | °                                                               | '    | °   | '                                                                                                                                                                                                          | °   | '    | °                                                 | '        | °       | '                                                 | °     | '             | °                                                 | '    | °              | '    |     |      |
| 0   | 249                                                             | 48.8 | 168 | 20.1                                                                                                                                                                                                       | +24 | 43.6 | 142                                               | 44.8     | +23     | 46.1                                              | 87    | 49.3          | +8                                                | 58.8 | 146            | 42.2 | +22 | 34.0 |
| 1   | 264                                                             | 51.3 | 183 | 24.0                                                                                                                                                                                                       |     | 43.0 | 157                                               | 45.6     |         | 45.9                                              | 102   | 51.6          |                                                   | 58.7 | 161            | 44.3 |     | 33.9 |
| 2   | 279                                                             | 53.8 | 198 | 27.9                                                                                                                                                                                                       |     | 42.4 | 172                                               | 46.3     |         | 45.8                                              | 117   | 53.9          |                                                   | 58.6 | 176            | 46.5 |     | 33.9 |
| 3   | 294                                                             | 56.2 | 213 | 31.8                                                                                                                                                                                                       |     | 41.8 | 187                                               | 47.1     |         | 45.6                                              | 132   | 56.2          |                                                   | 58.5 | 191            | 48.6 |     | 33.9 |
| 4   | 309                                                             | 58.7 | 228 | 35.7                                                                                                                                                                                                       |     | 41.1 | 202                                               | 47.8     |         | 45.4                                              | 147   | 58.5          |                                                   | 58.5 | 206            | 50.8 |     | 33.9 |
| 5   | 325                                                             | 01.2 | 243 | 39.5                                                                                                                                                                                                       | +24 | 40.5 | 217                                               | 48.6     | +23     | 45.2                                              | 163   | 00.8          | +8                                                | 58.4 | 221            | 52.9 | +22 | 33.9 |
| 6   | 340                                                             | 03.6 | 258 | 43.4                                                                                                                                                                                                       | +24 | 39.9 | 232                                               | 49.3     | +23     | 45.0                                              | 178   | 03.1          | +8                                                | 58.3 | 236            | 55.1 | +22 | 33.8 |
| 7   | 355                                                             | 06.1 | 273 | 47.3                                                                                                                                                                                                       |     | 39.3 | 247                                               | 50.1     |         | 44.8                                              | 193   | 05.3          |                                                   | 58.2 | 251            | 57.2 |     | 33.8 |
| 8   | 10                                                              | 08.6 | 288 | 51.2                                                                                                                                                                                                       |     | 38.7 | 262                                               | 50.8     |         | 44.6                                              | 208   | 07.6          |                                                   | 58.1 | 266            | 59.4 |     | 33.8 |
| 9   | 25                                                              | 11.0 | 303 | 55.1                                                                                                                                                                                                       |     | 38.0 | 277                                               | 51.6     |         | 44.5                                              | 223   | 09.9          |                                                   | 58.1 | 282            | 01.5 |     | 33.8 |
| 10  | 40                                                              | 13.5 | 318 | 59.0                                                                                                                                                                                                       |     | 37.4 | 292                                               | 52.3     |         | 44.3                                              | 238   | 12.2          |                                                   | 58.0 | 297            | 03.6 |     | 33.7 |
| 11  | 55                                                              | 15.9 | 334 | 02.9                                                                                                                                                                                                       | +24 | 36.8 | 307                                               | 53.1     | +23     | 44.1                                              | 253   | 14.5          | +8                                                | 57.9 | 312            | 05.8 | +22 | 33.7 |
| 12  | 70                                                              | 18.4 | 349 | 06.8                                                                                                                                                                                                       | +24 | 36.2 | 322                                               | 53.8     | +23     | 43.9                                              | 268   | 16.8          | +8                                                | 57.8 | 327            | 07.9 | +22 | 33.7 |
| 13  | 85                                                              | 20.9 | 4   | 10.7                                                                                                                                                                                                       |     | 35.5 | 337                                               | 54.6     |         | 43.7                                              | 283   | 19.0          |                                                   | 57.7 | 342            | 10.1 |     | 33.7 |
| 14  | 100                                                             | 23.3 | 19  | 14.6                                                                                                                                                                                                       |     | 34.9 | 352                                               | 55.4     |         | 43.5                                              | 298   | 21.3          |                                                   | 57.6 | 357            | 12.2 |     | 33.7 |
| 15  | 115                                                             | 25.8 | 34  | 18.5                                                                                                                                                                                                       |     | 34.3 | 7                                                 | 56.1     |         | 43.3                                              | 313   | 23.6          |                                                   | 57.6 | 12             | 14.4 |     | 33.6 |
| 16  | 130                                                             | 28.3 | 49  | 22.4                                                                                                                                                                                                       |     | 33.7 | 22                                                | 56.9     |         | 43.1                                              | 328   | 25.9          |                                                   | 57.5 | 27             | 16.5 |     | 33.6 |
| 17  | 145                                                             | 30.7 | 64  | 26.4                                                                                                                                                                                                       | +24 | 33.0 | 37                                                | 57.6     | +23     | 42.9                                              | 343   | 28.2          | +8                                                | 57.4 | 42             | 18.7 | +22 | 33.6 |
| 18  | 160                                                             | 33.2 | 79  | 30.3                                                                                                                                                                                                       | +24 | 32.4 | 52                                                | 58.4     | +23     | 42.8                                              | 358   | 30.4          | +8                                                | 57.3 | 57             | 20.8 | +22 | 33.6 |
| 19  | 175                                                             | 35.7 | 94  | 34.2                                                                                                                                                                                                       |     | 31.8 | 67                                                | 59.1     |         | 42.6                                              | 13    | 32.7          |                                                   | 57.2 | 72             | 23.0 |     | 33.5 |
| 20  | 190                                                             | 38.1 | 109 | 38.1                                                                                                                                                                                                       |     | 31.1 | 82                                                | 59.9     |         | 42.4                                              | 28    | 35.0          |                                                   | 57.2 | 87             | 25.1 |     | 33.5 |
| 21  | 205                                                             | 40.6 | 124 | 42.0                                                                                                                                                                                                       |     | 30.5 | 98                                                | 00.6     |         | 42.2                                              | 43    | 37.3          |                                                   | 57.1 | 102            | 27.2 |     | 33.5 |
| 22  | 220                                                             | 43.1 | 139 | 46.0                                                                                                                                                                                                       |     | 29.9 | 113                                               | 01.4     |         | 42.0                                              | 58    | 39.6          |                                                   | 57.0 | 117            | 29.4 |     | 33.5 |
| 23  | 235                                                             | 45.5 | 154 | 49.9                                                                                                                                                                                                       |     | 29.2 | 128                                               | 02.1     |         | 41.8                                              | 73    | 41.9          |                                                   | 56.9 | 132            | 31.5 |     | 33.5 |
| 24  | 250                                                             | 48.0 | 169 | 53.8                                                                                                                                                                                                       | +24 | 28.6 | 143                                               | 02.9     | +23     | 41.6                                              | 88    | 44.1          | +8                                                | 56.8 | 147            | 33.7 | +22 | 33.4 |
| Dif | —                                                               |      |     | +39 -6                                                                                                                                                                                                     |     |      | +8 -2                                             |          |         | +23 -1                                            |       |               | +21 0                                             |      |                |      |     |      |

| UT  | SOL                                                |      |     | ☉ LUNA                                                                                                                         |     |      |                                                   |          | Latitud | Puesta de Sol                                     | Final del crepúsculo |       |                                                   | Salida de Luna |      |      | Puesta de Luna |      |  |
|-----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|----------|---------|---------------------------------------------------|----------------------|-------|---------------------------------------------------|----------------|------|------|----------------|------|--|
|     | SD: 15'8<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 0 |      |     | Edad: 13 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 61'1<br>12 <sup>h</sup> : 61'2<br>20 <sup>h</sup> : 61'3<br>R°: 66 <sup>m</sup> |     |      |                                                   |          |         |                                                   |                      |       |                                                   |                |      |      |                |      |  |
|     | hG ☉                                               |      | Dec | hG ☾                                                                                                                           |     | Dif  | Dec                                               | Dif      |         |                                                   | Civil                |       | Náutico                                           | Hora           | R°   | Hora | R°             |      |  |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '    | °                                                 | '        | °       | h m                                               | h m                  | h m   | h m                                               | h m            | h m  | h m  | h m            |      |  |
| 0   | 180                                                | 30.9 | +22 | 12.2                                                                                                                           | 18  | 24.5 | -20                                               | 15.9     | 60 N    | 21 10                                             | 22 36                | ** ** | 21 03                                             | 113            | 2 06 | 10   |                |      |  |
| 1   | 195                                                | 30.8 |     | 12.5                                                                                                                           | 32  | 49.0 | 55                                                | 28.2     | 58      | 20 51                                             | 22 00                | ** ** | 20 41                                             | 103            | 21   | 17   |                |      |  |
| 2   | 210                                                | 30.7 |     | 12.8                                                                                                                           | 47  | 13.3 | 53                                                | 40.3     | 56      | 36                                                | 21 35                | ** ** | 23                                                | 97             | 34   | 23   |                |      |  |
| 3   | 225                                                | 30.6 |     | 13.2                                                                                                                           | 61  | 37.5 | 52                                                | -20 52.3 | 54      | 23                                                | 21 15                | 22 43 | 20 08                                             | 93             | 45   | 28   |                |      |  |
| 4   | 240                                                | 30.5 |     | 13.5                                                                                                                           | 76  | 01.6 | 51                                                | -21 04.2 | 52      | 12                                                | 20 59                | 22 10 | 19 55                                             | 90             | 2 55 | 31   |                |      |  |
| 5   | 255                                                | 30.4 | +22 | 13.8                                                                                                                           | 90  | 25.6 | 50                                                | -21 15.9 | 50      | 20 02                                             | 20 45                | 21 46 | 19 43                                             | 88             | 3 04 | 34   |                |      |  |
| 6   | 270                                                | 30.3 | +22 | 14.1                                                                                                                           | 104 | 49.4 | 48                                                | -21 27.5 | 45      | 19 41                                             | 20 17                | 21 05 | 19 19                                             | 83             | 3 23 | 40   |                |      |  |
| 7   | 285                                                | 30.2 |     | 14.4                                                                                                                           | 119 | 13.1 | 47                                                | 38.9     | 40      | 24                                                | 19 56                | 20 37 | 19 01                                             | 79             | 39   | 44   |                |      |  |
| 8   | 300                                                | 30.1 |     | 14.8                                                                                                                           | 133 | 36.7 | 46                                                | -21 50.2 | 35      | 19 09                                             | 39                   | 20 15 | 18 45                                             | 76             | 3 52 | 48   |                |      |  |
| 9   | 315                                                | 30.0 |     | 15.1                                                                                                                           | 148 | 00.2 | 45                                                | -22 01.4 | 30      | 18 57                                             | 24                   | 19 57 | 31                                                | 75             | 4 04 | 50   |                |      |  |
| 10  | 330                                                | 29.9 |     | 15.4                                                                                                                           | 162 | 23.5 | 43                                                | 12.4     | 20      | 36                                                | 19 01                | 30    | 18 08                                             | 71             | 24   | 55   |                |      |  |
| 11  | 345                                                | 29.8 | +22 | 15.7                                                                                                                           | 176 | 46.7 | 42                                                | -22 23.3 | 10 N    | 18 18                                             | 18 41                | 19 08 | 17 48                                             | 68             | 4 41 | 59   |                |      |  |
| 12  | 0                                                  | 29.7 | +22 | 16.0                                                                                                                           | 191 | 09.8 | 41                                                | -22 34.0 | 0       | 18 02                                             | 18 24                | 18 50 | 17 30                                             | 65             | 4 57 | 63   |                |      |  |
| 13  | 15                                                 | 29.6 |     | 16.3                                                                                                                           | 205 | 32.8 | 40                                                | 44.5     | 10 S    | 17 45                                             | 18 08                | 34    | 17 11                                             | 63             | 5 14 | 66   |                |      |  |
| 14  | 30                                                 | 29.5 |     | 16.6                                                                                                                           | 219 | 55.6 | 38                                                | -22 54.9 | 20      | 28                                                | 17 51                | 19    | 16 52                                             | 59             | 32   | 70   |                |      |  |
| 15  | 45                                                 | 29.4 |     | 16.9                                                                                                                           | 234 | 18.4 | 38                                                | -23 05.2 | 30      | 17 08                                             | 34                   | 18 03 | 30                                                | 55             | 5 52 | 75   |                |      |  |
| 16  | 60                                                 | 29.3 |     | 17.3                                                                                                                           | 248 | 41.0 | 36                                                | 15.3     | 35      | 16 56                                             | 24                   | 17 55 | 17                                                | 53             | 6 04 | 77   |                |      |  |
| 17  | 75                                                 | 29.2 | +22 | 17.6                                                                                                                           | 263 | 03.5 | 35                                                | -23 25.2 | 40      | 16 43                                             | 17 13                | 17 46 | 16 02                                             | 50             | 6 18 | 80   |                |      |  |
| 18  | 90                                                 | 29.1 | +22 | 17.9                                                                                                                           | 277 | 25.9 | 34                                                | -23 34.9 | 45      | 16 27                                             | 17 00                | 17 37 | 15 44                                             | 47             | 6 34 | 85   |                |      |  |
| 19  | 105                                                | 29.0 |     | 18.2                                                                                                                           | 291 | 48.2 | 33                                                | 44.5     | 50      | 16 07                                             | 16 45                | 26    | 23                                                | 41             | 6 54 | 91   |                |      |  |
| 20  | 120                                                | 28.9 |     | 18.5                                                                                                                           | 306 | 10.3 | 31                                                | -23 53.9 | 52      | 15 58                                             | 38                   | 21    | 12                                                | 39             | 7 04 | 94   |                |      |  |
| 21  | 135                                                | 28.8 |     | 18.8                                                                                                                           | 320 | 32.4 | 31                                                | -24 03.1 | 54      | 48                                                | 31                   | 16    | 15 01                                             | 35             | 15   | 97   |                |      |  |
| 22  | 150                                                | 28.7 |     | 19.1                                                                                                                           | 334 | 54.3 | 29                                                | 12.2     | 56      | 36                                                | 22                   | 11    | 14 48                                             | 31             | 27   | 102  |                |      |  |
| 23  | 165                                                | 28.6 |     | 19.4                                                                                                                           | 349 | 16.1 | 28                                                | 21.1     | 58      | 23                                                | 13                   | 17 04 | 32                                                | 26             | 42   | 107  |                |      |  |
| 24  | 180                                                | 28.5 | +22 | 19.7                                                                                                                           | 3   | 37.9 | 28                                                | -24 29.8 | 60 S    | 15 07                                             | 16 02                | 16 58 | 14 14                                             | 18             | 7 59 | 116  |                |      |  |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                          |     |      | MARTE                                             |          |         | JÚPITER                                           |                      |       | SATURNO                                           |                |      |      |                |      |  |
|     | PMG<br>7 <sup>h</sup> 15 <sup>m</sup> 6            |      |     | Mag: -4.1<br>PMG: 12 <sup>h</sup> 37 <sup>m</sup>                                                                              |     |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 27 <sup>m</sup> |          |         | Mag: -2.1<br>PMG: 18 <sup>h</sup> 02 <sup>m</sup> |                      |       | Mag: +0.1<br>PMG: 14 <sup>h</sup> 08 <sup>m</sup> |                |      |      |                |      |  |
|     | hG ♈                                               |      | Dec | hG ♀                                                                                                                           |     | Dec  | hG ♂                                              |          | Dec     | hG ♃                                              |                      | Dec   | hG ♄                                              |                | Dec  |      |                |      |  |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '    | °                                                 | '        | °       | h m                                               | h m                  | h m   | °                                                 | '              | °    | '    |                |      |  |
| 0   | 250                                                | 48.0 | 169 | 53.8                                                                                                                           | +24 | 28.6 | 143                                               | 02.9     | +23     | 41.6                                              | 88                   | 44.1  | +8                                                | 56.8           | 147  | 33.7 | +22            | 33.4 |  |
| 1   | 265                                                | 50.4 | 184 | 57.8                                                                                                                           |     | 28.0 | 158                                               | 03.7     |         | 41.4                                              | 103                  | 46.4  |                                                   | 56.7           | 162  | 35.8 |                | 33.4 |  |
| 2   | 280                                                | 52.9 | 200 | 01.7                                                                                                                           |     | 27.3 | 173                                               | 04.4     |         | 41.2                                              | 118                  | 48.7  |                                                   | 56.7           | 177  | 38.0 |                | 33.4 |  |
| 3   | 295                                                | 55.4 | 215 | 05.7                                                                                                                           |     | 26.7 | 188                                               | 05.2     |         | 41.0                                              | 133                  | 51.0  |                                                   | 56.6           | 192  | 40.1 |                | 33.4 |  |
| 4   | 310                                                | 57.8 | 230 | 09.6                                                                                                                           |     | 26.0 | 203                                               | 05.9     |         | 40.8                                              | 148                  | 53.2  |                                                   | 56.5           | 207  | 42.3 |                | 33.3 |  |
| 5   | 326                                                | 00.3 | 245 | 13.5                                                                                                                           | +24 | 25.4 | 218                                               | 06.7     | +23     | 40.6                                              | 163                  | 55.5  | +8                                                | 56.4           | 222  | 44.4 | +22            | 33.3 |  |
| 6   | 341                                                | 02.8 | 260 | 17.5                                                                                                                           | +24 | 24.8 | 233                                               | 07.4     | +23     | 40.4                                              | 178                  | 57.8  | +8                                                | 56.3           | 237  | 46.6 | +22            | 33.3 |  |
| 7   | 356                                                | 05.2 | 275 | 21.4                                                                                                                           |     | 24.1 | 248                                               | 08.2     |         | 40.3                                              | 194                  | 00.1  |                                                   | 56.2           | 252  | 48.7 |                | 33.3 |  |
| 8   | 11                                                 | 07.7 | 290 | 25.4                                                                                                                           |     | 23.5 | 263                                               | 08.9     |         | 40.1                                              | 209                  | 02.4  |                                                   | 56.2           | 267  | 50.8 |                | 33.2 |  |
| 9   | 26                                                 | 10.2 | 305 | 29.4                                                                                                                           |     | 22.8 | 278                                               | 09.7     |         | 39.9                                              | 224                  | 04.6  |                                                   | 56.1           | 282  | 53.0 |                | 33.2 |  |
| 10  | 41                                                 | 12.6 | 320 | 33.3                                                                                                                           |     | 22.2 | 293                                               | 10.5     |         | 39.7                                              | 239                  | 06.9  |                                                   | 56.0           | 297  | 55.1 |                | 33.2 |  |
| 11  | 56                                                 | 15.1 | 335 | 37.3                                                                                                                           | +24 | 21.5 | 308                                               | 11.2     | +23     | 39.5                                              | 254                  | 09.2  | +8                                                | 55.9           | 312  | 57.3 | +22            | 33.2 |  |
| 12  | 71                                                 | 17.5 | 350 | 41.2                                                                                                                           | +24 | 20.9 | 323                                               | 12.0     | +23     | 39.3                                              | 269                  | 11.5  | +8                                                | 55.8           | 327  | 59.4 | +22            | 33.2 |  |
| 13  | 86                                                 | 20.0 | 5   | 45.2                                                                                                                           |     | 20.2 | 338                                               | 12.7     |         | 39.1                                              | 284                  | 13.8  |                                                   | 55.7           | 343  | 01.6 |                | 33.1 |  |
| 14  | 101                                                | 22.5 | 20  | 49.2                                                                                                                           |     | 19.6 | 353                                               | 13.5     |         | 38.9                                              | 299                  | 16.0  |                                                   | 55.7           | 358  | 03.7 |                | 33.1 |  |
| 15  | 116                                                | 24.9 | 35  | 53.1                                                                                                                           |     | 18.9 | 8                                                 | 14.2     |         | 38.7                                              | 314                  | 18.3  |                                                   | 55.6           | 13   | 05.9 |                | 33.1 |  |
| 16  | 131                                                | 27.4 | 50  | 57.1                                                                                                                           |     | 18.3 | 23                                                | 15.0     |         | 38.5                                              | 329                  | 20.6  |                                                   | 55.5           | 28   | 08.0 |                | 33.1 |  |
| 17  | 146                                                | 29.9 | 66  | 01.1                                                                                                                           | +24 | 17.6 | 38                                                | 15.7     | +23     | 38.3                                              | 344                  | 22.9  | +8                                                | 55.4           | 43   | 10.1 | +22            | 33.0 |  |
| 18  | 161                                                | 32.3 | 81  | 05.1                                                                                                                           | +24 | 17.0 | 53                                                | 16.5     | +23     | 38.1                                              | 359                  | 25.1  | +8                                                | 55.3           | 58   | 12.3 | +22            | 33.0 |  |
| 19  | 176                                                | 34.8 | 96  | 09.0                                                                                                                           |     | 16.3 | 68                                                | 17.3     |         | 37.9                                              | 14                   | 27.4  |                                                   | 55.2           | 73   | 14.4 |                | 33.0 |  |
| 20  | 191                                                | 37.3 | 111 | 13.0                                                                                                                           |     | 15.7 | 83                                                | 18.0     |         | 37.7                                              | 29                   | 29.7  |                                                   | 55.2           | 88   | 16.6 |                | 33.0 |  |
| 21  | 206                                                | 39.7 | 126 | 17.0                                                                                                                           |     | 15.0 | 98                                                | 18.8     |         | 37.5                                              | 44                   | 32.0  |                                                   | 55.1           | 103  | 18.7 |                | 32.9 |  |
| 22  | 221                                                | 42.2 | 141 | 21.0                                                                                                                           |     | 14.4 | 113                                               | 19.5     |         | 37.3                                              | 59                   | 34.2  |                                                   | 55.0           | 118  | 20.9 |                | 32.9 |  |
| 23  | 236                                                | 44.7 | 156 | 25.0                                                                                                                           |     | 13.7 | 128                                               | 20.3     |         | 37.1                                              | 74                   | 36.5  |                                                   | 54.9           | 133  | 23.0 |                | 32.9 |  |
| 24  | 251                                                | 47.1 | 171 | 29.0                                                                                                                           | +24 | 13.0 | 143                                               | 21.0     | +23     | 36.9                                              | 89                   | 38.8  | +8                                                | 54.8           | 148  | 25.2 | +22            | 32.9 |  |
| Dif | —                                                  |      | +40 |                                                                                                                                | -6  |      | +8                                                |          | -2      |                                                   | +23                  |       | -1                                                |                | +21  |      | 0              |      |  |

| UT | SOL                                    |      |          | LUNA                    |                                                                                                                           |             | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |         |
|----|----------------------------------------|------|----------|-------------------------|---------------------------------------------------------------------------------------------------------------------------|-------------|---------|--------------------------|-------|---------------|----------------|-------|----------------|---------|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 14 <sup>d</sup> 8 | PHE {<br>4 <sup>h</sup> : 61 <sup>h</sup> 4<br>12 <sup>h</sup> : 61 <sup>h</sup> 4<br>20 <sup>h</sup> : 61 <sup>h</sup> 4 | R°: ***     |         | Náutico                  | Civil |               | Hora           | R°    | Hora           | R°      |
|    | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 2 |      |          |                         |                                                                                                                           |             |         |                          |       |               |                |       |                |         |
|    | hG ☉                                   | Dec  |          | hG ☾                    | Dif                                                                                                                       | Dec         | Dif     |                          |       |               |                |       |                |         |
| h  | °                                      | '    | °        | °                       | '                                                                                                                         | °           | '       | °                        | h m   | h m           | h m            | h m   | h m            | h m     |
| 0  | 180                                    | 28.5 | +22 19.7 | 3                       | 37.9                                                                                                                      | -24 29.8    | 85      | 60 N                     | ** ** | 1 19          | 2 46           | 22 56 | **             | 2 16 25 |
| 1  | 195                                    | 28.4 | 20.0     | 17                      | 59.5                                                                                                                      | 26 38.3     | 85      | 58                       | ** ** | 1 56          | 3 04           | 24 76 |                | 38 35   |
| 2  | 210                                    | 28.3 | 20.3     | 32                      | 21.0                                                                                                                      | 25 46.6     | 83      | 56                       | ** ** | 2 21          | 20             | 22 00 | 75             | 2 57 40 |
| 3  | 225                                    | 28.2 | 20.6     | 46                      | 42.4                                                                                                                      | 24 -24 54.8 | 82      | 54                       | 1 12  | 41            | 33             | 21 41 | 74             | 3 13 44 |
| 4  | 240                                    | 28.1 | 20.9     | 61                      | 03.8                                                                                                                      | 24 -25 02.8 | 80      | 52                       | 1 46  | 2 57          | 44             | 25 73 |                | 26 47   |
| 5  | 255                                    | 28.0 | +22 21.2 | 75                      | 25.0                                                                                                                      | 22 -25 10.5 | 77      | 50                       | 2 10  | 3 11          | 3 54           | 21 11 | 73             | 3 38 49 |
| 6  | 270                                    | 27.9 | +22 21.5 | 89                      | 46.1                                                                                                                      | 21 -25 18.1 | 76      | 45                       | 2 51  | 3 39          | 4 15           | 20 42 | 72             | 4 03 53 |
| 7  | 285                                    | 27.8 | 21.8     | 104                     | 07.2                                                                                                                      | 21 25.5     | 74      | 40                       | 3 19  | 4 00          | 32             | 20 71 |                | 23 56   |
| 8  | 300                                    | 27.7 | 22.1     | 118                     | 28.1                                                                                                                      | 19 32.7     | 72      | 35                       | 41    | 17            | 47             | 20 01 | 71             | 40 58   |
| 9  | 315                                    | 27.6 | 22.4     | 132                     | 49.0                                                                                                                      | 19 39.7     | 70      | 30                       | 3 59  | 32            | 4 59           | 19 46 | 70             | 4 54 60 |
| 10 | 330                                    | 27.5 | 22.7     | 147                     | 09.8                                                                                                                      | 18 46.6     | 69      | 20                       | 4 27  | 4 55          | 5 20           | 19 19 | 69             | 5 19 62 |
| 11 | 345                                    | 27.4 | +22 23.0 | 161                     | 30.5                                                                                                                      | 17 -25 53.2 | 66      | 10 N                     | 4 48  | 5 15          | 5 38           | 18 56 | 68             | 5 40 65 |
| 12 | 0                                      | 27.3 | +22 23.3 | 175                     | 51.1                                                                                                                      | 16 -25 59.6 | 64      | 0                        | 5 06  | 5 32          | 5 55           | 18 35 | 67             | 6 00 67 |
| 13 | 15                                     | 27.2 | 23.6     | 190                     | 11.7                                                                                                                      | 16 -26 05.8 | 62      | 10 S                     | 22    | 5 48          | 6 11           | 18 14 | 66             | 20 69   |
| 14 | 30                                     | 27.1 | 23.9     | 204                     | 32.2                                                                                                                      | 15 11.8     | 60      | 20                       | 38    | 6 05          | 29             | 17 51 | 65             | 6 42 70 |
| 15 | 45                                     | 26.9 | 24.2     | 218                     | 52.6                                                                                                                      | 14 17.6     | 58      | 30                       | 5 53  | 23            | 6 49           | 25 64 |                | 7 07 72 |
| 16 | 60                                     | 26.8 | 24.5     | 233                     | 12.9                                                                                                                      | 13 23.2     | 56      | 35                       | 6 01  | 33            | 7 01           | 17 10 | 63             | 21 75   |
| 17 | 75                                     | 26.7 | +22 24.8 | 247                     | 33.2                                                                                                                      | 13 -26 28.6 | 54      | 40                       | 6 10  | 6 44          | 7 14           | 16 52 | 62             | 7 38 76 |
| 18 | 90                                     | 26.6 | +22 25.1 | 261                     | 53.4                                                                                                                      | 12 -26 33.8 | 52      | 45                       | 6 20  | 6 56          | 7 30           | 16 31 | 60             | 7 59 78 |
| 19 | 105                                    | 26.5 | 25.4     | 276                     | 13.6                                                                                                                      | 12 38.8     | 50      | 50                       | 30    | 7 11          | 49             | 16 04 | 58             | 8 25 81 |
| 20 | 120                                    | 26.4 | 25.7     | 290                     | 33.7                                                                                                                      | 11 43.6     | 48      | 52                       | 35    | 18            | 7 58           | 15 51 | 57             | 38 82   |
| 21 | 135                                    | 26.3 | 26.0     | 304                     | 53.7                                                                                                                      | 10 48.1     | 45      | 54                       | 41    | 26            | 8 09           | 36 55 |                | 8 52 85 |
| 22 | 150                                    | 26.2 | 26.3     | 319                     | 13.8                                                                                                                      | 11 52.5     | 44      | 56                       | 46    | 34            | 21             | 15 19 | 52             | 9 09 87 |
| 23 | 165                                    | 26.1 | 26.6     | 333                     | 33.7                                                                                                                      | 9 -26 56.6  | 41      | 58                       | 52    | 44            | 34             | 14 58 | 49             | 29 92   |
| 24 | 180                                    | 26.0 | +22 26.8 | 347                     | 53.6                                                                                                                      | 9 -27 00.6  | 40      | 60 S                     | 6 59  | 7 55          | 8 50           | 14 32 | 42             | 9 55 98 |

| UT  | ARIES                                |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|--------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG 7 <sup>h</sup> 11 <sup>m</sup> 7 |      | Mag: -4.1<br>PMG: 12 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 26 <sup>m</sup> |     | Mag: -2.1<br>PMG: 17 <sup>h</sup> 59 <sup>m</sup> |          | Mag: +0.1<br>PMG: 14 <sup>h</sup> 04 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                 | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                    | '    | °                                                 | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 251                                  | 47.1 | 171                                               | 29.0 | +24 13.0                                          | 143 | 21.0                                              | +23 36.9 | 89                                                | 38.8 | +8 54.8 | 148 | 25.2 | +22 32.9 |
| 1   | 266                                  | 49.6 | 186                                               | 32.9 | 12.4                                              | 158 | 21.8                                              | 36.7     | 104                                               | 41.1 | 54.7    | 163 | 27.3 | 32.9     |
| 2   | 281                                  | 52.0 | 201                                               | 36.9 | 11.7                                              | 173 | 22.6                                              | 36.5     | 119                                               | 43.3 | 54.6    | 178 | 29.4 | 32.8     |
| 3   | 296                                  | 54.5 | 216                                               | 40.9 | 11.1                                              | 188 | 23.3                                              | 36.3     | 134                                               | 45.6 | 54.6    | 193 | 31.6 | 32.8     |
| 4   | 311                                  | 57.0 | 231                                               | 44.9 | 10.4                                              | 203 | 24.1                                              | 36.1     | 149                                               | 47.9 | 54.5    | 208 | 33.7 | 32.8     |
| 5   | 326                                  | 59.4 | 246                                               | 48.9 | +24 09.7                                          | 218 | 24.8                                              | +23 35.9 | 164                                               | 50.1 | +8 54.4 | 223 | 35.9 | +22 32.8 |
| 6   | 342                                  | 01.9 | 261                                               | 52.9 | +24 09.1                                          | 233 | 25.6                                              | +23 35.7 | 179                                               | 52.4 | +8 54.3 | 238 | 38.0 | +22 32.7 |
| 7   | 357                                  | 04.4 | 276                                               | 56.9 | 08.4                                              | 248 | 26.3                                              | 35.5     | 194                                               | 54.7 | 54.2    | 253 | 40.2 | 32.7     |
| 8   | 12                                   | 06.8 | 292                                               | 00.9 | 07.8                                              | 263 | 27.1                                              | 35.3     | 209                                               | 57.0 | 54.1    | 268 | 42.3 | 32.7     |
| 9   | 27                                   | 09.3 | 307                                               | 04.9 | 07.1                                              | 278 | 27.9                                              | 35.1     | 224                                               | 59.2 | 54.0    | 283 | 44.4 | 32.7     |
| 10  | 42                                   | 11.8 | 322                                               | 09.0 | 06.4                                              | 293 | 28.6                                              | 34.9     | 240                                               | 01.5 | 54.0    | 298 | 46.6 | 32.6     |
| 11  | 57                                   | 14.2 | 337                                               | 13.0 | +24 05.8                                          | 308 | 29.4                                              | +23 34.7 | 255                                               | 03.8 | +8 53.9 | 313 | 48.7 | +22 32.6 |
| 12  | 72                                   | 16.7 | 352                                               | 17.0 | +24 05.1                                          | 323 | 30.1                                              | +23 34.5 | 270                                               | 06.0 | +8 53.8 | 328 | 50.9 | +22 32.6 |
| 13  | 87                                   | 19.2 | 7                                                 | 21.0 | 04.4                                              | 338 | 30.9                                              | 34.3     | 285                                               | 08.3 | 53.7    | 343 | 53.0 | 32.6     |
| 14  | 102                                  | 21.6 | 22                                                | 25.0 | 03.8                                              | 353 | 31.6                                              | 34.1     | 300                                               | 10.6 | 53.6    | 358 | 55.2 | 32.6     |
| 15  | 117                                  | 24.1 | 37                                                | 29.0 | 03.1                                              | 8   | 32.4                                              | 33.9     | 315                                               | 12.9 | 53.5    | 13  | 57.3 | 32.5     |
| 16  | 132                                  | 26.5 | 52                                                | 33.0 | 02.4                                              | 23  | 33.2                                              | 33.7     | 330                                               | 15.1 | 53.4    | 28  | 59.4 | 32.5     |
| 17  | 147                                  | 29.0 | 67                                                | 37.1 | +24 01.7                                          | 38  | 33.9                                              | +23 33.5 | 345                                               | 17.4 | +8 53.4 | 44  | 01.6 | +22 32.5 |
| 18  | 162                                  | 31.5 | 82                                                | 41.1 | +24 01.1                                          | 53  | 34.7                                              | +23 33.3 | 0                                                 | 19.7 | +8 53.3 | 59  | 03.7 | +22 32.5 |
| 19  | 177                                  | 33.9 | 97                                                | 45.1 | +24 00.4                                          | 68  | 35.4                                              | 33.1     | 15                                                | 21.9 | 53.2    | 74  | 05.9 | 32.4     |
| 20  | 192                                  | 36.4 | 112                                               | 49.1 | +23 59.7                                          | 83  | 36.2                                              | 32.9     | 30                                                | 24.2 | 53.1    | 89  | 08.0 | 32.4     |
| 21  | 207                                  | 38.9 | 127                                               | 53.2 | 59.0                                              | 98  | 37.0                                              | 32.7     | 45                                                | 26.5 | 53.0    | 104 | 10.2 | 32.4     |
| 22  | 222                                  | 41.3 | 142                                               | 57.2 | 58.4                                              | 113 | 37.7                                              | 32.4     | 60                                                | 28.7 | 52.9    | 119 | 12.3 | 32.4     |
| 23  | 237                                  | 43.8 | 158                                               | 01.2 | 57.7                                              | 128 | 38.5                                              | 32.2     | 75                                                | 31.0 | 52.8    | 134 | 14.4 | 32.3     |
| 24  | 252                                  | 46.3 | 173                                               | 05.3 | +23 57.0                                          | 143 | 39.2                                              | +23 32.0 | 90                                                | 33.3 | +8 52.7 | 149 | 16.6 | +22 32.3 |
| Dif | —                                    |      | +40                                               | -7   |                                                   | +8  | -2                                                |          | +23                                               | -1   |         | +21 |      | 0        |

| UT | SOL                                    |      |          | ☾ LUNA                                                                                                                                            |      |             | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|---------|---------------|----------------------|---------|----------------|----------|----------------|-------|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 15 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 61 <sup>h</sup> /3<br>12 <sup>h</sup> : 61 <sup>h</sup> /2<br>20 <sup>h</sup> : 61 <sup>h</sup> /1 |      |             |         |               |                      |         |                |          |                |       |
|    | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 4 |      |          | SD: 16 <sup>h</sup> 7<br>PMG: 0 <sup>h</sup> 51 <sup>m</sup> R°: 67 <sup>m</sup>                                                                  |      |             |         |               |                      |         |                |          |                |       |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                                                              | Dif  | Dec         | Dif     |               | Civil                | Náutico | Hora           | R°       | Hora           | R°    |
| h  | °                                      | '    | °        | °                                                                                                                                                 | '    | °           | '       | °             | h m                  | h m     | h m            | h m m    | h m m          | h m m |
| 0  | 180                                    | 26.0 | +22 26.8 | 347                                                                                                                                               | 53.6 | -27 00.6    | 37      | 60 N          | 21 13                | 22 43   | ** **          | 0 03 11  | 2 41 63        |       |
| 1  | 195                                    | 25.9 | 27.1     | 2                                                                                                                                                 | 13.5 | 9 04.3      | 37      | 58            | 20 54                | 22 04   | ** **          | 23 40 43 | 3 13 65        |       |
| 2  | 210                                    | 25.8 | 27.4     | 16                                                                                                                                                | 33.4 | 9 07.8      | 35      | 56            | 39                   | 21 38   | ** **          | 23 15 47 | 37 66          |       |
| 3  | 225                                    | 25.7 | 27.7     | 30                                                                                                                                                | 53.2 | 8 11.0      | 32      | 54            | 25                   | 18      | 22 49          | 22 55 50 | 3 57 66        |       |
| 4  | 240                                    | 25.6 | 28.0     | 45                                                                                                                                                | 13.0 | 8 14.1      | 31      | 52            | 14                   | 21 01   | 22 14          | 38 52    | 4 13 67        |       |
| 5  | 255                                    | 25.5 | +22 28.3 | 59                                                                                                                                                | 32.7 | 7 -27 16.9  | 28      | 50            | 20 04                | 20 47   | 21 49          | 22 24 53 | 4 27 67        |       |
| 6  | 270                                    | 25.4 | +22 28.6 | 73                                                                                                                                                | 52.5 | 8 -27 19.6  | 27      | 45            | 19 42                | 20 19   | 21 07          | 21 54 57 | 4 56 67        |       |
| 7  | 285                                    | 25.3 | 28.8     | 88                                                                                                                                                | 12.2 | 7 22.0      | 24      | 40            | 25                   | 19 57   | 20 38          | 31 59    | 5 19 67        |       |
| 8  | 300                                    | 25.1 | 29.1     | 102                                                                                                                                               | 31.9 | 7 24.2      | 22      | 35            | 19 11                | 40      | 20 16          | 21 12 60 | 38 67          |       |
| 9  | 315                                    | 25.0 | 29.4     | 116                                                                                                                                               | 51.6 | 7 26.1      | 19      | 30            | 18 58                | 25      | 19 58          | 20 56 61 | 5 54 67        |       |
| 10 | 330                                    | 24.9 | 29.7     | 131                                                                                                                                               | 11.3 | 7 27.9      | 18      | 20            | 37                   | 19 01   | 30             | 28 63    | 6 21 68        |       |
| 11 | 345                                    | 24.8 | +22 30.0 | 145                                                                                                                                               | 31.0 | 7 -27 29.4  | 15      | 10 N          | 18 19                | 18 42   | 19 09          | 20 04 65 | 6 45 67        |       |
| 12 | 0                                      | 24.7 | +22 30.3 | 159                                                                                                                                               | 50.7 | 7 -27 30.7  | 13      | 0             | 18 02                | 18 24   | 18 50          | 19 42 66 | 7 07 67        |       |
| 13 | 15                                     | 24.6 | 30.5     | 174                                                                                                                                               | 10.4 | 7 31.8      | 11      | 10 S          | 17 45                | 18 08   | 34             | 19 20 67 | 29 67          |       |
| 14 | 30                                     | 24.5 | 30.8     | 188                                                                                                                                               | 30.1 | 7 32.7      | 9       | 20            | 28                   | 17 51   | 19             | 18 56 69 | 7 52 67        |       |
| 15 | 45                                     | 24.4 | 31.1     | 202                                                                                                                                               | 49.8 | 7 33.4      | 7       | 30            | 17 07                | 33      | 18 03          | 29 70    | 8 19 67        |       |
| 16 | 60                                     | 24.3 | 31.4     | 217                                                                                                                                               | 09.5 | 7 33.8      | 4       | 35            | 16 55                | 23      | 17 55          | 18 13 70 | 36 65          |       |
| 17 | 75                                     | 24.2 | +22 31.7 | 231                                                                                                                                               | 29.3 | 8 -27 34.1  | 3       | 40            | 16 42                | 17 12   | 17 46          | 17 54 71 | 8 54 66        |       |
| 18 | 90                                     | 24.1 | +22 31.9 | 245                                                                                                                                               | 49.0 | 7 -27 34.1  | 0       | 45            | 16 26                | 16 59   | 17 36          | 17 31 73 | 9 17 65        |       |
| 19 | 105                                    | 24.0 | 32.2     | 260                                                                                                                                               | 08.8 | 8 33.8      | 3       | 50            | 16 06                | 44      | 25             | 17 02 75 | 9 46 64        |       |
| 20 | 120                                    | 23.9 | 32.5     | 274                                                                                                                                               | 28.6 | 8 33.4      | 4       | 52            | 15 57                | 37      | 20             | 16 48 75 | 10 00 63       |       |
| 21 | 135                                    | 23.7 | 32.8     | 288                                                                                                                                               | 48.5 | 9 32.8      | 6       | 54            | 47                   | 29      | 15             | 31 77    | 17 62          |       |
| 22 | 150                                    | 23.6 | 33.0     | 303                                                                                                                                               | 08.4 | 9 31.9      | 9       | 56            | 35                   | 21      | 09             | 16 11 79 | 10 36 62       |       |
| 23 | 165                                    | 23.5 | 33.3     | 317                                                                                                                                               | 28.3 | 9 30.8      | 11      | 58            | 21                   | 11      | 17 03          | 15 47 80 | 11 01 59       |       |
| 24 | 180                                    | 23.4 | +22 33.6 | 331                                                                                                                                               | 48.3 | 10 -27 29.5 | 13      | 60 S          | 15 05                | 16 01   | 16 56          | 15 14 85 | 11 33 56       |       |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 7 <sup>h</sup> 07 <sup>m</sup> 7 |      | Mag: -4.1<br>PMG: 12 <sup>h</sup> 24 <sup>m</sup> |          | Mag: +1.8<br>PMG: 14 <sup>h</sup> 25 <sup>m</sup> |          | Mag: -2.1<br>PMG: 17 <sup>h</sup> 55 <sup>m</sup> |         | Mag: +0.1<br>PMG: 14 <sup>h</sup> 01 <sup>m</sup> |          |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec      |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                 | '        |
| 0   | 252                                   | 46.3 | 173 05.3                                          | +23 57.0 | 143 39.2                                          | +23 32.0 | 90 33.3                                           | +8 52.7 | 149 16.6                                          | +22 32.3 |
| 1   | 267                                   | 48.7 | 188 09.3                                          | 56.3     | 158 40.0                                          | 31.8     | 105 35.6                                          | 52.7    | 164 18.7                                          | 32.3     |
| 2   | 282                                   | 51.2 | 203 13.3                                          | 55.7     | 173 40.8                                          | 31.6     | 120 37.8                                          | 52.6    | 179 20.9                                          | 32.3     |
| 3   | 297                                   | 53.7 | 218 17.4                                          | 55.0     | 188 41.5                                          | 31.4     | 135 40.1                                          | 52.5    | 194 23.0                                          | 32.3     |
| 4   | 312                                   | 56.1 | 233 21.4                                          | 54.3     | 203 42.3                                          | 31.2     | 150 42.4                                          | 52.4    | 209 25.1                                          | 32.2     |
| 5   | 327                                   | 58.6 | 248 25.4                                          | +23 53.6 | 218 43.0                                          | +23 31.0 | 165 44.6                                          | +8 52.3 | 224 27.3                                          | +22 32.2 |
| 6   | 343                                   | 01.0 | 263 29.5                                          | +23 52.9 | 233 43.8                                          | +23 30.8 | 180 46.9                                          | +8 52.2 | 239 29.4                                          | +22 32.2 |
| 7   | 358                                   | 03.5 | 278 33.5                                          | 52.3     | 248 44.6                                          | 30.6     | 195 49.2                                          | 52.1    | 254 31.6                                          | 32.2     |
| 8   | 13                                    | 06.0 | 293 37.6                                          | 51.6     | 263 45.3                                          | 30.4     | 210 51.4                                          | 52.0    | 269 33.7                                          | 32.1     |
| 9   | 28                                    | 08.4 | 308 41.6                                          | 50.9     | 278 46.1                                          | 30.2     | 225 53.7                                          | 52.0    | 284 35.9                                          | 32.1     |
| 10  | 43                                    | 10.9 | 323 45.7                                          | 50.2     | 293 46.8                                          | 30.0     | 240 56.0                                          | 51.9    | 299 38.0                                          | 32.1     |
| 11  | 58                                    | 13.4 | 338 49.7                                          | +23 49.5 | 308 47.6                                          | +23 29.7 | 255 58.2                                          | +8 51.8 | 314 40.1                                          | +22 32.1 |
| 12  | 73                                    | 15.8 | 353 53.8                                          | +23 48.8 | 323 48.4                                          | +23 29.5 | 271 00.5                                          | +8 51.7 | 329 42.3                                          | +22 32.0 |
| 13  | 88                                    | 18.3 | 8 57.8                                            | 48.1     | 338 49.1                                          | 29.3     | 286 02.7                                          | 51.6    | 344 44.4                                          | 32.0     |
| 14  | 103                                   | 20.8 | 24 01.9                                           | 47.5     | 353 49.9                                          | 29.1     | 301 05.0                                          | 51.5    | 359 46.6                                          | 32.0     |
| 15  | 118                                   | 23.2 | 39 05.9                                           | 46.8     | 8 50.6                                            | 28.9     | 316 07.3                                          | 51.4    | 14 48.7                                           | 32.0     |
| 16  | 133                                   | 25.7 | 54 10.0                                           | 46.1     | 23 51.4                                           | 28.7     | 331 09.5                                          | 51.3    | 29 50.8                                           | 31.9     |
| 17  | 148                                   | 28.2 | 69 14.1                                           | +23 45.4 | 38 52.2                                           | +23 28.5 | 346 11.8                                          | +8 51.2 | 44 53.0                                           | +22 31.9 |
| 18  | 163                                   | 30.6 | 84 18.1                                           | +23 44.7 | 53 52.9                                           | +23 28.3 | 1 14.1                                            | +8 51.2 | 59 55.1                                           | +22 31.9 |
| 19  | 178                                   | 33.1 | 99 22.2                                           | 44.0     | 68 53.7                                           | 28.1     | 16 16.3                                           | 51.1    | 74 57.3                                           | 31.9     |
| 20  | 193                                   | 35.5 | 114 26.2                                          | 43.3     | 83 54.4                                           | 27.8     | 31 18.6                                           | 51.0    | 89 59.4                                           | 31.8     |
| 21  | 208                                   | 38.0 | 129 30.3                                          | 42.6     | 98 55.2                                           | 27.6     | 46 20.9                                           | 50.9    | 105 01.5                                          | 31.8     |
| 22  | 223                                   | 40.5 | 144 34.4                                          | 41.9     | 113 56.0                                          | 27.4     | 61 23.1                                           | 50.8    | 120 03.7                                          | 31.8     |
| 23  | 238                                   | 42.9 | 159 38.4                                          | 41.2     | 128 56.7                                          | 27.2     | 76 25.4                                           | 50.7    | 135 05.8                                          | 31.8     |
| 24  | 253                                   | 45.4 | 174 42.5                                          | +23 40.6 | 143 57.5                                          | +23 27.0 | 91 27.6                                           | +8 50.6 | 150 08.0                                          | +22 31.8 |
| Dif | —                                     |      | +41                                               | -7       | +8                                                | -2       | +23                                               | -1      | +21                                               |          |

| UT  | SOL                                                             |      |     |      | LUNA                                                                                                                                                                                                      |      |     |   |                                                   |      |     | Latitud | Principio del crepúsculo                          |       | Salida de Sol | Salida de Luna |                                                   |      | Puesta de Luna |      |     |  |  |  |   |  |
|-----|-----------------------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|---|---------------------------------------------------|------|-----|---------|---------------------------------------------------|-------|---------------|----------------|---------------------------------------------------|------|----------------|------|-----|--|--|--|---|--|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 5 |      |     |      | Edad: 16 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 61 <sup>m</sup> 0<br>12 <sup>h</sup> : 60 <sup>m</sup> 8<br>20 <sup>h</sup> : 60 <sup>m</sup> 6<br>PMG: 1 <sup>h</sup> 58 <sup>m</sup> R°: 65 <sup>m</sup> |      |     |   |                                                   |      |     |         |                                                   |       |               |                |                                                   |      |                |      |     |  |  |  |   |  |
|     | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                      |      | Dif |   | Dec                                               |      | Dif |         | Náutico                                           | Civil |               | Hora           | R°                                                | Hora | R°             |      |     |  |  |  |   |  |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                         | '    | °   | ' | °                                                 | '    | °   | '       | h                                                 | m     | h             | m              | h                                                 | m    | h              | m    | m   |  |  |  |   |  |
| 0   | 180                                                             | 23.4 | +22 | 33.6 | 331                                                                                                                                                                                                       | 48.3 |     |   | -27                                               | 29.5 | 15  | 60 N    | ** **                                             | 1 14  | 2 44          |                | 0 14                                              | 35   | 3 44           | 102  |     |  |  |  |   |  |
| 1   | 195                                                             | 23.3 |     | 33.8 | 346                                                                                                                                                                                                       | 08.3 | 10  |   |                                                   | 28.0 | 15  | 58      | ** **                                             | 1 52  | 3 02          |                | ** **                                             | **   | 4 18           | 94   |     |  |  |  |   |  |
| 2   | 210                                                             | 23.2 |     | 34.1 | 0                                                                                                                                                                                                         | 28.4 | 11  |   |                                                   | 26.3 | 17  | 56      | ** **                                             | 2 19  | 18            |                | ** **                                             | **   | 4 43           | 89   |     |  |  |  |   |  |
| 3   | 225                                                             | 23.1 |     | 34.4 | 14                                                                                                                                                                                                        | 48.5 | 11  |   |                                                   | 24.4 | 19  | 54      | 1 07                                              | 39    | 31            |                | 23 45                                             | 31   | 5 03           | 85   |     |  |  |  |   |  |
| 4   | 240                                                             | 23.0 |     | 34.7 | 29                                                                                                                                                                                                        | 08.7 | 12  |   |                                                   | 22.2 | 22  | 52      | 1 43                                              | 2 56  | 43            |                | 30 35                                             |      | 20             | 83   |     |  |  |  |   |  |
| 5   | 255                                                             | 22.9 | +22 | 34.9 | 43                                                                                                                                                                                                        | 28.9 | 12  |   | -27                                               | 19.9 | 23  | 50      | 2 08                                              | 3 10  | 3 53          |                | 23 17                                             | 37   | 5 34           | 81   |     |  |  |  |   |  |
| 6   | 270                                                             | 22.8 | +22 | 35.2 | 57                                                                                                                                                                                                        | 49.3 | 14  |   | -27                                               | 17.3 | 26  | 45      | 2 50                                              | 3 38  | 4 15          |                | 22 51                                             | 42   | 6 03           | 78   |     |  |  |  |   |  |
| 7   | 285                                                             | 22.6 |     | 35.5 | 72                                                                                                                                                                                                        | 09.6 | 13  |   |                                                   | 14.6 | 27  | 40      | 3 18                                              | 3 59  | 32            |                | 30 46                                             |      | 26             | 75   |     |  |  |  |   |  |
| 8   | 300                                                             | 22.5 |     | 35.7 | 86                                                                                                                                                                                                        | 30.1 | 15  |   |                                                   | 11.6 | 30  | 35      | 41                                                | 4 17  | 46            |                | 22 12                                             | 49   | 6 45           | 73   |     |  |  |  |   |  |
| 9   | 315                                                             | 22.4 |     | 36.0 | 100                                                                                                                                                                                                       | 50.6 | 15  |   |                                                   | 08.4 | 32  | 30      | 3 58                                              | 31    | 4 59          |                | 21 57                                             | 51   | 7 01           | 72   |     |  |  |  |   |  |
| 10  | 330                                                             | 22.3 |     | 36.3 | 115                                                                                                                                                                                                       | 11.2 | 16  |   |                                                   | 05.0 | 34  | 20      | 4 26                                              | 4 55  | 5 20          |                | 31 55                                             |      | 29             | 68   |     |  |  |  |   |  |
| 11  | 345                                                             | 22.2 | +22 | 36.5 | 129                                                                                                                                                                                                       | 31.8 | 16  |   | -27                                               | 01.4 | 36  | 10 N    | 4 48                                              | 5 15  | 5 38          |                | 21 09                                             | 58   | 7 52           | 66   |     |  |  |  |   |  |
| 12  | 0                                                               | 22.1 | +22 | 36.8 | 143                                                                                                                                                                                                       | 52.6 | 18  |   | -26                                               | 57.6 | 38  | 0       | 5 06                                              | 5 32  | 5 55          |                | 20 48                                             | 61   | 8 14           | 64   |     |  |  |  |   |  |
| 13  | 15                                                              | 22.0 |     | 37.1 | 158                                                                                                                                                                                                       | 13.4 | 18  |   |                                                   | 53.6 | 40  | 10 S    | 23                                                | 5 49  | 6 12          |                | 27 65                                             |      | 36             | 61   |     |  |  |  |   |  |
| 14  | 30                                                              | 21.9 |     | 37.3 | 172                                                                                                                                                                                                       | 34.4 | 20  |   |                                                   | 49.4 | 42  | 20      | 38                                                | 6 06  | 29            |                | 20 05                                             | 67   | 8 59           | 59   |     |  |  |  |   |  |
| 15  | 45                                                              | 21.8 |     | 37.6 | 186                                                                                                                                                                                                       | 55.4 | 20  |   |                                                   | 45.0 | 44  | 30      | 5 54                                              | 24    | 6 50          |                | 19 39                                             | 71   | 9 26           | 56   |     |  |  |  |   |  |
| 16  | 60                                                              | 21.6 |     | 37.8 | 201                                                                                                                                                                                                       | 16.5 | 21  |   |                                                   | 40.4 | 46  | 35      | 6 02                                              | 34    | 7 02          |                | 23 74                                             |      | 9 41           | 55   |     |  |  |  |   |  |
| 17  | 75                                                              | 21.5 | +22 | 38.1 | 215                                                                                                                                                                                                       | 37.7 | 22  |   | -26                                               | 35.6 | 48  | 40      | 6 11                                              | 6 45  | 7 15          |                | 19 05                                             | 77   | 10 00          | 52   |     |  |  |  |   |  |
| 18  | 90                                                              | 21.4 | +22 | 38.4 | 229                                                                                                                                                                                                       | 59.0 | 23  |   | -26                                               | 30.7 | 49  | 45      | 6 21                                              | 6 58  | 7 31          |                | 18 44                                             | 80   | 10 22          | 49   |     |  |  |  |   |  |
| 19  | 105                                                             | 21.3 |     | 38.6 | 244                                                                                                                                                                                                       | 20.4 | 24  |   |                                                   | 25.5 | 52  | 50      | 32                                                | 7 13  | 7 51          |                | 17 84                                             |      | 10 50          | 45   |     |  |  |  |   |  |
| 20  | 120                                                             | 21.2 |     | 38.9 | 258                                                                                                                                                                                                       | 41.9 | 25  |   |                                                   | 20.1 | 54  | 52      | 37                                                | 20    | 8 00          |                | 18 03                                             | 87   | 11 03          | 43   |     |  |  |  |   |  |
| 21  | 135                                                             | 21.1 |     | 39.1 | 273                                                                                                                                                                                                       | 03.5 | 26  |   |                                                   | 14.6 | 55  | 54      | 42                                                | 28    | 11            |                | 17 48                                             | 90   | 19             | 40   |     |  |  |  |   |  |
| 22  | 150                                                             | 21.0 |     | 39.4 | 287                                                                                                                                                                                                       | 25.2 | 27  |   |                                                   | 08.8 | 58  | 56      | 48                                                | 36    | 23            |                | 30 94                                             |      | 11 38          | 36   |     |  |  |  |   |  |
| 23  | 165                                                             | 20.9 |     | 39.7 | 301                                                                                                                                                                                                       | 47.0 | 28  |   | -26                                               | 02.9 | 59  | 58      | 6 54                                              | 46    | 37            |                | 17 07                                             | 100  | 12 00          | 31   |     |  |  |  |   |  |
| 24  | 180                                                             | 20.7 | +22 | 39.9 | 316                                                                                                                                                                                                       | 08.9 | 29  |   | -25                                               | 56.8 | 61  | 60 S    | 7 01                                              | 7 57  | 8 53          |                | 16 39                                             | 108  | 12 29          | 23   |     |  |  |  |   |  |
| UT  | ARIES                                                           |      |     |      | VENUS                                                                                                                                                                                                     |      |     |   | MARTE                                             |      |     |         | JÚPITER                                           |       |               |                | SATURNO                                           |      |                |      |     |  |  |  |   |  |
|     | PMG<br>7 <sup>h</sup> 03 <sup>m</sup> 8                         |      |     |      | Mag: -4.2<br>PMG: 12 <sup>h</sup> 18 <sup>m</sup>                                                                                                                                                         |      |     |   | Mag: +1.8<br>PMG: 14 <sup>h</sup> 23 <sup>m</sup> |      |     |         | Mag: -2.0<br>PMG: 17 <sup>h</sup> 51 <sup>m</sup> |       |               |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 57 <sup>m</sup> |      |                |      |     |  |  |  |   |  |
|     | hG ♈                                                            |      | Dec |      | hG ♀                                                                                                                                                                                                      |      | Dec |   | hG ♂                                              |      | Dec |         | hG ♃                                              |       | Dec           |                | hG ♄                                              |      | Dec            |      |     |  |  |  |   |  |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                         | '    | °   | ' | °                                                 | '    | °   | '       | °                                                 | '     | °             | '              | °                                                 | '    | °              | '    |     |  |  |  |   |  |
| 0   | 253                                                             | 45.4 | 174 | 42.5 | +23                                                                                                                                                                                                       | 40.6 |     |   | 143                                               | 57.5 | +23 | 27.0    | 91                                                | 27.6  | +8            | 50.6           | 150                                               | 08.0 | +22            | 31.8 |     |  |  |  |   |  |
| 1   | 268                                                             | 47.9 | 189 | 46.6 |                                                                                                                                                                                                           | 39.9 |     |   | 158                                               | 58.3 |     | 26.8    | 106                                               | 29.9  |               | 50.5           | 165                                               | 10.1 |                | 31.7 |     |  |  |  |   |  |
| 2   | 283                                                             | 50.3 | 204 | 50.6 |                                                                                                                                                                                                           | 39.2 |     |   | 173                                               | 59.0 |     | 26.6    | 121                                               | 32.2  |               | 50.4           | 180                                               | 12.2 |                | 31.7 |     |  |  |  |   |  |
| 3   | 298                                                             | 52.8 | 219 | 54.7 |                                                                                                                                                                                                           | 38.5 |     |   | 188                                               | 59.8 |     | 26.3    | 136                                               | 34.4  |               | 50.3           | 195                                               | 14.4 |                | 31.7 |     |  |  |  |   |  |
| 4   | 313                                                             | 55.3 | 234 | 58.8 |                                                                                                                                                                                                           | 37.8 |     |   | 204                                               | 00.5 |     | 26.1    | 151                                               | 36.7  |               | 50.3           | 210                                               | 16.5 |                | 31.7 |     |  |  |  |   |  |
| 5   | 328                                                             | 57.7 | 250 | 02.9 | +23                                                                                                                                                                                                       | 37.1 |     |   | 219                                               | 01.3 | +23 | 25.9    | 166                                               | 39.0  | +8            | 50.2           | 225                                               | 18.7 | +22            | 31.6 |     |  |  |  |   |  |
| 6   | 344                                                             | 00.2 | 265 | 06.9 | +23                                                                                                                                                                                                       | 36.4 |     |   | 234                                               | 02.1 | +23 | 25.7    | 181                                               | 41.2  | +8            | 50.1           | 240                                               | 20.8 | +22            | 31.6 |     |  |  |  |   |  |
| 7   | 359                                                             | 02.7 | 280 | 11.0 |                                                                                                                                                                                                           | 35.7 |     |   | 249                                               | 02.8 |     | 25.5    | 196                                               | 43.5  |               | 50.0           | 255                                               | 22.9 |                | 31.6 |     |  |  |  |   |  |
| 8   | 14                                                              | 05.1 | 295 | 15.1 |                                                                                                                                                                                                           | 35.0 |     |   | 264                                               | 03.6 |     | 25.3    | 211                                               | 45.7  |               | 49.9           | 270                                               | 25.1 |                | 31.6 |     |  |  |  |   |  |
| 9   | 29                                                              | 07.6 | 310 | 19.2 |                                                                                                                                                                                                           | 34.3 |     |   | 279                                               | 04.4 |     | 25.1    | 226                                               | 48.0  |               | 49.8           | 285                                               | 27.2 |                | 31.5 |     |  |  |  |   |  |
| 10  | 44                                                              | 10.0 | 325 | 23.2 |                                                                                                                                                                                                           | 33.6 |     |   | 294                                               | 05.1 |     | 24.8    | 241                                               | 50.3  |               | 49.7           | 300                                               | 29.4 |                | 31.5 |     |  |  |  |   |  |
| 11  | 59                                                              | 12.5 | 340 | 27.3 | +23                                                                                                                                                                                                       | 32.9 |     |   | 309                                               | 05.9 | +23 | 24.6    | 256                                               | 52.5  | +8            | 49.6           | 315                                               | 31.5 | +22            | 31.5 |     |  |  |  |   |  |
| 12  | 74                                                              | 15.0 | 355 | 31.4 | +23                                                                                                                                                                                                       | 32.2 |     |   | 324                                               | 06.6 | +23 | 24.4    | 271                                               | 54.8  | +8            | 49.5           | 330                                               | 33.6 | +22            | 31.5 |     |  |  |  |   |  |
| 13  | 89                                                              | 17.4 | 10  | 35.5 |                                                                                                                                                                                                           | 31.5 |     |   | 339                                               | 07.4 |     | 24.2    | 286                                               | 57.0  |               | 49.4           | 345                                               | 35.8 |                | 31.4 |     |  |  |  |   |  |
| 14  | 104                                                             | 19.9 | 25  | 39.6 |                                                                                                                                                                                                           | 30.8 |     |   | 354                                               | 08.2 |     | 24.0    | 301                                               | 59.3  |               | 49.4           | 0                                                 | 37.9 |                | 31.4 |     |  |  |  |   |  |
| 15  | 119                                                             | 22.4 | 40  | 43.6 |                                                                                                                                                                                                           | 30.1 |     |   | 9                                                 | 08.9 |     | 23.8    | 317                                               | 01.6  |               | 49.3           | 15                                                | 40.1 |                | 31.4 |     |  |  |  |   |  |
| 16  | 134                                                             | 24.8 | 55  | 47.7 |                                                                                                                                                                                                           | 29.4 |     |   | 24                                                | 09.7 |     | 23.5    | 332                                               | 03.8  |               | 49.2           | 30                                                | 42.2 |                | 31.4 |     |  |  |  |   |  |
| 17  | 149                                                             | 27.3 | 70  | 51.8 | +23                                                                                                                                                                                                       | 28.7 |     |   | 39                                                | 10.5 | +23 | 23.3    | 347                                               | 06.1  | +8            | 49.1           | 45                                                | 44.3 | +22            | 31.3 |     |  |  |  |   |  |
| 18  | 164                                                             | 29.8 | 85  | 55.9 | +23                                                                                                                                                                                                       | 28.0 |     |   | 54                                                | 11.2 | +23 | 23.1    | 2                                                 | 08.3  | +8            | 49.0           | 60                                                | 46.5 | +22            | 31.3 |     |  |  |  |   |  |
| 19  | 179                                                             | 32.2 | 101 | 00.0 |                                                                                                                                                                                                           | 27.2 |     |   | 69                                                | 12.0 |     | 22.9    | 17                                                | 10.6  |               | 48.9           | 75                                                | 48.6 |                | 31.3 |     |  |  |  |   |  |
| 20  | 194                                                             | 34.7 | 116 | 04.1 |                                                                                                                                                                                                           | 26.5 |     |   | 84                                                | 12.8 |     | 22.7    | 32                                                | 12.8  |               | 48.8           | 90                                                | 50.8 |                | 31.3 |     |  |  |  |   |  |
| 21  | 209                                                             | 37.2 | 131 | 08.2 |                                                                                                                                                                                                           | 25.8 |     |   | 99                                                | 13.5 |     | 22.4    | 47                                                | 15.1  |               | 48.7           | 105                                               | 52.9 |                | 31.2 |     |  |  |  |   |  |
| 22  | 224                                                             | 39.6 | 146 | 12.3 |                                                                                                                                                                                                           | 25.1 |     |   | 114                                               | 14.3 |     | 22.2    | 62                                                | 17.4  |               | 48.6           | 120                                               | 55.0 |                | 31.2 |     |  |  |  |   |  |
| 23  | 239                                                             | 42.1 | 161 | 16.3 |                                                                                                                                                                                                           | 24.4 |     |   | 129                                               | 15.0 |     | 22.0    | 77                                                | 19.6  |               | 48.5           | 135                                               | 57.2 |                | 31.2 |     |  |  |  |   |  |
| 24  | 254                                                             | 44.5 | 176 | 20.4 | +23                                                                                                                                                                                                       | 23.7 |     |   | 144                                               | 15.8 | +23 | 21.8    | 92                                                | 21.9  | +8            | 48.4           | 150                                               | 59.3 | +22            | 31.2 |     |  |  |  |   |  |
| Dif | —                                                               |      |     |      | +41                                                                                                                                                                                                       |      |     |   | -7                                                |      |     |         | +8                                                |       |               |                | -1                                                |      |                |      | +21 |  |  |  | 0 |  |



| UT | SOL                                    |      |          | LUNA                                                                                                                                           |      |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |           | Puesta de Luna |       |    |
|----|----------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|-------|----------------|-----------|----------------|-------|----|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 17 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 60 <sup>h</sup> 3<br>12 <sup>h</sup> : 60 <sup>h</sup> 1<br>20 <sup>h</sup> : 59 <sup>h</sup> 8 |      |          |         |               |                      |       |                |           |                |       |    |
|    | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 7 |      |          | PMG: 3 <sup>h</sup> 03 <sup>m</sup> R°: 60 <sup>m</sup>                                                                                        |      |          |         |               |                      |       |                |           |                |       |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                                                           | Dif  | Dec      | Dif     |               |                      | Civil | Náutico        | Hora      | R°             | Hora  | R° |
| h  | °                                      | '    | °        | °                                                                                                                                              | '    | °        | '       | °             | h m                  | h m   | h m            | h m m     |                | h m m |    |
| 0  | 180                                    | 20.7 | +22 39.9 | 316                                                                                                                                            | 08.9 | -25 56.8 | 63      | 60 N          | 21 16                | 22 49 | ** **          | 0 49 13   | 5 26 112       |       |    |
| 1  | 195                                    | 20.6 | 40.2     | 330                                                                                                                                            | 31.0 | 50.5     | 63      | 58            | 20 57                | 22 08 | ** **          | 23 21     | 5 52 103       |       |    |
| 2  | 210                                    | 20.5 | 40.4     | 344                                                                                                                                            | 53.1 | 44.1     | 64      | 56            | 41                   | 21 41 | ** **          | 0 02 27   | 6 12 97        |       |    |
| 3  | 225                                    | 20.4 | 40.7     | 359                                                                                                                                            | 15.4 | 37.4     | 67      | 54            | 27                   | 20    | 22 55          | ** **     | 28 93          |       |    |
| 4  | 240                                    | 20.3 | 40.9     | 13                                                                                                                                             | 37.8 | 30.6     | 68      | 52            | 16                   | 21 03 | 22 17          | ** **     | 43 89          |       |    |
| 5  | 255                                    | 20.2 | +22 41.2 | 28                                                                                                                                             | 00.3 | -25 23.6 | 70      | 50            | 20 05                | 20 49 | 21 52          | 23 54 26  | 6 55 87        |       |    |
| 6  | 270                                    | 20.1 | +22 41.4 | 42                                                                                                                                             | 22.9 | -25 16.4 | 72      | 45            | 19 44                | 20 20 | 21 09          | 23 33 32  | 7 21 81        |       |    |
| 7  | 285                                    | 20.0 | 41.7     | 56                                                                                                                                             | 45.7 | 09.1     | 73      | 40            | 26                   | 19 59 | 20 40          | 16 36     | 41 77          |       |    |
| 8  | 300                                    | 19.8 | 41.9     | 71                                                                                                                                             | 08.6 | -25 01.6 | 75      | 35            | 19 12                | 41    | 20 17          | 23 01 39  | 7 58 73        |       |    |
| 9  | 315                                    | 19.7 | 42.2     | 85                                                                                                                                             | 31.6 | -24 53.9 | 77      | 30            | 18 59                | 26    | 19 59          | 22 48 43  | 8 13 70        |       |    |
| 10 | 330                                    | 19.6 | 42.4     | 99                                                                                                                                             | 54.7 | 46.1     | 78      | 20            | 38                   | 19 02 | 31             | 26 48     | 37 66          |       |    |
| 11 | 345                                    | 19.5 | +22 42.7 | 114                                                                                                                                            | 18.0 | -24 38.1 | 80      | 10 N          | 18 19                | 18 42 | 19 09          | 22 07 52  | 8 58 63        |       |    |
| 12 | 0                                      | 19.4 | +22 42.9 | 128                                                                                                                                            | 41.3 | -24 30.0 | 81      | 0             | 18 02                | 18 25 | 18 51          | 21 49 56  | 9 18 59        |       |    |
| 13 | 15                                     | 19.3 | 43.2     | 143                                                                                                                                            | 04.9 | 21.7     | 83      | 10 S          | 17 45                | 18 08 | 34             | 32 59     | 37 56          |       |    |
| 14 | 30                                     | 19.2 | 43.4     | 157                                                                                                                                            | 28.5 | 13.2     | 85      | 20            | 28                   | 17 51 | 19             | 21 12 64  | 9 58 52        |       |    |
| 15 | 45                                     | 19.0 | 43.7     | 171                                                                                                                                            | 52.3 | -24 04.6 | 86      | 30            | 17 07                | 33    | 18 03          | 20 50 69  | 10 22 47       |       |    |
| 16 | 60                                     | 18.9 | 43.9     | 186                                                                                                                                            | 16.2 | -23 55.8 | 88      | 35            | 16 55                | 23    | 17 55          | 37 72     | 36 44          |       |    |
| 17 | 75                                     | 18.8 | +22 44.2 | 200                                                                                                                                            | 40.3 | -23 46.9 | 89      | 40            | 16 41                | 17 12 | 17 46          | 20 22 75  | 10 52 41       |       |    |
| 18 | 90                                     | 18.7 | +22 44.4 | 215                                                                                                                                            | 04.5 | -23 37.8 | 91      | 45            | 16 25                | 16 59 | 17 36          | 20 04 80  | 11 11 37       |       |    |
| 19 | 105                                    | 18.6 | 44.7     | 229                                                                                                                                            | 28.8 | 28.6     | 92      | 50            | 16 05                | 43    | 25             | 19 41 86  | 35 31          |       |    |
| 20 | 120                                    | 18.5 | 44.9     | 243                                                                                                                                            | 53.2 | 19.2     | 94      | 52            | 15 56                | 36    | 20             | 30 89     | 46 29          |       |    |
| 21 | 135                                    | 18.4 | 45.1     | 258                                                                                                                                            | 17.8 | 09.7     | 95      | 54            | 45                   | 28    | 14             | 18 92     | 11 59 25       |       |    |
| 22 | 150                                    | 18.2 | 45.4     | 272                                                                                                                                            | 42.5 | -23 00.1 | 96      | 56            | 33                   | 20    | 08             | 19 04 96  | 12 14 21       |       |    |
| 23 | 165                                    | 18.1 | 45.6     | 287                                                                                                                                            | 07.4 | -22 50.3 | 98      | 58            | 19                   | 16 10 | 17 02          | 18 47 102 | 31 16          |       |    |
| 24 | 180                                    | 18.0 | +22 45.9 | 301                                                                                                                                            | 32.4 | -22 40.4 | 99      | 60 S          | 15 03                | 15 59 | 16 55          | 18 27 108 | 12 52 9        |       |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 59 <sup>m</sup> 9 |      | Mag: -4.2<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 22 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 48 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 54 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 254                                   | 44.5 | 176                                               | 20.4 | 144                                               | 15.8 | 92                                                | 21.9 | 150                                               | 59.3 |
| 1   | 269                                   | 47.0 | 191                                               | 24.5 | 159                                               | 16.6 | 107                                               | 24.1 | 166                                               | 01.5 |
| 2   | 284                                   | 49.5 | 206                                               | 28.6 | 174                                               | 17.3 | 122                                               | 26.4 | 181                                               | 03.6 |
| 3   | 299                                   | 51.9 | 221                                               | 32.7 | 189                                               | 18.1 | 137                                               | 28.6 | 196                                               | 05.7 |
| 4   | 314                                   | 54.4 | 236                                               | 36.8 | 204                                               | 18.9 | 152                                               | 30.9 | 211                                               | 07.9 |
| 5   | 329                                   | 56.9 | 251                                               | 40.9 | 219                                               | 19.6 | 167                                               | 33.2 | 226                                               | 10.0 |
| 6   | 344                                   | 59.3 | 266                                               | 45.0 | 234                                               | 20.4 | 182                                               | 35.4 | 241                                               | 12.2 |
| 7   | 0                                     | 01.8 | 281                                               | 49.1 | 249                                               | 21.2 | 197                                               | 37.7 | 256                                               | 14.3 |
| 8   | 15                                    | 04.3 | 296                                               | 53.2 | 264                                               | 21.9 | 212                                               | 39.9 | 271                                               | 16.4 |
| 9   | 30                                    | 06.7 | 311                                               | 57.3 | 279                                               | 22.7 | 227                                               | 42.2 | 286                                               | 18.6 |
| 10  | 45                                    | 09.2 | 327                                               | 01.4 | 294                                               | 23.5 | 242                                               | 44.4 | 301                                               | 20.7 |
| 11  | 60                                    | 11.7 | 342                                               | 05.5 | 309                                               | 24.2 | 257                                               | 46.7 | 316                                               | 22.8 |
| 12  | 75                                    | 14.1 | 357                                               | 09.6 | 324                                               | 25.0 | 272                                               | 48.9 | 331                                               | 25.0 |
| 13  | 90                                    | 16.6 | 12                                                | 13.7 | 339                                               | 25.7 | 287                                               | 51.2 | 346                                               | 27.1 |
| 14  | 105                                   | 19.0 | 27                                                | 17.8 | 354                                               | 26.5 | 302                                               | 53.4 | 1                                                 | 29.3 |
| 15  | 120                                   | 21.5 | 42                                                | 21.9 | 9                                                 | 27.3 | 317                                               | 55.7 | 16                                                | 31.4 |
| 16  | 135                                   | 24.0 | 57                                                | 26.0 | 24                                                | 28.0 | 332                                               | 57.9 | 31                                                | 33.5 |
| 17  | 150                                   | 26.4 | 72                                                | 30.1 | 39                                                | 28.8 | 348                                               | 00.2 | 46                                                | 35.7 |
| 18  | 165                                   | 28.9 | 87                                                | 34.2 | 54                                                | 29.6 | 3                                                 | 02.4 | 61                                                | 37.8 |
| 19  | 180                                   | 31.4 | 102                                               | 38.3 | 69                                                | 30.3 | 18                                                | 04.7 | 76                                                | 39.9 |
| 20  | 195                                   | 33.8 | 117                                               | 42.4 | 84                                                | 31.1 | 33                                                | 07.0 | 91                                                | 42.1 |
| 21  | 210                                   | 36.3 | 132                                               | 46.5 | 99                                                | 31.9 | 48                                                | 09.2 | 106                                               | 44.2 |
| 22  | 225                                   | 38.8 | 147                                               | 50.6 | 114                                               | 32.6 | 63                                                | 11.5 | 121                                               | 46.4 |
| 23  | 240                                   | 41.2 | 162                                               | 54.7 | 129                                               | 33.4 | 78                                                | 13.7 | 136                                               | 48.5 |
| 24  | 255                                   | 43.7 | 177                                               | 58.8 | 144                                               | 34.2 | 93                                                | 16.0 | 151                                               | 50.6 |
| Dif | —                                     |      | +41                                               | -7   | +8                                                | -2   | +23                                               | -1   | +21                                               | 0    |

| UT  | SOL                                                             |      |     |      | LUNA                                                                                                              |      |     |          | Latitud                                           | Principio del crepúsculo |       | Salida de Sol | Salida de Luna                                    |      |      | Puesta de Luna |                                                   |      |     |   |
|-----|-----------------------------------------------------------------|------|-----|------|-------------------------------------------------------------------------------------------------------------------|------|-----|----------|---------------------------------------------------|--------------------------|-------|---------------|---------------------------------------------------|------|------|----------------|---------------------------------------------------|------|-----|---|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 9 |      |     |      | Edad: 18 <sup>d</sup> 8 PHE {<br>SD: 16 <sup>h</sup> 3<br>PMG: 4 <sup>h</sup> 03 <sup>m</sup> R°: 54 <sup>m</sup> |      |     |          |                                                   |                          |       |               |                                                   |      |      |                |                                                   |      |     |   |
|     | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                              |      | Dif |          |                                                   | Náutico                  | Civil |               | Hora                                              | R°   | Hora | R°             |                                                   |      |     |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                 | '    | °   | '        | °                                                 | h                        | m     | h             | m                                                 | h    | m    | m              | h                                                 | m    | m   |   |
| 0   | 180                                                             | 18.0 | +22 | 45.9 | 301                                                                                                               | 32.4 | -22 | 40.4     | 60 N                                              | ** **                    | 1 09  | 2 41          | 1 02                                              | 5    | 7    | 18             | 106                                               |      |     |   |
| 1   | 195                                                             | 17.9 |     | 46.1 | 315                                                                                                               | 57.6 | 62  | 30.4     | 58                                                | ** **                    | 1 49  | 3 01          | 0 44                                              | 11   | 35   | 100            |                                                   |      |     |   |
| 2   | 210                                                             | 17.8 |     | 46.3 | 330                                                                                                               | 22.8 | 62  | 20.2     | 56                                                | ** **                    | 2 16  | 16            | 29                                                | 16   | 7    | 49             | 95                                                |      |     |   |
| 3   | 225                                                             | 17.7 |     | 46.6 | 344                                                                                                               | 48.3 | 65  | -22 09.9 | 54                                                | 1 03                     | 37    | 30            | 16                                                | 20   | 8    | 01             | 91                                                |      |     |   |
| 4   | 240                                                             | 17.5 |     | 46.8 | 359                                                                                                               | 13.8 | 65  | -21 59.5 | 52                                                | 1 40                     | 2 54  | 42            | 0 05                                              | 23   | 12   | 88             |                                                   |      |     |   |
| 5   | 255                                                             | 17.4 | +22 | 47.0 | 13                                                                                                                | 39.5 | 67  | -21 48.9 | 50                                                | 2 05                     | 3 08  | 3 52          | ** **                                             | **   | 8    | 22             | 84                                                |      |     |   |
| 6   | 270                                                             | 17.3 | +22 | 47.3 | 28                                                                                                                | 05.3 | 68  | -21 38.3 | 45                                                | 2 48                     | 3 37  | 4 14          | ** **                                             | **   | 8    | 42             | 78                                                |      |     |   |
| 7   | 285                                                             | 17.2 |     | 47.5 | 42                                                                                                                | 31.3 | 70  | 27.5     | 40                                                | 3 18                     | 3 59  | 31            | 23                                                | 52   | 9    | 58             | 74                                                |      |     |   |
| 8   | 300                                                             | 17.1 |     | 47.8 | 56                                                                                                                | 57.4 | 71  | 16.6     | 35                                                | 40                       | 4 16  | 46            | 40                                                | 33   | 9    | 11             | 71                                                |      |     |   |
| 9   | 315                                                             | 17.0 |     | 48.0 | 71                                                                                                                | 23.6 | 72  | -21 05.6 | 30                                                | 3 58                     | 31    | 4 58          | 31                                                | 35   | 23   | 67             |                                                   |      |     |   |
| 10  | 330                                                             | 16.8 |     | 48.2 | 85                                                                                                                | 50.0 | 74  | -20 54.4 | 20                                                | 4 26                     | 4 55  | 5 20          | 23                                                | 14   | 41   | 9              | 43                                                | 62   |     |   |
| 11  | 345                                                             | 16.7 | +22 | 48.4 | 100                                                                                                               | 16.5 | 75  | -20 43.2 | 10 N                                              | 4 48                     | 5 15  | 5 38          | 22                                                | 59   | 46   | 10             | 01                                                | 57   |     |   |
| 12  | 0                                                               | 16.6 | +22 | 48.7 | 114                                                                                                               | 43.2 | 77  | -20 31.8 | 0                                                 | 5 07                     | 5 33  | 5 55          | 22                                                | 45   | 50   | 10             | 17                                                | 53   |     |   |
| 13  | 15                                                              | 16.5 |     | 48.9 | 129                                                                                                               | 10.0 | 78  | 20.4     | 10 S                                              | 23                       | 5 49  | 6 12          | 31                                                | 55   |      | 33             | 48                                                |      |     |   |
| 14  | 30                                                              | 16.4 |     | 49.1 | 143                                                                                                               | 36.9 | 79  | -20 08.8 | 20                                                | 39                       | 6 06  | 30            | 22                                                | 16   | 59   | 10             | 50                                                | 44   |     |   |
| 15  | 45                                                              | 16.2 |     | 49.4 | 158                                                                                                               | 04.0 | 81  | -19 57.1 | 30                                                | 5 55                     | 24    | 6 51          | 21                                                | 59   | 65   | 11             | 09                                                | 39   |     |   |
| 16  | 60                                                              | 16.1 |     | 49.6 | 172                                                                                                               | 31.2 | 82  | 45.3     | 35                                                | 6 03                     | 35    | 7 03          | 49                                                | 68   |      | 20             | 36                                                |      |     |   |
| 17  | 75                                                              | 16.0 | +22 | 49.8 | 186                                                                                                               | 58.5 | 83  | -19 33.5 | 40                                                | 6 12                     | 6 46  | 7 16          | 21                                                | 37   | 72   | 11             | 33                                                | 32   |     |   |
| 18  | 90                                                              | 15.9 | +22 | 50.1 | 201                                                                                                               | 25.9 | 84  | -19 21.5 | 45                                                | 6 22                     | 6 59  | 7 33          | 21                                                | 24   | 76   | 11             | 48                                                | 28   |     |   |
| 19  | 105                                                             | 15.8 |     | 50.3 | 215                                                                                                               | 53.5 | 86  | -19 09.4 | 50                                                | 33                       | 7 15  | 7 53          | 21                                                | 07   | 82   | 12             | 06                                                | 23   |     |   |
| 20  | 120                                                             | 15.7 |     | 50.5 | 230                                                                                                               | 21.3 | 88  | -18 57.3 | 52                                                | 38                       | 22    | 8 02          | 20                                                | 59   | 85   | 15             | 20                                                |      |     |   |
| 21  | 135                                                             | 15.5 |     | 50.7 | 244                                                                                                               | 49.1 | 88  | 45.0     | 54                                                | 44                       | 30    | 13            | 50                                                | 88   |      | 24             | 17                                                |      |     |   |
| 22  | 150                                                             | 15.4 |     | 51.0 | 259                                                                                                               | 17.1 | 90  | 32.7     | 56                                                | 50                       | 38    | 25            | 40                                                | 92   |      | 35             | 13                                                |      |     |   |
| 23  | 165                                                             | 15.3 |     | 51.2 | 273                                                                                                               | 45.2 | 91  | 20.3     | 58                                                | 6 56                     | 48    | 39            | 29                                                | 96   |      | 12             | 47                                                | 10   |     |   |
| 24  | 180                                                             | 15.2 | +22 | 51.4 | 288                                                                                                               | 13.5 | 93  | -18 07.8 | 60 S                                              | 7 03                     | 7 59  | 8 55          | 20                                                | 15   | 101  | 13             | 01                                                | 5    |     |   |
| UT  | ARIES                                                           |      |     |      | VENUS                                                                                                             |      |     |          | MARTE                                             |                          |       |               | JÚPITER                                           |      |      |                | SATURNO                                           |      |     |   |
|     | PMG: 6 <sup>h</sup> 55 <sup>m</sup> 9                           |      |     |      | Mag: -4.2<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup>                                                                 |      |     |          | Mag: +1.8<br>PMG: 14 <sup>h</sup> 21 <sup>m</sup> |                          |       |               | Mag: -2.0<br>PMG: 17 <sup>h</sup> 44 <sup>m</sup> |      |      |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 51 <sup>m</sup> |      |     |   |
|     | hG ♈                                                            |      | Dec |      | hG ♀                                                                                                              |      | Dec |          | hG ♂                                              |                          | Dec   |               | hG ♃                                              |      | Dec  |                | hG ♄                                              |      | Dec |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                 | '    | °   | '        | °                                                 | '                        | °     | '             | °                                                 | '    | °    | '              | °                                                 | '    | °   | ' |
| 0   | 255                                                             | 43.7 | 177 | 58.8 | +23                                                                                                               | 06.6 | 144 | 34.2     | +23                                               | 16.4                     | 93    | 16.0          | +8                                                | 46.2 | 151  | 50.6           | +22                                               | 30.6 |     |   |
| 1   | 270                                                             | 46.2 | 193 | 02.9 |                                                                                                                   | 05.8 | 159 | 34.9     |                                                   | 16.2                     | 108   | 18.2          |                                                   | 46.1 | 166  | 52.8           |                                                   | 30.6 |     |   |
| 2   | 285                                                             | 48.6 | 208 | 07.0 |                                                                                                                   | 05.1 | 174 | 35.7     |                                                   | 15.9                     | 123   | 20.5          |                                                   | 46.0 | 181  | 54.9           |                                                   | 30.5 |     |   |
| 3   | 300                                                             | 51.1 | 223 | 11.1 |                                                                                                                   | 04.4 | 189 | 36.5     |                                                   | 15.7                     | 138   | 22.7          |                                                   | 45.9 | 196  | 57.0           |                                                   | 30.5 |     |   |
| 4   | 315                                                             | 53.5 | 238 | 15.2 |                                                                                                                   | 03.7 | 204 | 37.2     |                                                   | 15.5                     | 153   | 25.0          |                                                   | 45.8 | 211  | 59.2           |                                                   | 30.5 |     |   |
| 5   | 330                                                             | 56.0 | 253 | 19.3 | +23                                                                                                               | 03.0 | 219 | 38.0     | +23                                               | 15.3                     | 168   | 27.2          | +8                                                | 45.7 | 227  | 01.3           | +22                                               | 30.5 |     |   |
| 6   | 345                                                             | 58.5 | 268 | 23.4 | +23                                                                                                               | 02.2 | 234 | 38.8     | +23                                               | 15.0                     | 183   | 29.5          | +8                                                | 45.6 | 242  | 03.5           | +22                                               | 30.4 |     |   |
| 7   | 1                                                               | 00.9 | 283 | 27.5 |                                                                                                                   | 01.5 | 249 | 39.5     |                                                   | 14.8                     | 198   | 31.7          |                                                   | 45.5 | 257  | 05.6           |                                                   | 30.4 |     |   |
| 8   | 16                                                              | 03.4 | 298 | 31.6 |                                                                                                                   | 00.8 | 264 | 40.3     |                                                   | 14.6                     | 213   | 34.0          |                                                   | 45.4 | 272  | 07.7           |                                                   | 30.4 |     |   |
| 9   | 31                                                              | 05.9 | 313 | 35.7 | +23                                                                                                               | 00.1 | 279 | 41.1     |                                                   | 14.3                     | 228   | 36.2          |                                                   | 45.3 | 287  | 09.9           |                                                   | 30.4 |     |   |
| 10  | 46                                                              | 08.3 | 328 | 39.8 | +22                                                                                                               | 59.3 | 294 | 41.8     |                                                   | 14.1                     | 243   | 38.5          |                                                   | 45.2 | 302  | 12.0           |                                                   | 30.3 |     |   |
| 11  | 61                                                              | 10.8 | 343 | 43.9 | +22                                                                                                               | 58.6 | 309 | 42.6     | +23                                               | 13.9                     | 258   | 40.7          | +8                                                | 45.2 | 317  | 14.1           | +22                                               | 30.3 |     |   |
| 12  | 76                                                              | 13.3 | 358 | 48.1 | +22                                                                                                               | 57.9 | 324 | 43.4     | +23                                               | 13.6                     | 273   | 43.0          | +8                                                | 45.1 | 332  | 16.3           | +22                                               | 30.3 |     |   |
| 13  | 91                                                              | 15.7 | 13  | 52.2 |                                                                                                                   | 57.2 | 339 | 44.2     |                                                   | 13.4                     | 288   | 45.2          |                                                   | 45.0 | 347  | 18.4           |                                                   | 30.3 |     |   |
| 14  | 106                                                             | 18.2 | 28  | 56.3 |                                                                                                                   | 56.4 | 354 | 44.9     |                                                   | 13.2                     | 303   | 47.4          |                                                   | 44.9 | 2    | 20.6           |                                                   | 30.2 |     |   |
| 15  | 121                                                             | 20.6 | 44  | 00.4 |                                                                                                                   | 55.7 | 9   | 45.7     |                                                   | 12.9                     | 318   | 49.7          |                                                   | 44.8 | 17   | 22.7           |                                                   | 30.2 |     |   |
| 16  | 136                                                             | 23.1 | 59  | 04.5 |                                                                                                                   | 55.0 | 24  | 46.5     |                                                   | 12.7                     | 333   | 51.9          |                                                   | 44.7 | 32   | 24.8           |                                                   | 30.2 |     |   |
| 17  | 151                                                             | 25.6 | 74  | 08.6 | +22                                                                                                               | 54.3 | 39  | 47.2     | +23                                               | 12.5                     | 348   | 54.2          | +8                                                | 44.6 | 47   | 27.0           | +22                                               | 30.2 |     |   |
| 18  | 166                                                             | 28.0 | 89  | 12.7 | +22                                                                                                               | 53.5 | 54  | 48.0     | +23                                               | 12.2                     | 3     | 56.4          | +8                                                | 44.5 | 62   | 29.1           | +22                                               | 30.1 |     |   |
| 19  | 181                                                             | 30.5 | 104 | 16.8 |                                                                                                                   | 52.8 | 69  | 48.8     |                                                   | 12.0                     | 18    | 58.7          |                                                   | 44.4 | 77   | 31.2           |                                                   | 30.1 |     |   |
| 20  | 196                                                             | 33.0 | 119 | 20.9 |                                                                                                                   | 52.1 | 84  | 49.5     |                                                   | 11.8                     | 34    | 00.9          |                                                   | 44.3 | 92   | 33.4           |                                                   | 30.1 |     |   |
| 21  | 211                                                             | 35.4 | 134 | 25.0 |                                                                                                                   | 51.3 | 99  | 50.3     |                                                   | 11.5                     | 49    | 03.2          |                                                   | 44.2 | 107  | 35.5           |                                                   | 30.1 |     |   |
| 22  | 226                                                             | 37.9 | 149 | 29.1 |                                                                                                                   | 50.6 | 114 | 51.1     |                                                   | 11.3                     | 64    | 05.4          |                                                   | 44.1 | 122  | 37.6           |                                                   | 30.0 |     |   |
| 23  | 241                                                             | 40.4 | 164 | 33.2 |                                                                                                                   | 49.9 | 129 | 51.8     |                                                   | 11.1                     | 79    | 07.7          |                                                   | 44.0 | 137  | 39.8           |                                                   | 30.0 |     |   |
| 24  | 256                                                             | 42.8 | 179 | 37.3 | +22                                                                                                               | 49.2 | 144 | 52.6     | +23                                               | 10.8                     | 94    | 09.9          | +8                                                | 43.9 | 152  | 41.9           | +22                                               | 30.0 |     |   |
| Dif | —                                                               |      | +41 |      | -7                                                                                                                |      | +8  |          | -2                                                |                          | +22   |               | -1                                                |      | +21  |                | 0                                                 |      |     |   |

| UT   | SOL                                    |      |          | LUNA                                                                                                                                           |      |          | Latitud | Puesta de Sol | Final del crepúsculo                |       | Salida de Luna |                     | Puesta de Luna |  |
|------|----------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|-------------------------------------|-------|----------------|---------------------|----------------|--|
|      | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 19 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 6<br>12 <sup>h</sup> : 58 <sup>m</sup> 3<br>20 <sup>h</sup> : 58 <sup>m</sup> 0 |      |          |         |               |                                     |       |                |                     |                |  |
|      | PMG: 11 <sup>h</sup> 59 <sup>m</sup> 1 |      |          | SD: 16 <sup>h</sup> 0                                                                                                                          |      |          |         |               | PMG: 4 <sup>h</sup> 57 <sup>m</sup> |       |                | R°: 50 <sup>m</sup> |                |  |
| hG ☉ | Dec                                    |      | hG ☾     | Dif                                                                                                                                            | Dec  | Dif      |         | Civil         | Náutico                             | Hora  | R°             | Hora                | R°             |  |
| h    | °                                      | '    | °        | '                                                                                                                                              | °    | '        | °       | h m           | h m                                 | h m   |                | h m m               | h m m          |  |
| 0    | 180                                    | 15.2 | +22 51.4 | 288                                                                                                                                            | 13.5 | -18 07.8 | 93      | 60 N          | 21 19                               | 22 54 | ** **          | 1 07 2              | 9 04 98        |  |
| 1    | 195                                    | 15.1 | 51.6     | 302                                                                                                                                            | 41.8 | -17 55.2 | 126     | 58            | 20 59                               | 22 11 | ** **          | 0 55 7              | 15 93          |  |
| 2    | 210                                    | 14.9 | 51.8     | 317                                                                                                                                            | 10.3 | 42.5     | 127     | 56            | 43                                  | 21 44 | ** **          | 45 10               | 24 89          |  |
| 3    | 225                                    | 14.8 | 52.1     | 331                                                                                                                                            | 38.9 | 29.7     | 128     | 54            | 29                                  | 23    | 23 00          | 36 14               | 32 86          |  |
| 4    | 240                                    | 14.7 | 52.3     | 346                                                                                                                                            | 07.7 | 16.9     | 128     | 52            | 17                                  | 21 05 | 22 20          | 28 16               | 40 83          |  |
| 5    | 255                                    | 14.6 | +22 52.5 | 0                                                                                                                                              | 36.6 | -17 04.0 | 129     | 50            | 20 07                               | 20 51 | 21 54          | 0 20 20             | 9 46 81        |  |
| 6    | 270                                    | 14.5 | +22 52.7 | 15                                                                                                                                             | 05.6 | -16 51.0 | 130     | 45            | 19 45                               | 20 22 | 21 11          | 0 05 24             | 10 00 75       |  |
| 7    | 285                                    | 14.3 | 52.9     | 29                                                                                                                                             | 34.7 | 38.0     | 130     | 40            | 27                                  | 20 00 | 20 41          | ** **               | 12 70          |  |
| 8    | 300                                    | 14.2 | 53.2     | 44                                                                                                                                             | 03.9 | 24.8     | 132     | 35            | 13                                  | 19 42 | 19             | ** **               | 22 66          |  |
| 9    | 315                                    | 14.1 | 53.4     | 58                                                                                                                                             | 33.3 | -16 11.6 | 132     | 30            | 19 00                               | 27    | 20 00          | ** **               | 30 63          |  |
| 10   | 330                                    | 14.0 | 53.6     | 73                                                                                                                                             | 02.7 | -15 58.4 | 132     | 20            | 18 38                               | 19 03 | 19 32          | 23 55 37            | 45 57          |  |
| 11   | 345                                    | 13.9 | +22 53.8 | 87                                                                                                                                             | 32.3 | -15 45.1 | 133     | 10 N          | 18 20                               | 18 43 | 19 10          | 23 45 41            | 10 58 52       |  |
| 12   | 0                                      | 13.7 | +22 54.0 | 102                                                                                                                                            | 02.0 | -15 31.7 | 134     | 0             | 18 03                               | 18 25 | 18 51          | 23 35 46            | 11 10 48       |  |
| 13   | 15                                     | 13.6 | 54.2     | 116                                                                                                                                            | 31.9 | 18.2     | 135     | 10 S          | 17 46                               | 18 08 | 35             | 26 50               | 21 44          |  |
| 14   | 30                                     | 13.5 | 54.5     | 131                                                                                                                                            | 01.8 | -15 04.7 | 135     | 20            | 28                                  | 17 52 | 19             | 15 56               | 34 39          |  |
| 15   | 45                                     | 13.4 | 54.7     | 145                                                                                                                                            | 31.9 | -14 51.1 | 136     | 30            | 17 07                               | 33    | 18 03          | 23 04 61            | 48 33          |  |
| 16   | 60                                     | 13.3 | 54.9     | 160                                                                                                                                            | 02.0 | 37.5     | 136     | 35            | 16 55                               | 23    | 17 54          | 22 57 64            | 11 56 30       |  |
| 17   | 75                                     | 13.1 | +22 55.1 | 174                                                                                                                                            | 32.3 | -14 23.8 | 137     | 40            | 16 41                               | 17 11 | 17 45          | 22 49 68            | 12 05 27       |  |
| 18   | 90                                     | 13.0 | +22 55.3 | 189                                                                                                                                            | 02.7 | -14 10.1 | 137     | 45            | 16 25                               | 16 58 | 17 35          | 22 40 72            | 12 16 22       |  |
| 19   | 105                                    | 12.9 | 55.5     | 203                                                                                                                                            | 33.2 | -13 56.3 | 138     | 50            | 16 05                               | 43    | 24             | 29 78               | 29 17          |  |
| 20   | 120                                    | 12.8 | 55.7     | 218                                                                                                                                            | 03.8 | 42.4     | 139     | 52            | 15 55                               | 36    | 19             | 24 80               | 35 15          |  |
| 21   | 135                                    | 12.7 | 55.9     | 232                                                                                                                                            | 34.5 | 28.5     | 139     | 54            | 44                                  | 28    | 13             | 18 83               | 41 12          |  |
| 22   | 150                                    | 12.5 | 56.1     | 247                                                                                                                                            | 05.3 | 14.6     | 139     | 56            | 32                                  | 19    | 08             | 12 86               | 48 10          |  |
| 23   | 165                                    | 12.4 | 56.3     | 261                                                                                                                                            | 36.2 | -13 00.6 | 140     | 58            | 18                                  | 16 09 | 17 01          | 22 05 89            | 12 57 5        |  |
| 24   | 180                                    | 12.3 | +22 56.5 | 276                                                                                                                                            | 07.2 | -12 46.6 | 140     | 60 S          | 15 01                               | 15 58 | 16 54          | 21 56 94            | 13 06 2        |  |

| UT  | ARIES                                 |      | VENUS                                             |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |
|-----|---------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 6 <sup>h</sup> 52 <sup>m</sup> 0 |      | Mag: -4.2<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> |          | Mag: +1.8<br>PMG: 14 <sup>h</sup> 20 <sup>m</sup> |          | Mag: -2.0<br>PMG: 17 <sup>h</sup> 41 <sup>m</sup> |         | Mag: +0.1<br>PMG: 13 <sup>h</sup> 47 <sup>m</sup> |          |
|     | hG ♈                                  | hG ♀ | Dec                                               | hG ♂     | Dec                                               | hG ♎     | Dec                                               | hG ♏    | Dec                                               |          |
| h   | °                                     | '    | °                                                 | '        | °                                                 | '        | °                                                 | '       | °                                                 | '        |
| 0   | 256                                   | 42.8 | 179 37.3                                          | +22 49.2 | 144 52.6                                          | +23 10.8 | 94 09.9                                           | +8 43.9 | 152 41.9                                          | +22 30.0 |
| 1   | 271                                   | 45.3 | 194 41.4                                          | 48.4     | 159 53.4                                          | 10.6     | 109 12.2                                          | 43.8    | 167 44.1                                          | 30.0     |
| 2   | 286                                   | 47.8 | 209 45.5                                          | 47.7     | 174 54.1                                          | 10.4     | 124 14.4                                          | 43.7    | 182 46.2                                          | 29.9     |
| 3   | 301                                   | 50.2 | 224 49.6                                          | 47.0     | 189 54.9                                          | 10.1     | 139 16.6                                          | 43.6    | 197 48.3                                          | 29.9     |
| 4   | 316                                   | 52.7 | 239 53.7                                          | 46.2     | 204 55.7                                          | 09.9     | 154 18.9                                          | 43.5    | 212 50.5                                          | 29.9     |
| 5   | 331                                   | 55.1 | 254 57.8                                          | +22 45.5 | 219 56.5                                          | +23 09.7 | 169 21.1                                          | +8 43.4 | 227 52.6                                          | +22 29.9 |
| 6   | 346                                   | 57.6 | 270 01.9                                          | +22 44.8 | 234 57.2                                          | +23 09.4 | 184 23.4                                          | +8 43.3 | 242 54.7                                          | +22 29.8 |
| 7   | 2                                     | 00.1 | 285 06.0                                          | 44.0     | 249 58.0                                          | 09.2     | 199 25.6                                          | 43.2    | 257 56.9                                          | 29.8     |
| 8   | 17                                    | 02.5 | 300 10.1                                          | 43.3     | 264 58.8                                          | 09.0     | 214 27.9                                          | 43.1    | 272 59.0                                          | 29.8     |
| 9   | 32                                    | 05.0 | 315 14.3                                          | 42.5     | 279 59.5                                          | 08.7     | 229 30.1                                          | 43.0    | 288 01.1                                          | 29.8     |
| 10  | 47                                    | 07.5 | 330 18.4                                          | 41.8     | 295 00.3                                          | 08.5     | 244 32.3                                          | 42.9    | 303 03.3                                          | 29.7     |
| 11  | 62                                    | 09.9 | 345 22.5                                          | +22 41.1 | 310 01.1                                          | +23 08.2 | 259 34.6                                          | +8 42.8 | 318 05.4                                          | +22 29.7 |
| 12  | 77                                    | 12.4 | 0 26.6                                            | +22 40.4 | 325 01.8                                          | +23 08.0 | 274 36.8                                          | +8 42.7 | 333 07.5                                          | +22 29.7 |
| 13  | 92                                    | 14.9 | 15 30.7                                           | 39.7     | 340 02.6                                          | 07.8     | 289 39.1                                          | 42.6    | 348 09.7                                          | 29.7     |
| 14  | 107                                   | 17.3 | 30 34.8                                           | 38.9     | 355 03.4                                          | 07.5     | 304 41.3                                          | 42.5    | 3 11.8                                            | 29.6     |
| 15  | 122                                   | 19.8 | 45 38.9                                           | 38.2     | 10 04.2                                           | 07.3     | 319 43.6                                          | 42.4    | 18 14.0                                           | 29.6     |
| 16  | 137                                   | 22.3 | 60 43.0                                           | 37.5     | 25 04.9                                           | 07.1     | 334 45.8                                          | 42.3    | 33 16.1                                           | 29.6     |
| 17  | 152                                   | 24.7 | 75 47.1                                           | +22 36.7 | 40 05.7                                           | +23 06.8 | 349 48.0                                          | +8 42.2 | 48 18.2                                           | +22 29.6 |
| 18  | 167                                   | 27.2 | 90 51.2                                           | +22 36.0 | 55 06.5                                           | +23 06.6 | 4 50.3                                            | +8 42.1 | 63 20.4                                           | +22 29.5 |
| 19  | 182                                   | 29.6 | 105 55.3                                          | 35.3     | 70 07.2                                           | 06.3     | 19 52.5                                           | 42.0    | 78 22.5                                           | 29.5     |
| 20  | 197                                   | 32.1 | 120 59.4                                          | 34.5     | 85 08.0                                           | 06.1     | 34 54.8                                           | 42.0    | 93 24.6                                           | 29.5     |
| 21  | 212                                   | 34.6 | 136 03.5                                          | 33.8     | 100 08.8                                          | 05.8     | 49 57.0                                           | 41.9    | 108 26.8                                          | 29.5     |
| 22  | 227                                   | 37.0 | 151 07.6                                          | 33.1     | 115 09.6                                          | 05.6     | 64 59.2                                           | 41.8    | 123 28.9                                          | 29.4     |
| 23  | 242                                   | 39.5 | 166 11.7                                          | 32.3     | 130 10.3                                          | 05.4     | 80 01.5                                           | 41.7    | 138 31.0                                          | 29.4     |
| 24  | 257                                   | 42.0 | 181 15.8                                          | +22 31.6 | 145 11.1                                          | +23 05.1 | 95 03.7                                           | +8 41.6 | 153 33.2                                          | +22 29.4 |
| Dif | —                                     |      | +41                                               | -7       | +8                                                | -2       | +22                                               | -1      | +21                                               | 0        |

| UT  | SOL                                                             |      |     |      | LUNA                                                                                                                                                                                                      |                     |     |                     | Latitud                                           | Principio del crepúsculo |       | Salida de Sol | Salida de Luna                                    |      | Puesta de Luna |       |                                                   |      |     |   |
|-----|-----------------------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------------------------------------------------|--------------------------|-------|---------------|---------------------------------------------------|------|----------------|-------|---------------------------------------------------|------|-----|---|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 3 |      |     |      | Edad: 20 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 57 <sup>m</sup> 7<br>12 <sup>h</sup> : 57 <sup>m</sup> 4<br>20 <sup>h</sup> : 57 <sup>m</sup> 1<br>PMG: 5 <sup>h</sup> 47 <sup>m</sup> R°: 45 <sup>m</sup> |                     |     |                     |                                                   |                          |       |               |                                                   |      |                |       |                                                   |      |     |   |
|     | hG ☉                                                            |      | Dec |      | hG ☾                                                                                                                                                                                                      |                     | Dif |                     |                                                   | Náutico                  | Civil |               | Hora                                              | R°   | Hora           | R°    |                                                   |      |     |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                         | '                   | °   | '                   | °                                                 | h                        | m     | h             | m                                                 | h    | m              | h     | m                                                 | m    |     |   |
| 0   | 180                                                             | 12.3 | +22 | 56.5 | 276                                                                                                                                                                                                       | 07.2                | -12 | 46.6                | 60 N                                              | ** **                    | 1 04  | 2 40          | 1 09                                              | 1    |                | 10 42 | 91                                                |      |     |   |
| 1   | 195                                                             | 12.2 |     | 56.8 | 290                                                                                                                                                                                                       | 38.3 <sup>121</sup> |     | 32.5 <sup>141</sup> | 58                                                | ** **                    | 1 47  | 2 59          | 1 02                                              | 5    |                | 48 87 |                                                   |      |     |   |
| 2   | 210                                                             | 12.0 |     | 57.0 | 305                                                                                                                                                                                                       | 09.5 <sup>122</sup> |     | 18.4 <sup>141</sup> | 56                                                | ** **                    | 2 14  | 3 15          | 0 55                                              | 8    |                | 53 84 |                                                   |      |     |   |
| 3   | 225                                                             | 11.9 |     | 57.2 | 319                                                                                                                                                                                                       | 40.8 <sup>123</sup> | -12 | 04.2 <sup>142</sup> | 54                                                | 0 58                     | 36    | 29            | 50                                                | 10   |                | 10 58 | 8                                                 |      |     |   |
| 4   | 240                                                             | 11.8 |     | 57.4 | 334                                                                                                                                                                                                       | 12.2 <sup>124</sup> | -11 | 50.0 <sup>142</sup> | 52                                                | 1 38                     | 2 53  | 41            | 44                                                | 14   |                | 11 03 | 78                                                |      |     |   |
| 5   | 255                                                             | 11.7 | +22 | 57.6 | 348                                                                                                                                                                                                       | 43.7 <sup>125</sup> | -11 | 35.8 <sup>142</sup> | 50                                                | 2 04                     | 3 07  | 3 51          | 0 40                                              | 15   |                | 11 07 | 75                                                |      |     |   |
| 6   | 270                                                             | 11.6 | +22 | 57.8 | 3                                                                                                                                                                                                         | 15.3 <sup>126</sup> | -11 | 21.5 <sup>143</sup> | 45                                                | 2 47                     | 3 36  | 4 13          | 0 29                                              | 21   |                | 11 15 | 71                                                |      |     |   |
| 7   | 285                                                             | 11.4 |     | 58.0 | 17                                                                                                                                                                                                        | 46.9 <sup>126</sup> | -11 | 07.2 <sup>143</sup> | 40                                                | 3 17                     | 3 58  | 31            | 21                                                | 24   |                | 22 66 |                                                   |      |     |   |
| 8   | 300                                                             | 11.3 |     | 58.2 | 32                                                                                                                                                                                                        | 18.7 <sup>128</sup> | -10 | 52.8 <sup>144</sup> | 35                                                | 40                       | 4 16  | 46            | 13                                                | 28   |                | 28 63 |                                                   |      |     |   |
| 9   | 315                                                             | 11.2 |     | 58.4 | 46                                                                                                                                                                                                        | 50.6 <sup>129</sup> |     | 38.5 <sup>143</sup> | 30                                                | 3 58                     | 31    | 4 58          | 0 06                                              | 32   |                | 33 60 |                                                   |      |     |   |
| 10  | 330                                                             | 11.1 |     | 58.6 | 61                                                                                                                                                                                                        | 22.5 <sup>129</sup> |     | 24.1 <sup>144</sup> | 20                                                | 4 26                     | 4 55  | 5 20          | ** **                                             | **   |                | 42 54 |                                                   |      |     |   |
| 11  | 345                                                             | 10.9 | +22 | 58.8 | 75                                                                                                                                                                                                        | 54.5 <sup>130</sup> | -10 | 09.6 <sup>145</sup> | 10 N                                              | 4 48                     | 5 15  | 5 38          | ** **                                             | **   |                | 11 50 | 49                                                |      |     |   |
| 12  | 0                                                               | 10.8 | +22 | 59.0 | 90                                                                                                                                                                                                        | 26.6 <sup>131</sup> | -9  | 55.2 <sup>144</sup> | 0                                                 | 5 07                     | 5 33  | 5 56          | ** **                                             | **   |                | 11 58 | 44                                                |      |     |   |
| 13  | 15                                                              | 10.7 |     | 59.2 | 104                                                                                                                                                                                                       | 58.8 <sup>132</sup> |     | 40.7 <sup>145</sup> | 10 S                                              | 24                       | 5 50  | 6 13          | ** **                                             | **   |                | 12 05 | 40                                                |      |     |   |
| 14  | 30                                                              | 10.6 |     | 59.4 | 119                                                                                                                                                                                                       | 31.1 <sup>133</sup> |     | 26.2 <sup>145</sup> | 20                                                | 39                       | 6 07  | 31            | ** **                                             | **   |                | 13 35 |                                                   |      |     |   |
| 15  | 45                                                              | 10.4 |     | 59.6 | 134                                                                                                                                                                                                       | 03.5 <sup>134</sup> | -9  | 11.6 <sup>146</sup> | 30                                                | 5 56                     | 25    | 6 52          | ** **                                             | **   |                | 21 30 |                                                   |      |     |   |
| 16  | 60                                                              | 10.3 |     | 59.8 | 148                                                                                                                                                                                                       | 35.9 <sup>134</sup> | -8  | 57.1 <sup>145</sup> | 35                                                | 6 04                     | 36    | 7 04          | ** **                                             | **   |                | 26 27 |                                                   |      |     |   |
| 17  | 75                                                              | 10.2 | +22 | 59.9 | 163                                                                                                                                                                                                       | 08.4 <sup>135</sup> | -8  | 42.5 <sup>146</sup> | 40                                                | 6 13                     | 6 47  | 7 18          | 23 57                                             | 65   |                | 12 32 | 23                                                |      |     |   |
| 18  | 90                                                              | 10.1 | +23 | 00.1 | 177                                                                                                                                                                                                       | 41.0 <sup>136</sup> | -8  | 27.9 <sup>146</sup> | 45                                                | 6 23                     | 7 00  | 7 34          | 23 52                                             | 69   |                | 12 38 | 20                                                |      |     |   |
| 19  | 105                                                             | 09.9 |     | 00.3 | 192                                                                                                                                                                                                       | 13.7 <sup>137</sup> | -8  | 13.3 <sup>146</sup> | 50                                                | 35                       | 16    | 7 54          | 47                                                | 74   |                | 46 15 |                                                   |      |     |   |
| 20  | 120                                                             | 09.8 |     | 00.5 | 206                                                                                                                                                                                                       | 46.4 <sup>137</sup> | -7  | 58.6 <sup>147</sup> | 52                                                | 40                       | 23    | 8 04          | 44                                                | 76   |                | 50 12 |                                                   |      |     |   |
| 21  | 135                                                             | 09.7 |     | 00.7 | 221                                                                                                                                                                                                       | 19.3 <sup>139</sup> |     | 44.0 <sup>146</sup> | 54                                                | 45                       | 31    | 15            | 41                                                | 79   |                | 53 10 |                                                   |      |     |   |
| 22  | 150                                                             | 09.6 |     | 00.9 | 235                                                                                                                                                                                                       | 52.1 <sup>138</sup> |     | 29.3 <sup>147</sup> | 56                                                | 51                       | 40    | 27            | 38                                                | 82   |                | 12 58 | 7                                                 |      |     |   |
| 23  | 165                                                             | 09.5 |     | 01.1 | 250                                                                                                                                                                                                       | 25.1 <sup>140</sup> | -7  | 14.6 <sup>147</sup> | 58                                                | 6 58                     | 7 50  | 41            | 34                                                | 85   |                | 13 02 | 5                                                 |      |     |   |
| 24  | 180                                                             | 09.3 | +23 | 01.3 | 264                                                                                                                                                                                                       | 58.1 <sup>140</sup> | -6  | 59.9 <sup>147</sup> | 60 S                                              | 7 05                     | 8 01  | 8 58          | 23 30                                             | 89   |                | 13 08 | 1                                                 |      |     |   |
| UT  | ARIES                                                           |      |     |      | VENUS                                                                                                                                                                                                     |                     |     |                     | MARTE                                             |                          |       |               | JÚPITER                                           |      |                |       | SATURNO                                           |      |     |   |
|     | PMG 6 <sup>h</sup> 48 <sup>m</sup> 1                            |      |     |      | Mag: -4.2<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup>                                                                                                                                                         |                     |     |                     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 19 <sup>m</sup> |                          |       |               | Mag: -2.0<br>PMG: 17 <sup>h</sup> 37 <sup>m</sup> |      |                |       | Mag: +0.1<br>PMG: 13 <sup>h</sup> 44 <sup>m</sup> |      |     |   |
|     | hG ♈                                                            |      | Dec |      | hG ♀                                                                                                                                                                                                      |                     | Dec |                     | hG ♂                                              |                          | Dec   |               | hG ♃                                              |      | Dec            |       | hG ♄                                              |      | Dec |   |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                                                         | '                   | °   | '                   | °                                                 | '                        | °     | '             | °                                                 | '    | °              | '     | °                                                 | '    | °   | ' |
| 0   | 257                                                             | 42.0 | 181 | 15.8 | +22                                                                                                                                                                                                       | 31.6                | 145 | 11.1                | +23                                               | 05.1                     | 95    | 03.7          | +8                                                | 41.6 | 153            | 33.2  | +22                                               | 29.4 |     |   |
| 1   | 272                                                             | 44.4 | 196 | 19.8 |                                                                                                                                                                                                           | 30.9                | 160 | 11.9                |                                                   | 04.9                     | 110   | 06.0          |                                                   | 41.5 | 168            | 35.3  |                                                   | 29.4 |     |   |
| 2   | 287                                                             | 46.9 | 211 | 23.9 |                                                                                                                                                                                                           | 30.1                | 175 | 12.6                |                                                   | 04.6                     | 125   | 08.2          |                                                   | 41.4 | 183            | 37.4  |                                                   | 29.3 |     |   |
| 3   | 302                                                             | 49.4 | 226 | 28.0 |                                                                                                                                                                                                           | 29.4                | 190 | 13.4                |                                                   | 04.4                     | 140   | 10.4          |                                                   | 41.3 | 198            | 39.6  |                                                   | 29.3 |     |   |
| 4   | 317                                                             | 51.8 | 241 | 32.1 |                                                                                                                                                                                                           | 28.7                | 205 | 14.2                |                                                   | 04.2                     | 155   | 12.7          |                                                   | 41.2 | 213            | 41.7  |                                                   | 29.3 |     |   |
| 5   | 332                                                             | 54.3 | 256 | 36.2 | +22                                                                                                                                                                                                       | 27.9                | 220 | 15.0                | +23                                               | 03.9                     | 170   | 14.9          | +8                                                | 41.1 | 228            | 43.8  | +22                                               | 29.3 |     |   |
| 6   | 347                                                             | 56.7 | 271 | 40.3 | +22                                                                                                                                                                                                       | 27.2                | 235 | 15.7                | +23                                               | 03.7                     | 185   | 17.2          | +8                                                | 41.0 | 243            | 46.0  | +22                                               | 29.2 |     |   |
| 7   | 2                                                               | 59.2 | 286 | 44.4 |                                                                                                                                                                                                           | 26.5                | 250 | 16.5                |                                                   | 03.4                     | 200   | 19.4          |                                                   | 40.9 | 258            | 48.1  |                                                   | 29.2 |     |   |
| 8   | 18                                                              | 01.7 | 301 | 48.5 |                                                                                                                                                                                                           | 25.7                | 265 | 17.3                |                                                   | 03.2                     | 215   | 21.6          |                                                   | 40.8 | 273            | 50.2  |                                                   | 29.2 |     |   |
| 9   | 33                                                              | 04.1 | 316 | 52.6 |                                                                                                                                                                                                           | 25.0                | 280 | 18.0                |                                                   | 02.9                     | 230   | 23.9          |                                                   | 40.7 | 288            | 52.4  |                                                   | 29.2 |     |   |
| 10  | 48                                                              | 06.6 | 331 | 56.7 |                                                                                                                                                                                                           | 24.3                | 295 | 18.8                |                                                   | 02.7                     | 245   | 26.1          |                                                   | 40.6 | 303            | 54.5  |                                                   | 29.1 |     |   |
| 11  | 63                                                              | 09.1 | 347 | 00.8 | +22                                                                                                                                                                                                       | 23.5                | 310 | 19.6                | +23                                               | 02.4                     | 260   | 28.3          | +8                                                | 40.5 | 318            | 56.6  | +22                                               | 29.1 |     |   |
| 12  | 78                                                              | 11.5 | 2   | 04.8 | +22                                                                                                                                                                                                       | 22.8                | 325 | 20.4                | +23                                               | 02.2                     | 275   | 30.6          | +8                                                | 40.4 | 333            | 58.8  | +22                                               | 29.1 |     |   |
| 13  | 93                                                              | 14.0 | 17  | 08.9 |                                                                                                                                                                                                           | 22.0                | 340 | 21.1                |                                                   | 02.0                     | 290   | 32.8          |                                                   | 40.3 | 349            | 00.9  |                                                   | 29.1 |     |   |
| 14  | 108                                                             | 16.5 | 32  | 13.0 |                                                                                                                                                                                                           | 21.3                | 355 | 21.9                |                                                   | 01.7                     | 305   | 35.1          |                                                   | 40.2 | 4              | 03.0  |                                                   | 29.0 |     |   |
| 15  | 123                                                             | 18.9 | 47  | 17.1 |                                                                                                                                                                                                           | 20.6                | 10  | 22.7                |                                                   | 01.5                     | 320   | 37.3          |                                                   | 40.1 | 19             | 05.2  |                                                   | 29.0 |     |   |
| 16  | 138                                                             | 21.4 | 62  | 21.2 |                                                                                                                                                                                                           | 19.8                | 25  | 23.5                |                                                   | 01.2                     | 335   | 39.5          |                                                   | 40.0 | 34             | 07.3  |                                                   | 29.0 |     |   |
| 17  | 153                                                             | 23.9 | 77  | 25.3 | +22                                                                                                                                                                                                       | 19.1                | 40  | 24.2                | +23                                               | 01.0                     | 350   | 41.8          | +8                                                | 39.9 | 49             | 09.4  | +22                                               | 28.9 |     |   |
| 18  | 168                                                             | 26.3 | 92  | 29.3 | +22                                                                                                                                                                                                       | 18.4                | 55  | 25.0                | +23                                               | 00.7                     | 5     | 44.0          | +8                                                | 39.8 | 64             | 11.6  | +22                                               | 28.9 |     |   |
| 19  | 183                                                             | 28.8 | 107 | 33.4 |                                                                                                                                                                                                           | 17.6                | 70  | 25.8                |                                                   | 00.5                     | 20    | 46.2          |                                                   | 39.7 | 79             | 13.7  |                                                   | 28.9 |     |   |
| 20  | 198                                                             | 31.2 | 122 | 37.5 |                                                                                                                                                                                                           | 16.9                | 85  | 26.6                | +23                                               | 00.2                     | 35    | 48.5          |                                                   | 39.6 | 94             | 15.8  |                                                   | 28.9 |     |   |
| 21  | 213                                                             | 33.7 | 137 | 41.6 |                                                                                                                                                                                                           | 16.2                | 100 | 27.3                | +23                                               | 00.0                     | 50    | 50.7          |                                                   | 39.5 | 109            | 18.0  |                                                   | 28.8 |     |   |
| 22  | 228                                                             | 36.2 | 152 | 45.7 |                                                                                                                                                                                                           | 15.4                | 115 | 28.1                | +22                                               | 59.7                     | 65    | 52.9          |                                                   | 39.4 | 124            | 20.1  |                                                   | 28.8 |     |   |
| 23  | 243                                                             | 38.6 | 167 | 49.7 |                                                                                                                                                                                                           | 14.7                | 130 | 28.9                |                                                   | 59.5                     | 80    | 55.2          |                                                   | 39.3 | 139            | 22.2  |                                                   | 28.8 |     |   |
| 24  | 258                                                             | 41.1 | 182 | 53.8 | +22                                                                                                                                                                                                       | 14.0                | 145 | 29.6                | +22                                               | 59.2                     | 95    | 57.4          | +8                                                | 39.2 | 154            | 24.4  | +22                                               | 28.8 |     |   |
| Dif | —                                                               |      | +41 |      | -7                                                                                                                                                                                                        |                     | +8  |                     | -2                                                |                          | +22   |               | -1                                                |      | +21            |       | 0                                                 |      |     |   |

| UT  | SOL                                                             |      |                                                   | ☾ LUNA                                                                                                                                                                                                                                |     |                                                   | Latitud                | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |       |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|------------------------|---------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|-------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 5 |      |                                                   | Edad: 21 <sup>d</sup> 8 PHE {<br>4 <sup>h</sup> : 56 <sup>m</sup> 9<br>12 <sup>h</sup> : 56 <sup>m</sup> 6<br>20 <sup>h</sup> : 56 <sup>m</sup> 3<br>SD: 15 <sup>h</sup> 5<br>PMG: 6 <sup>h</sup> 32 <sup>m</sup> R°: 43 <sup>m</sup> |     |                                                   |                        |               |                                                   |       |                |                                                   |                |       |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                                                                                                  | Dif | Dec                                               |                        |               | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora  |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                                                     | °   | '                                                 | °                      | h m           | h m                                               | h m   | h m m          | h m m                                             | h m m          | h m m |
| 0   | 180                                                             | 09.3 | +23                                               | 01.3                                                                                                                                                                                                                                  | 264 | 58.1                                              | -6 59.9                | 60 N          | 21 21                                             | 22 59 | ** **          | 1 10 1                                            | 12 13 87       |       |
| 1   | 195                                                             | 09.2 |                                                   | 01.5                                                                                                                                                                                                                                  | 279 | 31.2 <sup>141</sup>                               | 45.2 <sup>147</sup>    | 58            | 21 01                                             | 22 14 | ** **          | 07 3                                              | 15 84          |       |
| 2   | 210                                                             | 09.1 |                                                   | 01.7                                                                                                                                                                                                                                  | 294 | 04.4 <sup>142</sup>                               | 30.5 <sup>147</sup>    | 56            | 20 45                                             | 21 46 | ** **          | 03 7                                              | 17 81          |       |
| 3   | 225                                                             | 09.0 |                                                   | 01.9                                                                                                                                                                                                                                  | 308 | 37.6 <sup>142</sup>                               | 15.7 <sup>148</sup>    | 54            | 31                                                | 25    | 23 05          | 1 00 9                                            | 19 78          |       |
| 4   | 240                                                             | 08.8 |                                                   | 02.0                                                                                                                                                                                                                                  | 323 | 10.8 <sup>142</sup>                               | -6 01.0 <sup>147</sup> | 52            | 19                                                | 21 07 | 22 23          | 0 58 11                                           | 21 75          |       |
| 5   | 255                                                             | 08.7 | +23                                               | 02.2                                                                                                                                                                                                                                  | 337 | 44.2 <sup>144</sup>                               | -5 46.2 <sup>148</sup> | 50            | 20 08                                             | 20 52 | 21 57          | 0 55 14                                           | 12 22 73       |       |
| 6   | 270                                                             | 08.6 | +23                                               | 02.4                                                                                                                                                                                                                                  | 352 | 17.6 <sup>144</sup>                               | -5 31.5 <sup>147</sup> | 45            | 19 46                                             | 20 23 | 21 12          | 0 50 18                                           | 12 26 67       |       |
| 7   | 285                                                             | 08.5 |                                                   | 02.6                                                                                                                                                                                                                                  | 6   | 51.0 <sup>144</sup>                               | 16.7 <sup>148</sup>    | 40            | 28                                                | 20 01 | 20 43          | 45 22                                             | 28 64          |       |
| 8   | 300                                                             | 08.3 |                                                   | 02.8                                                                                                                                                                                                                                  | 21  | 24.6 <sup>146</sup>                               | -5 01.9 <sup>148</sup> | 35            | 14                                                | 19 43 | 20             | 41 26                                             | 31 60          |       |
| 9   | 315                                                             | 08.2 |                                                   | 03.0                                                                                                                                                                                                                                  | 35  | 58.1 <sup>145</sup>                               | -4 47.1 <sup>148</sup> | 30            | 19 01                                             | 28    | 20 01          | 38 29                                             | 33 57          |       |
| 10  | 330                                                             | 08.1 |                                                   | 03.1                                                                                                                                                                                                                                  | 50  | 31.7 <sup>146</sup>                               | 32.4 <sup>147</sup>    | 20            | 18 39                                             | 19 04 | 19 33          | 32 34                                             | 36 52          |       |
| 11  | 345                                                             | 08.0 | +23                                               | 03.3                                                                                                                                                                                                                                  | 65  | 05.4 <sup>147</sup>                               | -4 17.6 <sup>148</sup> | 10 N          | 18 20                                             | 18 43 | 19 10          | 0 26 39                                           | 12 39 47       |       |
| 12  | 0                                                               | 07.8 | +23                                               | 03.5                                                                                                                                                                                                                                  | 79  | 39.2 <sup>148</sup>                               | -4 02.8 <sup>148</sup> | 0             | 18 03                                             | 18 26 | 18 52          | 0 21 43                                           | 12 42 43       |       |
| 13  | 15                                                              | 07.7 |                                                   | 03.7                                                                                                                                                                                                                                  | 94  | 12.9 <sup>147</sup>                               | -3 48.0 <sup>148</sup> | 10 S          | 17 46                                             | 18 09 | 35             | 16 48                                             | 45 38          |       |
| 14  | 30                                                              | 07.6 |                                                   | 03.9                                                                                                                                                                                                                                  | 108 | 46.8 <sup>149</sup>                               | 33.2 <sup>148</sup>    | 20            | 28                                                | 17 52 | 19             | 11 52                                             | 48 33          |       |
| 15  | 45                                                              | 07.4 |                                                   | 04.0                                                                                                                                                                                                                                  | 123 | 20.6 <sup>148</sup>                               | 18.4 <sup>148</sup>    | 30            | 17 07                                             | 33    | 18 03          | 05 58                                             | 51 28          |       |
| 16  | 60                                                              | 07.3 |                                                   | 04.2                                                                                                                                                                                                                                  | 137 | 54.5 <sup>149</sup>                               | -3 03.7 <sup>147</sup> | 35            | 16 55                                             | 23    | 17 54          | 0 01 61                                           | 53 25          |       |
| 17  | 75                                                              | 07.2 | +23                                               | 04.4                                                                                                                                                                                                                                  | 152 | 28.5 <sup>150</sup>                               | -2 48.9 <sup>148</sup> | 40            | 16 41                                             | 17 11 | 17 45          | ** ** *                                           | 12 55 22       |       |
| 18  | 90                                                              | 07.1 | +23                                               | 04.6                                                                                                                                                                                                                                  | 167 | 02.5 <sup>150</sup>                               | -2 34.1 <sup>148</sup> | 45            | 16 24                                             | 16 58 | 17 35          | ** ** *                                           | 12 58 18       |       |
| 19  | 105                                                             | 06.9 |                                                   | 04.8                                                                                                                                                                                                                                  | 181 | 36.6 <sup>151</sup>                               | 19.4 <sup>147</sup>    | 50            | 16 04                                             | 42    | 24             | ** ** *                                           | 13 01 13       |       |
| 20  | 120                                                             | 06.8 |                                                   | 04.9                                                                                                                                                                                                                                  | 196 | 10.7 <sup>151</sup>                               | -2 04.6 <sup>148</sup> | 52            | 15 54                                             | 35    | 18             | ** ** *                                           | 02 11          |       |
| 21  | 135                                                             | 06.7 |                                                   | 05.1                                                                                                                                                                                                                                  | 210 | 44.8 <sup>151</sup>                               | -1 49.8 <sup>148</sup> | 54            | 43                                                | 27    | 13             | ** ** *                                           | 03 9           |       |
| 22  | 150                                                             | 06.6 |                                                   | 05.3                                                                                                                                                                                                                                  | 225 | 18.9 <sup>151</sup>                               | 35.1 <sup>147</sup>    | 56            | 31                                                | 18    | 07             | ** ** *                                           | 05 6           |       |
| 23  | 165                                                             | 06.4 |                                                   | 05.5                                                                                                                                                                                                                                  | 239 | 53.2 <sup>153</sup>                               | 20.4 <sup>147</sup>    | 58            | 17                                                | 16 08 | 17 00          | ** ** *                                           | 07 3           |       |
| 24  | 180                                                             | 06.3 | +23                                               | 05.6                                                                                                                                                                                                                                  | 254 | 27.4 <sup>152</sup>                               | -1 05.6 <sup>148</sup> | 60 S          | 15 00                                             | 15 57 | 16 53          | ** ** *                                           | 13 09 0        |       |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                                                                                       |     | MARTE                                             |                        |               | JÚPITER                                           |       |                | SATURNO                                           |                |       |
|     | PMG<br>6 <sup>h</sup> 44 <sup>m</sup> 2                         |      | Mag: -4.2<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> |                                                                                                                                                                                                                                       |     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 17 <sup>m</sup> |                        |               | Mag: -2.0<br>PMG: 17 <sup>h</sup> 34 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 40 <sup>m</sup> |                |       |
|     | hG ♈                                                            | Dec  | hG ♀                                              | Dec                                                                                                                                                                                                                                   |     | hG ♂                                              | Dec                    |               | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |       |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                                                     | °   | °                                                 | '                      | °             | °                                                 | '     | °              | °                                                 | '              | °     |
| 0   | 258                                                             | 41.1 | 182                                               | 53.8                                                                                                                                                                                                                                  | +22 | 145                                               | 29.6                   | +22           | 95                                                | 57.4  | +8             | 154                                               | 24.4           | +22   |
| 1   | 273                                                             | 43.6 | 197                                               | 57.9                                                                                                                                                                                                                                  |     | 160                                               | 30.4                   |               | 110                                               | 59.6  |                | 169                                               | 26.5           |       |
| 2   | 288                                                             | 46.0 | 213                                               | 02.0                                                                                                                                                                                                                                  |     | 175                                               | 31.2                   |               | 126                                               | 01.9  |                | 184                                               | 28.6           |       |
| 3   | 303                                                             | 48.5 | 228                                               | 06.0                                                                                                                                                                                                                                  |     | 190                                               | 32.0                   |               | 141                                               | 04.1  |                | 199                                               | 30.8           |       |
| 4   | 318                                                             | 51.0 | 243                                               | 10.1                                                                                                                                                                                                                                  |     | 205                                               | 32.7                   |               | 156                                               | 06.3  |                | 214                                               | 32.9           |       |
| 5   | 333                                                             | 53.4 | 258                                               | 14.2                                                                                                                                                                                                                                  | +22 | 220                                               | 33.5                   | +22           | 171                                               | 08.6  | +8             | 229                                               | 35.0           | +22   |
| 6   | 348                                                             | 55.9 | 273                                               | 18.2                                                                                                                                                                                                                                  | +22 | 235                                               | 34.3                   | +22           | 186                                               | 10.8  | +8             | 244                                               | 37.2           | +22   |
| 7   | 3                                                               | 58.4 | 288                                               | 22.3                                                                                                                                                                                                                                  |     | 250                                               | 35.1                   |               | 201                                               | 13.0  |                | 259                                               | 39.3           |       |
| 8   | 19                                                              | 00.8 | 303                                               | 26.4                                                                                                                                                                                                                                  |     | 265                                               | 35.8                   |               | 216                                               | 15.3  |                | 274                                               | 41.4           |       |
| 9   | 34                                                              | 03.3 | 318                                               | 30.4                                                                                                                                                                                                                                  |     | 280                                               | 36.6                   |               | 231                                               | 17.5  |                | 289                                               | 43.6           |       |
| 10  | 49                                                              | 05.7 | 333                                               | 34.5                                                                                                                                                                                                                                  |     | 295                                               | 37.4                   |               | 246                                               | 19.7  |                | 304                                               | 45.7           |       |
| 11  | 64                                                              | 08.2 | 348                                               | 38.6                                                                                                                                                                                                                                  | +22 | 310                                               | 38.2                   | +22           | 261                                               | 22.0  | +8             | 319                                               | 47.8           | +22   |
| 12  | 79                                                              | 10.7 | 3                                                 | 42.6                                                                                                                                                                                                                                  | +22 | 325                                               | 38.9                   | +22           | 276                                               | 24.2  | +8             | 334                                               | 50.0           | +22   |
| 13  | 94                                                              | 13.1 | 18                                                | 46.7                                                                                                                                                                                                                                  |     | 340                                               | 39.7                   |               | 291                                               | 26.4  |                | 349                                               | 52.1           |       |
| 14  | 109                                                             | 15.6 | 33                                                | 50.8                                                                                                                                                                                                                                  |     | 355                                               | 40.5                   |               | 306                                               | 28.7  |                | 4                                                 | 54.2           |       |
| 15  | 124                                                             | 18.1 | 48                                                | 54.8                                                                                                                                                                                                                                  |     | 10                                                | 41.3                   |               | 321                                               | 30.9  |                | 19                                                | 56.4           |       |
| 16  | 139                                                             | 20.5 | 63                                                | 58.9                                                                                                                                                                                                                                  |     | 25                                                | 42.0                   |               | 336                                               | 33.1  |                | 34                                                | 58.5           |       |
| 17  | 154                                                             | 23.0 | 79                                                | 02.9                                                                                                                                                                                                                                  | +22 | 40                                                | 42.8                   | +22           | 351                                               | 35.3  | +8             | 50                                                | 00.6           | +22   |
| 18  | 169                                                             | 25.5 | 94                                                | 07.0                                                                                                                                                                                                                                  | +22 | 55                                                | 43.6                   | +22           | 6                                                 | 37.6  | +8             | 65                                                | 02.8           | +22   |
| 19  | 184                                                             | 27.9 | 109                                               | 11.0                                                                                                                                                                                                                                  | +22 | 70                                                | 44.4                   |               | 21                                                | 39.8  |                | 80                                                | 04.9           |       |
| 20  | 199                                                             | 30.4 | 124                                               | 15.1                                                                                                                                                                                                                                  | +21 | 85                                                | 45.2                   |               | 36                                                | 42.0  |                | 95                                                | 07.0           |       |
| 21  | 214                                                             | 32.8 | 139                                               | 19.1                                                                                                                                                                                                                                  |     | 100                                               | 45.9                   |               | 51                                                | 44.3  |                | 110                                               | 09.2           |       |
| 22  | 229                                                             | 35.3 | 154                                               | 23.2                                                                                                                                                                                                                                  |     | 115                                               | 46.7                   |               | 66                                                | 46.5  |                | 125                                               | 11.3           |       |
| 23  | 244                                                             | 37.8 | 169                                               | 27.2                                                                                                                                                                                                                                  |     | 130                                               | 47.5                   |               | 81                                                | 48.7  |                | 140                                               | 13.4           |       |
| 24  | 259                                                             | 40.2 | 184                                               | 31.3                                                                                                                                                                                                                                  | +21 | 145                                               | 48.3                   | +22           | 96                                                | 50.9  | +8             | 155                                               | 15.6           | +22   |
| Dif | —                                                               |      | +41                                               | -7                                                                                                                                                                                                                                    |     | +8                                                | -3                     |               | +22                                               | -1    |                | +21                                               | 0              |       |

| UT  | SOL                                                             |      |                                                   | ☾ LUNA                                                                                                                                                                                                    |             |                                                   | Latitud                | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |       |     |  |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------|------------------------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|-------|-----|--|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 7 |      |                                                   | Edad: 22 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 56 <sup>m</sup> 1<br>12 <sup>h</sup> : 55 <sup>m</sup> 9<br>20 <sup>h</sup> : 55 <sup>m</sup> 7<br>PMG: 7 <sup>h</sup> 15 <sup>m</sup> R°: 41 <sup>m</sup> |             |                                                   |                        |                          |                                                   |               |                |                                                   |                |       |     |  |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                                                                      | Dif Dec Dif |                                                   |                        | Náutico                  | Civil                                             |               | Hora           | R°                                                | Hora           | R°    |     |  |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                         | °           | '                                                 | °                      | h                        | m                                                 | h             | m              | h                                                 | m              | h     | m   |  |
| 0   | 180                                                             | 06.3 | +23                                               | 05.6                                                                                                                                                                                                      | 254         | 27.4                                              | -1 05.6                | 60 N                     | ** **                                             | 1 00          | 2 38           | 1 11                                              | 0              | 13 40 | 85  |  |
| 1   | 195                                                             | 06.2 |                                                   | 05.8                                                                                                                                                                                                      | 269         | 01.7 <sup>153</sup>                               | -0 50.9 <sup>147</sup> | 58                       | ** **                                             | 1 45          | 2 58           | 10                                                | 4              | 39    | 82  |  |
| 2   | 210                                                             | 06.1 |                                                   | 06.0                                                                                                                                                                                                      | 283         | 36.0 <sup>153</sup>                               | 36.2 <sup>147</sup>    | 56                       | ** **                                             | 2 13          | 3 14           | 10                                                | 6              | 38    | 79  |  |
| 3   | 225                                                             | 05.9 |                                                   | 06.1                                                                                                                                                                                                      | 298         | 10.3 <sup>153</sup>                               | 21.5 <sup>147</sup>    | 54                       | 0 54                                              | 34            | 28             | 09                                                | 9              | 37    | 76  |  |
| 4   | 240                                                             | 05.8 |                                                   | 06.3                                                                                                                                                                                                      | 312         | 44.7 <sup>154</sup>                               | -0 06.9 <sup>146</sup> | 52                       | 1 36                                              | 2 52          | 40             | 09                                                | 11             | 36    | 74  |  |
| 5   | 255                                                             | 05.7 | +23                                               | 06.5                                                                                                                                                                                                      | 327         | 19.1 <sup>154</sup>                               | +0 07.8 <sup>147</sup> | 50                       | 2 02                                              | 3 07          | 3 51           | 1 09                                              | 13             | 13 35 | 71  |  |
| 6   | 270                                                             | 05.5 | +23                                               | 06.6                                                                                                                                                                                                      | 341         | 53.5 <sup>154</sup>                               | +0 22.4 <sup>146</sup> | 45                       | 2 47                                              | 3 36          | 4 13           | 1 08                                              | 18             | 13 33 | 67  |  |
| 7   | 285                                                             | 05.4 |                                                   | 06.8                                                                                                                                                                                                      | 356         | 27.9 <sup>154</sup>                               | 37.1 <sup>147</sup>    | 40                       | 3 17                                              | 3 58          | 31             | 07                                                | 22             | 32    | 62  |  |
| 8   | 300                                                             | 05.3 |                                                   | 07.0                                                                                                                                                                                                      | 11          | 02.4 <sup>155</sup>                               | +0 51.7 <sup>146</sup> | 35                       | 39                                                | 4 16          | 45             | 07                                                | 25             | 31    | 59  |  |
| 9   | 315                                                             | 05.2 |                                                   | 07.1                                                                                                                                                                                                      | 25          | 36.9 <sup>155</sup>                               | +1 06.3 <sup>146</sup> | 30                       | 3 58                                              | 31            | 4 58           | 07                                                | 27             | 30    | 56  |  |
| 10  | 330                                                             | 05.0 |                                                   | 07.3                                                                                                                                                                                                      | 40          | 11.4 <sup>155</sup>                               | 20.8 <sup>145</sup>    | 20                       | 4 26                                              | 4 55          | 5 20           | 06                                                | 33             | 28    | 50  |  |
| 11  | 345                                                             | 04.9 | +23                                               | 07.5                                                                                                                                                                                                      | 54          | 46.0 <sup>156</sup>                               | +1 35.4 <sup>146</sup> | 10 N                     | 4 49                                              | 5 16          | 5 39           | 1 05                                              | 38             | 13 26 | 46  |  |
| 12  | 0                                                               | 04.8 | +23                                               | 07.6                                                                                                                                                                                                      | 69          | 20.5 <sup>155</sup>                               | +1 49.9 <sup>145</sup> | 0                        | 5 07                                              | 5 34          | 5 56           | 1 04                                              | 42             | 13 25 | 41  |  |
| 13  | 15                                                              | 04.6 |                                                   | 07.8                                                                                                                                                                                                      | 83          | 55.1 <sup>156</sup>                               | +2 04.4 <sup>145</sup> | 10 S                     | 24                                                | 5 50          | 6 13           | 04                                                | 46             | 23    | 37  |  |
| 14  | 30                                                              | 04.5 |                                                   | 08.0                                                                                                                                                                                                      | 98          | 29.7 <sup>156</sup>                               | 18.9 <sup>145</sup>    | 20                       | 40                                                | 6 08          | 31             | 03                                                | 51             | 21    | 33  |  |
| 15  | 45                                                              | 04.4 |                                                   | 08.1                                                                                                                                                                                                      | 113         | 04.3 <sup>156</sup>                               | 33.4 <sup>145</sup>    | 30                       | 5 56                                              | 26            | 6 52           | 03                                                | 56             | 19    | 28  |  |
| 16  | 60                                                              | 04.3 |                                                   | 08.3                                                                                                                                                                                                      | 127         | 39.0 <sup>157</sup>                               | +2 47.9 <sup>145</sup> | 35                       | 6 05                                              | 36            | 7 05           | 02                                                | 59             | 18    | 25  |  |
| 17  | 75                                                              | 04.1 | +23                                               | 08.5                                                                                                                                                                                                      | 142         | 13.6 <sup>156</sup>                               | +3 02.3 <sup>144</sup> | 40                       | 6 14                                              | 6 48          | 7 19           | 1 02                                              | 62             | 13 17 | 22  |  |
| 18  | 90                                                              | 04.0 | +23                                               | 08.6                                                                                                                                                                                                      | 156         | 48.3 <sup>157</sup>                               | +3 16.7 <sup>144</sup> | 45                       | 6 24                                              | 7 01          | 7 35           | 1 01                                              | 67             | 13 16 | 17  |  |
| 19  | 105                                                             | 03.9 |                                                   | 08.8                                                                                                                                                                                                      | 171         | 22.9 <sup>156</sup>                               | 31.0 <sup>143</sup>    | 50                       | 36                                                | 17            | 7 55           | 01                                                | 71             | 14    | 13  |  |
| 20  | 120                                                             | 03.7 |                                                   | 08.9                                                                                                                                                                                                      | 185         | 57.6 <sup>157</sup>                               | 45.4 <sup>144</sup>    | 52                       | 41                                                | 24            | 8 05           | 00                                                | 74             | 13    | 11  |  |
| 21  | 135                                                             | 03.6 |                                                   | 09.1                                                                                                                                                                                                      | 200         | 32.3 <sup>157</sup>                               | +3 59.7 <sup>143</sup> | 54                       | 46                                                | 32            | 16             | 00                                                | 77             | 12    | 9   |  |
| 22  | 150                                                             | 03.5 |                                                   | 09.2                                                                                                                                                                                                      | 215         | 07.0 <sup>157</sup>                               | +4 14.0 <sup>143</sup> | 56                       | 52                                                | 41            | 28             | 1 00                                              | 79             | 11    | 7   |  |
| 23  | 165                                                             | 03.4 |                                                   | 09.4                                                                                                                                                                                                      | 229         | 41.7 <sup>157</sup>                               | 28.2 <sup>142</sup>    | 58                       | 6 59                                              | 7 51          | 8 43           | 0 59                                              | 83             | 10    | 4   |  |
| 24  | 180                                                             | 03.2 | +23                                               | 09.6                                                                                                                                                                                                      | 244         | 16.4 <sup>157</sup>                               | +4 42.5 <sup>143</sup> | 60 S                     | 7 06                                              | 8 03          | 9 00           | 0 59                                              | 86             | 13 09 | 1   |  |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                                                           |             | MARTE                                             |                        |                          | JÚPITER                                           |               |                | SATURNO                                           |                |       |     |  |
|     | PMG 6 <sup>h</sup> 40 <sup>m</sup> 2                            |      | Mag: -4.2<br>PMG: 11 <sup>h</sup> 39 <sup>m</sup> |                                                                                                                                                                                                           |             | Mag: +1.8<br>PMG: 14 <sup>h</sup> 16 <sup>m</sup> |                        |                          | Mag: -2.0<br>PMG: 17 <sup>h</sup> 30 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 37 <sup>m</sup> |                |       |     |  |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                                                                                                                                       |             | hG ♂                                              | Dec                    |                          | hG ♃                                              | Dec           |                | hG ♄                                              | Dec            |       |     |  |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                                                         | °           | '                                                 | °                      | '                        | °                                                 | '             | °              | '                                                 | °              | '     |     |  |
| 0   | 259                                                             | 40.2 | 184                                               | 31.3                                                                                                                                                                                                      | +21         | 56.3                                              | 145                    | 48.3                     | +22                                               | 53.2          | 96             | 50.9                                              | +8             | 36.7  |     |  |
| 1   | 274                                                             | 42.7 | 199                                               | 35.3                                                                                                                                                                                                      |             | 55.6                                              | 160                    | 49.0                     |                                                   | 52.9          | 111            | 53.2                                              |                | 36.6  |     |  |
| 2   | 289                                                             | 45.2 | 214                                               | 39.4                                                                                                                                                                                                      |             | 54.8                                              | 175                    | 49.8                     |                                                   | 52.7          | 126            | 55.4                                              |                | 36.5  |     |  |
| 3   | 304                                                             | 47.6 | 229                                               | 43.4                                                                                                                                                                                                      |             | 54.1                                              | 190                    | 50.6                     |                                                   | 52.4          | 141            | 57.6                                              |                | 36.4  |     |  |
| 4   | 319                                                             | 50.1 | 244                                               | 47.4                                                                                                                                                                                                      |             | 53.4                                              | 205                    | 51.4                     |                                                   | 52.2          | 156            | 59.9                                              |                | 36.3  |     |  |
| 5   | 334                                                             | 52.6 | 259                                               | 51.5                                                                                                                                                                                                      | +21         | 52.6                                              | 220                    | 52.1                     | +22                                               | 51.9          | 172            | 02.1                                              | +8             | 36.2  |     |  |
| 6   | 349                                                             | 55.0 | 274                                               | 55.5                                                                                                                                                                                                      | +21         | 51.9                                              | 235                    | 52.9                     | +22                                               | 51.7          | 187            | 04.3                                              | +8             | 36.1  |     |  |
| 7   | 4                                                               | 57.5 | 289                                               | 59.5                                                                                                                                                                                                      |             | 51.2                                              | 250                    | 53.7                     |                                                   | 51.4          | 202            | 06.5                                              |                | 36.0  |     |  |
| 8   | 20                                                              | 00.0 | 305                                               | 03.6                                                                                                                                                                                                      |             | 50.4                                              | 265                    | 54.5                     |                                                   | 51.1          | 217            | 08.8                                              |                | 35.9  |     |  |
| 9   | 35                                                              | 02.4 | 320                                               | 07.6                                                                                                                                                                                                      |             | 49.7                                              | 280                    | 55.3                     |                                                   | 50.9          | 232            | 11.0                                              |                | 35.8  |     |  |
| 10  | 50                                                              | 04.9 | 335                                               | 11.6                                                                                                                                                                                                      |             | 49.0                                              | 295                    | 56.0                     |                                                   | 50.6          | 247            | 13.2                                              |                | 35.7  |     |  |
| 11  | 65                                                              | 07.3 | 350                                               | 15.7                                                                                                                                                                                                      | +21         | 48.3                                              | 310                    | 56.8                     | +22                                               | 50.4          | 262            | 15.4                                              | +8             | 35.6  |     |  |
| 12  | 80                                                              | 09.8 | 5                                                 | 19.7                                                                                                                                                                                                      | +21         | 47.5                                              | 325                    | 57.6                     | +22                                               | 50.1          | 277            | 17.7                                              | +8             | 35.5  |     |  |
| 13  | 95                                                              | 12.3 | 20                                                | 23.7                                                                                                                                                                                                      |             | 46.8                                              | 340                    | 58.4                     |                                                   | 49.8          | 292            | 19.9                                              |                | 35.3  |     |  |
| 14  | 110                                                             | 14.7 | 35                                                | 27.7                                                                                                                                                                                                      |             | 46.1                                              | 355                    | 59.1                     |                                                   | 49.6          | 307            | 22.1                                              |                | 35.2  |     |  |
| 15  | 125                                                             | 17.2 | 50                                                | 31.8                                                                                                                                                                                                      |             | 45.3                                              | 10                     | 59.9                     |                                                   | 49.3          | 322            | 24.3                                              |                | 35.1  |     |  |
| 16  | 140                                                             | 19.7 | 65                                                | 35.8                                                                                                                                                                                                      |             | 44.6                                              | 26                     | 00.7                     |                                                   | 49.1          | 337            | 26.6                                              |                | 35.0  |     |  |
| 17  | 155                                                             | 22.1 | 80                                                | 39.8                                                                                                                                                                                                      | +21         | 43.9                                              | 41                     | 01.5                     | +22                                               | 48.8          | 352            | 28.8                                              | +8             | 34.9  |     |  |
| 18  | 170                                                             | 24.6 | 95                                                | 43.8                                                                                                                                                                                                      | +21         | 43.1                                              | 56                     | 02.3                     | +22                                               | 48.5          | 7              | 31.0                                              | +8             | 34.8  |     |  |
| 19  | 185                                                             | 27.1 | 110                                               | 47.8                                                                                                                                                                                                      |             | 42.4                                              | 71                     | 03.0                     |                                                   | 48.3          | 22             | 33.2                                              |                | 34.7  |     |  |
| 20  | 200                                                             | 29.5 | 125                                               | 51.9                                                                                                                                                                                                      |             | 41.7                                              | 86                     | 03.8                     |                                                   | 48.0          | 37             | 35.5                                              |                | 34.6  |     |  |
| 21  | 215                                                             | 32.0 | 140                                               | 55.9                                                                                                                                                                                                      |             | 40.9                                              | 101                    | 04.6                     |                                                   | 47.8          | 52             | 37.7                                              |                | 34.5  |     |  |
| 22  | 230                                                             | 34.5 | 155                                               | 59.9                                                                                                                                                                                                      |             | 40.2                                              | 116                    | 05.4                     |                                                   | 47.5          | 67             | 39.9                                              |                | 34.4  |     |  |
| 23  | 245                                                             | 36.9 | 171                                               | 03.9                                                                                                                                                                                                      |             | 39.5                                              | 131                    | 06.2                     |                                                   | 47.2          | 82             | 42.1                                              |                | 34.3  |     |  |
| 24  | 260                                                             | 39.4 | 186                                               | 07.9                                                                                                                                                                                                      | +21         | 38.8                                              | 146                    | 06.9                     | +22                                               | 47.0          | 97             | 44.4                                              | +8             | 34.2  |     |  |
| Dif | —                                                               |      | +40                                               |                                                                                                                                                                                                           | -7          |                                                   | +8                     |                          | -3                                                |               | +22            |                                                   | -1             |       | +21 |  |

| UT | SOL                   |      |     | ☾ LUNA                      |                       |                     | Latitud                 | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |         | Puesta de Luna |          |
|----|-----------------------|------|-----|-----------------------------|-----------------------|---------------------|-------------------------|---------------|----------------------|-------|----------------|---------|----------------|----------|
|    | SD: 15 <sup>h</sup> 7 |      |     | Edad: 23 <sup>d</sup> 8 PHE | SD: 15 <sup>h</sup> 1 |                     |                         |               | R°: 42 <sup>m</sup>  |       | Hora           |         | R°             |          |
|    | hG ☉                  | Dec  |     |                             | hG ☾                  | Dif                 |                         |               | Dec                  | Dif   | Civil          | Náutico | Hora           | R°       |
| h  | °                     | '    | °   | '                           | °                     | '                   | °                       | h m           | h m                  | h m   | h m            | m       | h m            | m        |
| 0  | 180                   | 03.2 | +23 | 09.6                        | 244                   | 16.4                | +4 42.5                 | 60 N          | 21 23                | 23 04 | ** **          | 1 11    | 1              | 15 05 86 |
| 1  | 195                   | 03.1 |     | 09.7                        | 258                   | 51.1 <sup>157</sup> | +4 56.7 <sup>142</sup>  | 58            | 21 03                | 22 17 | ** **          | 14 3    |                | 15 01 82 |
| 2  | 210                   | 03.0 |     | 09.9                        | 273                   | 25.9 <sup>158</sup> | +5 10.8 <sup>141</sup>  | 56            | 20 46                | 21 48 | ** **          | 16 7    |                | 14 57 78 |
| 3  | 225                   | 02.8 |     | 10.0                        | 288                   | 00.6 <sup>157</sup> | 25.0 <sup>142</sup>     | 54            | 32                   | 26    | 23 09          | 18 9    |                | 53 76    |
| 4  | 240                   | 02.7 |     | 10.2                        | 302                   | 35.3 <sup>157</sup> | 39.1 <sup>141</sup>     | 52            | 20                   | 21 09 | 22 26          | 20 12   |                | 50 73    |
| 5  | 255                   | 02.6 | +23 | 10.3                        | 317                   | 10.0 <sup>157</sup> | +5 53.1 <sup>140</sup>  | 50            | 20 10                | 20 54 | 21 59          | 1 22    | 13             | 14 46 71 |
| 6  | 270                   | 02.5 | +23 | 10.5                        | 331                   | 44.7 <sup>157</sup> | +6 07.2 <sup>141</sup>  | 45            | 19 47                | 20 24 | 21 14          | 1 26    | 18             | 14 40 66 |
| 7  | 285                   | 02.3 |     | 10.6                        | 346                   | 19.5 <sup>158</sup> | 21.2 <sup>140</sup>     | 40            | 29                   | 20 02 | 20 44          | 29 22   |                | 34 62    |
| 8  | 300                   | 02.2 |     | 10.8                        | 0                     | 54.2 <sup>157</sup> | 35.1 <sup>139</sup>     | 35            | 14                   | 19 44 | 21             | 32 25   |                | 30 58    |
| 9  | 315                   | 02.1 |     | 10.9                        | 15                    | 28.9 <sup>157</sup> | +6 49.1 <sup>140</sup>  | 30            | 19 02                | 29    | 20 02          | 34 28   |                | 26 55    |
| 10 | 330                   | 01.9 |     | 11.1                        | 30                    | 03.6 <sup>157</sup> | +7 03.0 <sup>139</sup>  | 20            | 18 40                | 19 04 | 19 33          | 39 33   |                | 18 51    |
| 11 | 345                   | 01.8 | +23 | 11.2                        | 44                    | 38.3 <sup>157</sup> | +7 16.8 <sup>138</sup>  | 10 N          | 18 21                | 18 44 | 19 11          | 1 43    | 37             | 14 12 46 |
| 12 | 0                     | 01.7 | +23 | 11.4                        | 59                    | 13.0 <sup>157</sup> | +7 30.6 <sup>138</sup>  | 0             | 18 04                | 18 26 | 18 52          | 1 46    | 42             | 14 06 42 |
| 13 | 15                    | 01.5 |     | 11.5                        | 73                    | 47.7 <sup>157</sup> | 44.4 <sup>138</sup>     | 10 S          | 17 46                | 18 09 | 35             | 50 46   |                | 14 00 38 |
| 14 | 30                    | 01.4 |     | 11.7                        | 88                    | 22.3 <sup>156</sup> | +7 58.1 <sup>137</sup>  | 20            | 28                   | 17 52 | 19             | 54 50   |                | 13 54 34 |
| 15 | 45                    | 01.3 |     | 11.8                        | 102                   | 57.0 <sup>157</sup> | +8 11.8 <sup>137</sup>  | 30            | 17 07                | 33    | 18 03          | 1 59    | 55             | 47 29    |
| 16 | 60                    | 01.2 |     | 11.9                        | 117                   | 31.7 <sup>157</sup> | 25.5 <sup>137</sup>     | 35            | 16 55                | 23    | 17 54          | 2 01    | 59             | 43 26    |
| 17 | 75                    | 01.0 | +23 | 12.1                        | 132                   | 06.3 <sup>156</sup> | +8 39.1 <sup>136</sup>  | 40            | 16 41                | 17 11 | 17 45          | 2 04    | 62             | 13 39 22 |
| 18 | 90                    | 00.9 | +23 | 12.2                        | 146                   | 40.9 <sup>156</sup> | +8 52.6 <sup>135</sup>  | 45            | 16 24                | 16 58 | 17 35          | 2 08    | 66             | 13 33 19 |
| 19 | 105                   | 00.8 |     | 12.4                        | 161                   | 15.5 <sup>156</sup> | +9 06.2 <sup>136</sup>  | 50            | 16 04                | 42    | 23             | 12 71   |                | 27 14    |
| 20 | 120                   | 00.6 |     | 12.5                        | 175                   | 50.1 <sup>156</sup> | 19.6 <sup>134</sup>     | 52            | 15 54                | 35    | 18             | 14 74   |                | 24 12    |
| 21 | 135                   | 00.5 |     | 12.7                        | 190                   | 24.7 <sup>156</sup> | 33.1 <sup>135</sup>     | 54            | 43                   | 27    | 13             | 17 75   |                | 21 10    |
| 22 | 150                   | 00.4 |     | 12.8                        | 204                   | 59.3 <sup>156</sup> | 46.4 <sup>133</sup>     | 56            | 30                   | 18    | 07             | 19 78   |                | 18 7     |
| 23 | 165                   | 00.2 |     | 12.9                        | 219                   | 33.8 <sup>155</sup> | +9 59.8 <sup>134</sup>  | 58            | 15 16                | 16 07 | 17 00          | 22 81   |                | 14 4     |
| 24 | 180                   | 00.1 | +23 | 13.1                        | 234                   | 08.3 <sup>155</sup> | +10 13.1 <sup>133</sup> | 60 S          | 14 59                | 15 56 | 16 53          | 2 25    | 85             | 13 10 0  |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 36 <sup>m</sup> 3 |      | Mag: -4.1<br>PMG: 11 <sup>h</sup> 32 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 15 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 26 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 34 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 260                                   | 39.4 | 186                                               | 07.9 | 146                                               | 06.9 | 97                                                | 44.4 | 156                                               | 06.7 |
| 1   | 275                                   | 41.8 | 201                                               | 11.9 | 161                                               | 07.7 | 112                                               | 46.6 | 171                                               | 08.8 |
| 2   | 290                                   | 44.3 | 216                                               | 15.9 | 176                                               | 08.5 | 127                                               | 48.8 | 186                                               | 11.0 |
| 3   | 305                                   | 46.8 | 231                                               | 19.9 | 191                                               | 09.3 | 142                                               | 51.0 | 201                                               | 13.1 |
| 4   | 320                                   | 49.2 | 246                                               | 23.9 | 206                                               | 10.0 | 157                                               | 53.3 | 216                                               | 15.2 |
| 5   | 335                                   | 51.7 | 261                                               | 27.9 | 221                                               | 10.8 | 172                                               | 55.5 | 231                                               | 17.4 |
| 6   | 350                                   | 54.2 | 276                                               | 31.9 | 236                                               | 11.6 | 187                                               | 57.7 | 246                                               | 19.5 |
| 7   | 5                                     | 56.6 | 291                                               | 35.9 | 251                                               | 12.4 | 202                                               | 59.9 | 261                                               | 21.6 |
| 8   | 20                                    | 59.1 | 306                                               | 39.9 | 266                                               | 13.2 | 218                                               | 02.1 | 276                                               | 23.8 |
| 9   | 36                                    | 01.6 | 321                                               | 43.9 | 281                                               | 13.9 | 233                                               | 04.4 | 291                                               | 25.9 |
| 10  | 51                                    | 04.0 | 336                                               | 47.8 | 296                                               | 14.7 | 248                                               | 06.6 | 306                                               | 28.0 |
| 11  | 66                                    | 06.5 | 351                                               | 51.8 | 311                                               | 15.5 | 263                                               | 08.8 | 321                                               | 30.2 |
| 12  | 81                                    | 08.9 | 6                                                 | 55.8 | 326                                               | 16.3 | 278                                               | 11.0 | 336                                               | 32.3 |
| 13  | 96                                    | 11.4 | 21                                                | 59.8 | 341                                               | 17.1 | 293                                               | 13.2 | 351                                               | 34.4 |
| 14  | 111                                   | 13.9 | 37                                                | 03.8 | 356                                               | 17.9 | 308                                               | 15.5 | 6                                                 | 36.5 |
| 15  | 126                                   | 16.3 | 52                                                | 07.7 | 11                                                | 18.6 | 323                                               | 17.7 | 21                                                | 38.7 |
| 16  | 141                                   | 18.8 | 67                                                | 11.7 | 26                                                | 19.4 | 338                                               | 19.9 | 36                                                | 40.8 |
| 17  | 156                                   | 21.3 | 82                                                | 15.7 | 41                                                | 20.2 | 353                                               | 22.1 | 51                                                | 42.9 |
| 18  | 171                                   | 23.7 | 97                                                | 19.7 | 56                                                | 21.0 | 8                                                 | 24.3 | 66                                                | 45.1 |
| 19  | 186                                   | 26.2 | 112                                               | 23.6 | 71                                                | 21.8 | 23                                                | 26.6 | 81                                                | 47.2 |
| 20  | 201                                   | 28.7 | 127                                               | 27.6 | 86                                                | 22.5 | 38                                                | 28.8 | 96                                                | 49.3 |
| 21  | 216                                   | 31.1 | 142                                               | 31.5 | 101                                               | 23.3 | 53                                                | 31.0 | 111                                               | 51.5 |
| 22  | 231                                   | 33.6 | 157                                               | 35.5 | 116                                               | 24.1 | 68                                                | 33.2 | 126                                               | 53.6 |
| 23  | 246                                   | 36.1 | 172                                               | 39.5 | 131                                               | 24.9 | 83                                                | 35.4 | 141                                               | 55.7 |
| 24  | 261                                   | 38.5 | 187                                               | 43.4 | 146                                               | 25.7 | 98                                                | 37.6 | 156                                               | 57.8 |
| Dif | —                                     |      | +40                                               | -7   | +8                                                | -3   | +22                                               | -1   | +21                                               | 0    |

| UT | SOL                                                |      |     |      | LUNA                                                                                                                                                                                                       |                     |     |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |   |
|----|----------------------------------------------------|------|-----|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|---|
|    | SD: 15'7<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 1 |      |     |      | Edad: 24 <sup>d</sup> 8 PHE<br>SD: 15'0<br>PMG: 8 <sup>h</sup> 38 <sup>m</sup> R°: 43 <sup>m</sup> <div><div>4<sup>h</sup>: 54'9</div><div>12<sup>h</sup>: 54'8</div><div>20<sup>h</sup>: 54'6</div></div> |                     |     |                     |         |                          |       |               |                |    |                |    |    |   |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                                                                       |                     | Dif |                     |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |   |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                                          | '                   | °   | '                   | °       | h                        | m     | h             | m              | h  | m              | h  | m  | m |
| 0  | 180                                                | 00.1 | +23 | 13.1 | 234                                                                                                                                                                                                        | 08.3                | +10 | 13.1                | 60 N    | ** **                    | 0 56  | 2 37          | 1 12           | 1  | 16             | 31 | 88 |   |
| 1  | 195                                                | 00.0 |     | 13.2 | 248                                                                                                                                                                                                        | 42.8 <sup>155</sup> |     | 26.3 <sup>132</sup> | 58      | ** **                    | 1 43  | 2 57          | 17             | 5  | 23             | 83 |    |   |
| 2  | 209                                                | 59.8 |     | 13.4 | 263                                                                                                                                                                                                        | 17.3 <sup>155</sup> |     | 39.5 <sup>132</sup> | 56      | ** **                    | 2 12  | 3 13          | 23             | 8  | 15             | 80 |    |   |
| 3  | 224                                                | 59.7 |     | 13.5 | 277                                                                                                                                                                                                        | 51.8 <sup>155</sup> | +10 | 52.6 <sup>131</sup> | 54      | 0 51                     | 33    | 27            | 27             | 11 | 09             | 76 |    |   |
| 4  | 239                                                | 59.6 |     | 13.6 | 292                                                                                                                                                                                                        | 26.2 <sup>154</sup> | +11 | 05.7 <sup>131</sup> | 52      | 1 34                     | 2 51  | 40            | 32             | 13 | 16             | 03 | 73 |   |
| 5  | 254                                                | 59.4 | +23 | 13.8 | 307                                                                                                                                                                                                        | 00.6 <sup>154</sup> | +11 | 18.8 <sup>131</sup> | 50      | 2 01                     | 3 06  | 3 50          | 1 35           | 16 | 15             | 57 | 71 |   |
| 6  | 269                                                | 59.3 | +23 | 13.9 | 321                                                                                                                                                                                                        | 35.0 <sup>154</sup> | +11 | 31.7 <sup>129</sup> | 45      | 2 46                     | 3 35  | 4 13          | 1 44           | 20 | 15             | 46 | 66 |   |
| 7  | 284                                                | 59.2 |     | 14.0 | 336                                                                                                                                                                                                        | 09.4 <sup>154</sup> |     | 44.7 <sup>130</sup> | 40      | 3 16                     | 3 58  | 31            | 51             | 24 | 36             | 63 |    |   |
| 8  | 299                                                | 59.1 |     | 14.2 | 350                                                                                                                                                                                                        | 43.7 <sup>153</sup> | +11 | 57.6 <sup>129</sup> | 35      | 39                       | 4 16  | 45            | 1 57           | 27 | 28             | 59 |    |   |
| 9  | 314                                                | 58.9 |     | 14.3 | 5                                                                                                                                                                                                          | 18.0 <sup>153</sup> | +12 | 10.4 <sup>128</sup> | 30      | 3 58                     | 31    | 4 58          | 2 02           | 30 | 21             | 56 |    |   |
| 10 | 329                                                | 58.8 |     | 14.4 | 19                                                                                                                                                                                                         | 52.3 <sup>153</sup> |     | 23.2 <sup>128</sup> | 20      | 4 26                     | 4 56  | 5 20          | 12             | 34 | 15             | 09 | 51 |   |
| 11 | 344                                                | 58.7 | +23 | 14.6 | 34                                                                                                                                                                                                         | 26.5 <sup>152</sup> | +12 | 35.9 <sup>127</sup> | 10 N    | 4 49                     | 5 16  | 5 39          | 2 20           | 39 | 14             | 58 | 48 |   |
| 12 | 359                                                | 58.5 | +23 | 14.7 | 49                                                                                                                                                                                                         | 00.7 <sup>152</sup> | +12 | 48.5 <sup>126</sup> | 0       | 5 08                     | 5 34  | 5 56          | 2 28           | 43 | 14             | 48 | 44 |   |
| 13 | 14                                                 | 58.4 |     | 14.8 | 63                                                                                                                                                                                                         | 34.9 <sup>152</sup> | +13 | 01.1 <sup>126</sup> | 10 S    | 25                       | 5 51  | 6 14          | 36             | 47 | 38             | 40 |    |   |
| 14 | 29                                                 | 58.3 |     | 14.9 | 78                                                                                                                                                                                                         | 09.1 <sup>152</sup> |     | 13.7 <sup>126</sup> | 20      | 41                       | 6 08  | 32            | 44             | 51 | 28             | 36 |    |   |
| 15 | 44                                                 | 58.1 |     | 15.1 | 92                                                                                                                                                                                                         | 43.2 <sup>151</sup> |     | 26.1 <sup>124</sup> | 30      | 5 57                     | 27    | 6 53          | 2 54           | 56 | 16             | 31 |    |   |
| 16 | 59                                                 | 58.0 |     | 15.2 | 107                                                                                                                                                                                                        | 17.3 <sup>151</sup> |     | 38.6 <sup>125</sup> | 35      | 6 06                     | 37    | 7 05          | 3 00           | 59 | 09             | 28 |    |   |
| 17 | 74                                                 | 57.9 | +23 | 15.3 | 121                                                                                                                                                                                                        | 51.3 <sup>150</sup> | +13 | 50.9 <sup>123</sup> | 40      | 6 15                     | 6 49  | 7 19          | 3 06           | 63 | 14             | 01 | 26 |   |
| 18 | 89                                                 | 57.7 | +23 | 15.4 | 136                                                                                                                                                                                                        | 25.3 <sup>150</sup> | +14 | 03.2 <sup>123</sup> | 45      | 6 25                     | 7 02  | 7 36          | 3 14           | 66 | 13             | 52 | 22 |   |
| 19 | 104                                                | 57.6 |     | 15.6 | 150                                                                                                                                                                                                        | 59.3 <sup>150</sup> |     | 15.5 <sup>123</sup> | 50      | 37                       | 18    | 7 57          | 23             | 71 | 41             | 17 |    |   |
| 20 | 119                                                | 57.5 |     | 15.7 | 165                                                                                                                                                                                                        | 33.3 <sup>150</sup> |     | 27.6 <sup>121</sup> | 52      | 42                       | 26    | 8 06          | 28             | 73 | 36             | 15 |    |   |
| 21 | 134                                                | 57.3 |     | 15.8 | 180                                                                                                                                                                                                        | 07.2 <sup>149</sup> |     | 39.7 <sup>121</sup> | 54      | 48                       | 34    | 17            | 32             | 76 | 31             | 12 |    |   |
| 22 | 149                                                | 57.2 |     | 15.9 | 194                                                                                                                                                                                                        | 41.0 <sup>148</sup> | +14 | 51.8 <sup>121</sup> | 56      | 6 54                     | 43    | 30            | 37             | 79 | 25             | 9  |    |   |
| 23 | 164                                                | 57.1 |     | 16.1 | 209                                                                                                                                                                                                        | 14.9 <sup>149</sup> | +15 | 03.8 <sup>120</sup> | 58      | 7 00                     | 7 53  | 8 44          | 43             | 83 | 18             | 6  |    |   |
| 24 | 179                                                | 56.9 | +23 | 16.2 | 223                                                                                                                                                                                                        | 48.7 <sup>148</sup> | +15 | 15.7 <sup>119</sup> | 60 S    | 7 08                     | 8 04  | 9 02          | 3 50           | 87 | 13             | 10 | 2  |   |

| UT  | ARIES                                   |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|-----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG<br>6 <sup>h</sup> 32 <sup>m</sup> 4 |      | Mag: -4.1<br>PMG: 11 <sup>h</sup> 26 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 14 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 23 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 30 <sup>m</sup> |      |
|     | hG ♈                                    |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                       | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 261                                     | 38.5 | 187                                               | 43.4 | +21                                               | 21.4 | 146                                               | 25.7 | +22                                               | 40.6 |
| 1   | 276                                     | 41.0 | 202                                               | 47.4 |                                                   | 20.6 | 161                                               | 26.4 |                                                   | 40.3 |
| 2   | 291                                     | 43.4 | 217                                               | 51.3 |                                                   | 19.9 | 176                                               | 27.2 |                                                   | 40.1 |
| 3   | 306                                     | 45.9 | 232                                               | 55.3 |                                                   | 19.2 | 191                                               | 28.0 |                                                   | 39.8 |
| 4   | 321                                     | 48.4 | 247                                               | 59.2 |                                                   | 18.5 | 206                                               | 28.8 |                                                   | 39.5 |
| 5   | 336                                     | 50.8 | 263                                               | 03.2 | +21                                               | 17.8 | 221                                               | 29.6 | +22                                               | 39.2 |
| 6   | 351                                     | 53.3 | 278                                               | 07.1 | +21                                               | 17.1 | 236                                               | 30.4 | +22                                               | 39.0 |
| 7   | 6                                       | 55.8 | 293                                               | 11.1 |                                                   | 16.3 | 251                                               | 31.1 |                                                   | 38.7 |
| 8   | 21                                      | 58.2 | 308                                               | 15.0 |                                                   | 15.6 | 266                                               | 31.9 |                                                   | 38.4 |
| 9   | 37                                      | 00.7 | 323                                               | 18.9 |                                                   | 14.9 | 281                                               | 32.7 |                                                   | 38.2 |
| 10  | 52                                      | 03.2 | 338                                               | 22.9 |                                                   | 14.2 | 296                                               | 33.5 |                                                   | 37.9 |
| 11  | 67                                      | 05.6 | 353                                               | 26.8 | +21                                               | 13.5 | 311                                               | 34.3 | +22                                               | 37.6 |
| 12  | 82                                      | 08.1 | 8                                                 | 30.7 | +21                                               | 12.8 | 326                                               | 35.1 | +22                                               | 37.3 |
| 13  | 97                                      | 10.6 | 23                                                | 34.7 |                                                   | 12.0 | 341                                               | 35.8 |                                                   | 37.1 |
| 14  | 112                                     | 13.0 | 38                                                | 38.6 |                                                   | 11.3 | 356                                               | 36.6 |                                                   | 36.8 |
| 15  | 127                                     | 15.5 | 53                                                | 42.5 |                                                   | 10.6 | 11                                                | 37.4 |                                                   | 36.5 |
| 16  | 142                                     | 17.9 | 68                                                | 46.4 |                                                   | 09.9 | 26                                                | 38.2 |                                                   | 36.3 |
| 17  | 157                                     | 20.4 | 83                                                | 50.3 | +21                                               | 09.2 | 41                                                | 39.0 | +22                                               | 36.0 |
| 18  | 172                                     | 22.9 | 98                                                | 54.2 | +21                                               | 08.5 | 56                                                | 39.8 | +22                                               | 35.7 |
| 19  | 187                                     | 25.3 | 113                                               | 58.2 |                                                   | 07.8 | 71                                                | 40.5 |                                                   | 35.4 |
| 20  | 202                                     | 27.8 | 129                                               | 02.1 |                                                   | 07.1 | 86                                                | 41.3 |                                                   | 35.2 |
| 21  | 217                                     | 30.3 | 144                                               | 06.0 |                                                   | 06.4 | 101                                               | 42.1 |                                                   | 34.9 |
| 22  | 232                                     | 32.7 | 159                                               | 09.9 |                                                   | 05.6 | 116                                               | 42.9 |                                                   | 34.6 |
| 23  | 247                                     | 35.2 | 174                                               | 13.8 |                                                   | 04.9 | 131                                               | 43.7 |                                                   | 34.3 |
| 24  | 262                                     | 37.7 | 189                                               | 17.7 | +21                                               | 04.2 | 146                                               | 44.5 | +22                                               | 34.1 |
| Dif | —                                       |      | +39                                               |      | -7                                                |      | +8                                                |      | -3                                                |      |

|     |  |    |  |     |  |   |  |
|-----|--|----|--|-----|--|---|--|
| +22 |  | -1 |  | +21 |  | 0 |  |
|-----|--|----|--|-----|--|---|--|



| UT  | SOL                                    |      |                                                | ☉ LUNA                                                                                                                                         |                                                |      | Latitud                                        | Puesta de Sol | Final del crepúsculo                           |       | Salida de Luna |         | Puesta de Luna |          |     |      |
|-----|----------------------------------------|------|------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|------|------------------------------------------------|---------------|------------------------------------------------|-------|----------------|---------|----------------|----------|-----|------|
|     | SD: 15 <sup>h</sup> 7                  |      |                                                | Edad: 25 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 5<br>12 <sup>h</sup> : 54 <sup>m</sup> 4<br>20 <sup>h</sup> : 54 <sup>m</sup> 3 |                                                |      |                                                |               |                                                |       |                |         |                |          |     |      |
|     | PMG: 12 <sup>h</sup> 00 <sup>m</sup> 3 |      |                                                | SD: 14 <sup>h</sup> 9 PMG: 9 <sup>h</sup> 21 <sup>m</sup> R°: 45 <sup>m</sup>                                                                  |                                                |      |                                                |               |                                                |       |                |         |                |          |     |      |
|     | hG ☉                                   | Dec  |                                                | hG ☾                                                                                                                                           | Dif                                            | Dec  | Dif                                            |               |                                                | Civil | Náutico        | Hora    | R°             | Hora     | R°  |      |
| h   | °                                      | '    | °                                              | °                                                                                                                                              | '                                              | °    | '                                              | °             | h m                                            | h m   | h m            | h m m   |                | h m m    |     |      |
| 0   | 179                                    | 56.9 | +23                                            | 223                                                                                                                                            | 48.7                                           | +15  | 15.7                                           | 60 N          | 21 25                                          | 23 08 | ** **          | 1 13 3  |                | 17 59 89 |     |      |
| 1   | 194                                    | 56.8 |                                                | 238                                                                                                                                            | 22.4 <sup>147</sup>                            |      | 27.5 <sup>118</sup>                            | 58            | 21 04                                          | 22 19 | ** **          | 22 7    |                | 46 83    |     |      |
| 2   | 209                                    | 56.7 |                                                | 252                                                                                                                                            | 56.1 <sup>147</sup>                            |      | 39.3 <sup>118</sup>                            | 56            | 20 48                                          | 21 50 | ** **          | 31 10   |                | 35 79    |     |      |
| 3   | 224                                    | 56.5 |                                                | 267                                                                                                                                            | 29.8 <sup>147</sup>                            | +15  | 51.0 <sup>117</sup>                            | 54            | 34                                             | 28    | 23 13          | 38 14   |                | 25 76    |     |      |
| 4   | 239                                    | 56.4 |                                                | 282                                                                                                                                            | 03.4 <sup>146</sup>                            | +16  | 02.7 <sup>117</sup>                            | 52            | 21                                             | 21 10 | 22 28          | 45 16   |                | 16 73    |     |      |
| 5   | 254                                    | 56.3 | +23                                            | 296                                                                                                                                            | 37.0 <sup>146</sup>                            | +16  | 14.2 <sup>115</sup>                            | 50            | 20 11                                          | 20 55 | 22 00          | 1 51 18 |                | 17 08 71 |     |      |
| 6   | 269                                    | 56.1 | +23                                            | 311                                                                                                                                            | 10.5 <sup>145</sup>                            | +16  | 25.7 <sup>115</sup>                            | 45            | 19 48                                          | 20 26 | 21 15          | 2 04 23 |                | 16 52 66 |     |      |
| 7   | 284                                    | 56.0 |                                                | 325                                                                                                                                            | 44.0 <sup>145</sup>                            |      | 37.2 <sup>115</sup>                            | 40            | 30                                             | 20 03 | 20 45          | 15 26   |                | 39 62    |     |      |
| 8   | 299                                    | 55.9 |                                                | 340                                                                                                                                            | 17.4 <sup>144</sup>                            |      | 48.5 <sup>113</sup>                            | 35            | 15                                             | 19 45 | 22             | 24 30   |                | 27 59    |     |      |
| 9   | 314                                    | 55.7 |                                                | 354                                                                                                                                            | 50.8 <sup>144</sup>                            | +16  | 59.8 <sup>113</sup>                            | 30            | 19 02                                          | 30    | 20 03          | 32 33   |                | 17 57    |     |      |
| 10  | 329                                    | 55.6 |                                                | 9                                                                                                                                              | 24.2 <sup>144</sup>                            | +17  | 11.0 <sup>112</sup>                            | 20            | 18 40                                          | 19 05 | 19 34          | 46 37   |                | 16 00 53 |     |      |
| 11  | 344                                    | 55.5 | +23                                            | 23                                                                                                                                             | 57.5 <sup>143</sup>                            | +17  | 22.2 <sup>112</sup>                            | 10 N          | 18 21                                          | 18 45 | 19 12          | 2 59 41 |                | 15 46 48 |     |      |
| 12  | 359                                    | 55.3 | +23                                            | 38                                                                                                                                             | 30.8 <sup>143</sup>                            | +17  | 33.2 <sup>110</sup>                            | 0             | 18 04                                          | 18 27 | 18 53          | 3 11 44 |                | 15 32 45 |     |      |
| 13  | 14                                     | 55.2 |                                                | 53                                                                                                                                             | 04.0 <sup>142</sup>                            |      | 44.2 <sup>110</sup>                            | 10 S          | 17 47                                          | 18 09 | 36             | 23 48   |                | 18 42    |     |      |
| 14  | 29                                     | 55.1 |                                                | 67                                                                                                                                             | 37.1 <sup>141</sup>                            | +17  | 55.1 <sup>109</sup>                            | 20            | 28                                             | 17 52 | 20             | 35 52   |                | 15 04 38 |     |      |
| 15  | 44                                     | 54.9 |                                                | 82                                                                                                                                             | 10.3 <sup>142</sup>                            | +18  | 06.0 <sup>109</sup>                            | 30            | 17 07                                          | 33    | 18 03          | 50 57   |                | 14 47 34 |     |      |
| 16  | 59                                     | 54.8 |                                                | 96                                                                                                                                             | 43.3 <sup>140</sup>                            |      | 16.7 <sup>107</sup>                            | 35            | 16 55                                          | 23    | 17 55          | 3 59 59 |                | 37 32    |     |      |
| 17  | 74                                     | 54.7 | +23                                            | 111                                                                                                                                            | 16.3 <sup>140</sup>                            | +18  | 27.4 <sup>107</sup>                            | 40            | 16 41                                          | 17 11 | 17 45          | 4 09 62 |                | 14 27 28 |     |      |
| 18  | 89                                     | 54.5 | +23                                            | 125                                                                                                                                            | 49.3 <sup>140</sup>                            | +18  | 38.0 <sup>106</sup>                            | 45            | 16 24                                          | 16 58 | 17 35          | 4 20 66 |                | 14 14 25 |     |      |
| 19  | 104                                    | 54.4 |                                                | 140                                                                                                                                            | 22.2 <sup>139</sup>                            |      | 48.5 <sup>105</sup>                            | 50            | 16 03                                          | 42    | 23             | 34 71   |                | 13 58 21 |     |      |
| 20  | 119                                    | 54.3 |                                                | 154                                                                                                                                            | 55.1 <sup>139</sup>                            | +18  | 58.9 <sup>104</sup>                            | 52            | 15 54                                          | 34    | 18             | 41 73   |                | 51 18    |     |      |
| 21  | 134                                    | 54.1 |                                                | 169                                                                                                                                            | 27.9 <sup>138</sup>                            | +19  | 09.3 <sup>104</sup>                            | 54            | 43                                             | 26    | 12             | 48 77   |                | 43 16    |     |      |
| 22  | 149                                    | 54.0 |                                                | 184                                                                                                                                            | 00.6 <sup>137</sup>                            |      | 19.5 <sup>102</sup>                            | 56            | 30                                             | 17    | 06             | 4 56 80 |                | 34 12    |     |      |
| 23  | 164                                    | 53.9 |                                                | 198                                                                                                                                            | 33.4 <sup>138</sup>                            |      | 29.7 <sup>102</sup>                            | 58            | 15 15                                          | 16 07 | 17 00          | 5 06 83 |                | 24 9     |     |      |
| 24  | 179                                    | 53.7 | +23                                            | 213                                                                                                                                            | 06.0 <sup>136</sup>                            | +19  | 39.8 <sup>101</sup>                            | 60 S          | 14 58                                          | 15 55 | 16 52          | 5 17 88 |                | 13 12 4  |     |      |
| UT  | ARIES                                  |      | VENUS                                          |                                                                                                                                                | MARTE                                          |      | JÚPITER                                        |               | SATURNO                                        |       |                |         |                |          |     |      |
|     | PMG: 6 <sup>h</sup> 28 <sup>m</sup> 4  |      | Mag: -4.1 PMG: 11 <sup>h</sup> 20 <sup>m</sup> |                                                                                                                                                | Mag: +1.8 PMG: 14 <sup>h</sup> 12 <sup>m</sup> |      | Mag: -2.0 PMG: 17 <sup>h</sup> 19 <sup>m</sup> |               | Mag: +0.1 PMG: 13 <sup>h</sup> 27 <sup>m</sup> |       |                |         |                |          |     |      |
|     | hG ♈                                   |      | hG ♀                                           | Dec                                                                                                                                            |                                                | hG ♂ | Dec                                            |               | hG ♃                                           | Dec   |                | hG ♄    | Dec            |          |     |      |
| h   | °                                      | '    | °                                              | '                                                                                                                                              | °                                              | °    | '                                              | °             | °                                              | '     | °              | '       | °              | '        | °   | '    |
| 0   | 262                                    | 37.7 | 189                                            | 17.7                                                                                                                                           | +21                                            | 04.2 | 146                                            | 44.5          | +22                                            | 34.1  | 99             | 30.8    | +8             | 29.0     | 157 | 48.9 |
| 1   | 277                                    | 40.1 | 204                                            | 21.6                                                                                                                                           |                                                | 03.5 | 161                                            | 45.3          |                                                | 33.8  | 114            | 33.0    |                | 28.9     | 172 | 51.1 |
| 2   | 292                                    | 42.6 | 219                                            | 25.5                                                                                                                                           |                                                | 02.8 | 176                                            | 46.0          |                                                | 33.5  | 129            | 35.2    |                | 28.8     | 187 | 53.2 |
| 3   | 307                                    | 45.0 | 234                                            | 29.4                                                                                                                                           |                                                | 02.1 | 191                                            | 46.8          |                                                | 33.2  | 144            | 37.4    |                | 28.7     | 202 | 55.3 |
| 4   | 322                                    | 47.5 | 249                                            | 33.3                                                                                                                                           |                                                | 01.4 | 206                                            | 47.6          |                                                | 32.9  | 159            | 39.7    |                | 28.6     | 217 | 57.5 |
| 5   | 337                                    | 50.0 | 264                                            | 37.1                                                                                                                                           | +21                                            | 00.7 | 221                                            | 48.4          | +22                                            | 32.7  | 174            | 41.9    | +8             | 28.5     | 232 | 59.6 |
| 6   | 352                                    | 52.4 | 279                                            | 41.0                                                                                                                                           | +21                                            | 00.0 | 236                                            | 49.2          | +22                                            | 32.4  | 189            | 44.1    | +8             | 28.3     | 248 | 01.7 |
| 7   | 7                                      | 54.9 | 294                                            | 44.9                                                                                                                                           | +20                                            | 59.3 | 251                                            | 50.0          |                                                | 32.1  | 204            | 46.3    |                | 28.2     | 263 | 03.8 |
| 8   | 22                                     | 57.4 | 309                                            | 48.8                                                                                                                                           |                                                | 58.6 | 266                                            | 50.7          |                                                | 31.8  | 219            | 48.5    |                | 28.1     | 278 | 06.0 |
| 9   | 37                                     | 59.8 | 324                                            | 52.7                                                                                                                                           |                                                | 57.9 | 281                                            | 51.5          |                                                | 31.6  | 234            | 50.7    |                | 28.0     | 293 | 08.1 |
| 10  | 53                                     | 02.3 | 339                                            | 56.5                                                                                                                                           |                                                | 57.2 | 296                                            | 52.3          |                                                | 31.3  | 249            | 52.9    |                | 27.9     | 308 | 10.2 |
| 11  | 68                                     | 04.8 | 355                                            | 00.4                                                                                                                                           | +20                                            | 56.5 | 311                                            | 53.1          | +22                                            | 31.0  | 264            | 55.1    | +8             | 27.8     | 323 | 12.3 |
| 12  | 83                                     | 07.2 | 10                                             | 04.3                                                                                                                                           | +20                                            | 55.8 | 326                                            | 53.9          | +22                                            | 30.7  | 279            | 57.3    | +8             | 27.7     | 338 | 14.5 |
| 13  | 98                                     | 09.7 | 25                                             | 08.1                                                                                                                                           |                                                | 55.1 | 341                                            | 54.7          |                                                | 30.4  | 294            | 59.5    |                | 27.6     | 353 | 16.6 |
| 14  | 113                                    | 12.2 | 40                                             | 12.0                                                                                                                                           |                                                | 54.4 | 356                                            | 55.5          |                                                | 30.2  | 310            | 01.8    |                | 27.5     | 8   | 18.7 |
| 15  | 128                                    | 14.6 | 55                                             | 15.9                                                                                                                                           |                                                | 53.7 | 11                                             | 56.2          |                                                | 29.9  | 325            | 04.0    |                | 27.3     | 23  | 20.9 |
| 16  | 143                                    | 17.1 | 70                                             | 19.7                                                                                                                                           |                                                | 53.0 | 26                                             | 57.0          |                                                | 29.6  | 340            | 06.2    |                | 27.2     | 38  | 23.0 |
| 17  | 158                                    | 19.5 | 85                                             | 23.6                                                                                                                                           | +20                                            | 52.3 | 41                                             | 57.8          | +22                                            | 29.3  | 355            | 08.4    | +8             | 27.1     | 53  | 25.1 |
| 18  | 173                                    | 22.0 | 100                                            | 27.4                                                                                                                                           | +20                                            | 51.6 | 56                                             | 58.6          | +22                                            | 29.0  | 10             | 10.6    | +8             | 27.0     | 68  | 27.2 |
| 19  | 188                                    | 24.5 | 115                                            | 31.3                                                                                                                                           |                                                | 50.9 | 71                                             | 59.4          |                                                | 28.8  | 25             | 12.8    |                | 26.9     | 83  | 29.4 |
| 20  | 203                                    | 26.9 | 130                                            | 35.1                                                                                                                                           |                                                | 50.2 | 87                                             | 00.2          |                                                | 28.5  | 40             | 15.0    |                | 26.8     | 98  | 31.5 |
| 21  | 218                                    | 29.4 | 145                                            | 38.9                                                                                                                                           |                                                | 49.5 | 102                                            | 01.0          |                                                | 28.2  | 55             | 17.2    |                | 26.7     | 113 | 33.6 |
| 22  | 233                                    | 31.9 | 160                                            | 42.8                                                                                                                                           |                                                | 48.8 | 117                                            | 01.8          |                                                | 27.9  | 70             | 19.4    |                | 26.6     | 128 | 35.8 |
| 23  | 248                                    | 34.3 | 175                                            | 46.6                                                                                                                                           |                                                | 48.1 | 132                                            | 02.5          |                                                | 27.6  | 85             | 21.6    |                | 26.5     | 143 | 37.9 |
| 24  | 263                                    | 36.8 | 190                                            | 50.5                                                                                                                                           | +20                                            | 47.4 | 147                                            | 03.3          | +22                                            | 27.3  | 100            | 23.8    | +8             | 26.3     | 158 | 40.0 |
| Dif | —                                      |      | +39                                            |                                                                                                                                                | -7                                             |      | +8                                             |               | -3                                             |       | +22            |         | -1             |          | +21 |      |

| UT | SOL                                                             |      |     | ● LUNA                                                                                         |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |          |
|----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----------|
|    | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 5 |      |     | Edad: 26 <sup>d</sup> 8 PHE {<br>SD: 14 <sup>h</sup> 8<br>PMG: 10 <sup>h</sup> 06 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |          |
|    |                                                                 |      |     | R <sup>c</sup> : 47 <sup>m</sup>                                                               |     |                     |         |                          |         |               |                |      |                |      |          |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                           | Dif | Dec                 | Dif     |                          | Náutico | Civil         |                | Hora | R°             | Hora | R°       |
| h  | °                                                               | '    | °   | °                                                                                              | '   | °                   | '       | °                        | h m     | h m           | h m            | h m  | m              | h m  | m        |
| 0  | 179                                                             | 53.7 | +23 | 18.9                                                                                           | 213 | 06.0                | +19     | 39.8                     | 60 N    | ** **         | 0 53           | 2 36 | 1 16           | 6    | 19 28 88 |
| 1  | 194                                                             | 53.6 |     | 19.0                                                                                           | 227 | 38.6 <sup>136</sup> |         | 49.8 <sup>100</sup>      | 58      | ** **         | 1 41           | 2 56 | 29             | 12   | 19 09 82 |
| 2  | 209                                                             | 53.5 |     | 19.1                                                                                           | 242 | 11.2 <sup>136</sup> | +19     | 59.8 <sup>100</sup>      | 56      | ** **         | 2 11           | 3 13 | 41             | 16   | 18 54 77 |
| 3  | 224                                                             | 53.3 |     | 19.2                                                                                           | 256 | 43.7 <sup>135</sup> | +20     | 09.6 <sup>98</sup>       | 54      | 0 48          | 33             | 27   | 1 52           | 18   | 41 73    |
| 4  | 239                                                             | 53.2 |     | 19.3                                                                                           | 271 | 16.1 <sup>134</sup> |         | 19.4 <sup>98</sup>       | 52      | 1 33          | 2 51           | 39   | 2 01           | 21   | 29 71    |
| 5  | 254                                                             | 53.1 | +23 | 19.4                                                                                           | 285 | 48.5 <sup>134</sup> | +20     | 29.0 <sup>96</sup>       | 50      | 2 00          | 3 06           | 3 50 | 2 09           | 24   | 18 19 69 |
| 6  | 269                                                             | 52.9 | +23 | 19.5                                                                                           | 300 | 20.8 <sup>133</sup> | +20     | 38.6 <sup>96</sup>       | 45      | 2 46          | 3 35           | 4 13 | 2 27           | 28   | 17 58 64 |
| 7  | 284                                                             | 52.8 |     | 19.6                                                                                           | 314 | 53.1 <sup>133</sup> |         | 48.1 <sup>95</sup>       | 40      | 3 16          | 3 58           | 31   | 41             | 32   | 41 61    |
| 8  | 299                                                             | 52.7 |     | 19.7                                                                                           | 329 | 25.3 <sup>132</sup> | +20     | 57.5 <sup>94</sup>       | 35      | 39            | 4 16           | 46   | 2 54           | 34   | 26 59    |
| 9  | 314                                                             | 52.5 |     | 19.8                                                                                           | 343 | 57.5 <sup>132</sup> | +21     | 06.8 <sup>93</sup>       | 30      | 3 58          | 31             | 4 58 | 3 05           | 36   | 17 14 57 |
| 10 | 329                                                             | 52.4 |     | 19.9                                                                                           | 358 | 29.6 <sup>131</sup> |         | 16.0 <sup>92</sup>       | 20      | 4 27          | 4 56           | 5 20 | 23             | 41   | 16 53 53 |
| 11 | 344                                                             | 52.3 | +23 | 20.0                                                                                           | 13  | 01.7 <sup>131</sup> | +21     | 25.1 <sup>91</sup>       | 10 N    | 4 49          | 5 16           | 5 39 | 3 40           | 43   | 16 34 51 |
| 12 | 359                                                             | 52.1 | +23 | 20.1                                                                                           | 27  | 33.7 <sup>130</sup> | +21     | 34.1 <sup>90</sup>       | 0       | 5 08          | 5 34           | 5 57 | 3 55           | 47   | 16 17 48 |
| 13 | 14                                                              | 52.0 |     | 20.2                                                                                           | 42  | 05.6 <sup>129</sup> |         | 43.0 <sup>89</sup>       | 10 S    | 25            | 5 51           | 6 14 | 4 11           | 49   | 16 00 46 |
| 14 | 29                                                              | 51.8 |     | 20.3                                                                                           | 56  | 37.5 <sup>129</sup> | +21     | 51.9 <sup>89</sup>       | 20      | 41            | 6 09           | 33   | 27             | 53   | 15 42 43 |
| 15 | 44                                                              | 51.7 |     | 20.4                                                                                           | 71  | 09.3 <sup>128</sup> | +22     | 00.6 <sup>87</sup>       | 30      | 5 58          | 27             | 6 54 | 47             | 56   | 21 39    |
| 16 | 59                                                              | 51.6 |     | 20.5                                                                                           | 85  | 41.1 <sup>128</sup> |         | 09.2 <sup>86</sup>       | 35      | 6 06          | 38             | 7 06 | 4 58           | 59   | 15 09 37 |
| 17 | 74                                                              | 51.4 | +23 | 20.6                                                                                           | 100 | 12.8 <sup>127</sup> | +22     | 17.8 <sup>86</sup>       | 40      | 6 16          | 6 50           | 7 20 | 5 11           | 62   | 14 55 35 |
| 18 | 89                                                              | 51.3 | +23 | 20.6                                                                                           | 114 | 44.5 <sup>127</sup> | +22     | 26.2 <sup>84</sup>       | 45      | 6 26          | 7 03           | 7 37 | 5 26           | 66   | 14 39 31 |
| 19 | 104                                                             | 51.2 |     | 20.7                                                                                           | 129 | 16.1 <sup>126</sup> |         | 34.5 <sup>83</sup>       | 50      | 38            | 19             | 7 58 | 45             | 70   | 19 27    |
| 20 | 119                                                             | 51.0 |     | 20.8                                                                                           | 143 | 47.7 <sup>126</sup> |         | 42.8 <sup>83</sup>       | 52      | 43            | 27             | 8 08 | 5 54           | 73   | 14 09 25 |
| 21 | 134                                                             | 50.9 |     | 20.9                                                                                           | 158 | 19.2 <sup>125</sup> |         | 50.9 <sup>81</sup>       | 54      | 49            | 35             | 19   | 6 05           | 75   | 13 59 21 |
| 22 | 149                                                             | 50.8 |     | 21.0                                                                                           | 172 | 50.6 <sup>124</sup> | +22     | 59.0 <sup>81</sup>       | 56      | 6 55          | 44             | 31   | 16             | 79   | 46 19    |
| 23 | 164                                                             | 50.6 |     | 21.1                                                                                           | 187 | 22.0 <sup>124</sup> | +23     | 06.9 <sup>79</sup>       | 58      | 7 01          | 7 54           | 8 46 | 29             | 84   | 33 14    |
| 24 | 179                                                             | 50.5 | +23 | 21.2                                                                                           | 201 | 53.4 <sup>124</sup> | +23     | 14.7 <sup>78</sup>       | 60 S    | 7 09          | 8 06           | 9 03 | 6 45           | 90   | 13 16 8  |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |     | JÚPITER                                           |     | SATURNO                                           |      |    |     |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|-----|---------------------------------------------------|------|----|-----|------|-----|------|
|     | PMG: 6 <sup>h</sup> 24 <sup>m</sup> 5 |      | Mag: -4.0<br>PMG: 11 <sup>h</sup> 14 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 11 <sup>m</sup> |     | Mag: -2.0<br>PMG: 17 <sup>h</sup> 16 <sup>m</sup> |     | Mag: +0.1<br>PMG: 13 <sup>h</sup> 23 <sup>m</sup> |      |    |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec | hG ♄                                              | Dec  |    |     |      |     |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '   | °                                                 | '   | °                                                 | '    |    |     |      |     |      |
| 0   | 263                                   | 36.8 | 190                                               | 50.5 | +20                                               | 147 | 03.3                                              | +22 | 100                                               | 23.8 | +8 | 158 | 40.0 | +22 | 25.5 |
| 1   | 278                                   | 39.3 | 205                                               | 54.3 |                                                   | 162 | 04.1                                              |     | 115                                               | 26.0 |    | 173 | 42.1 |     | 25.5 |
| 2   | 293                                   | 41.7 | 220                                               | 58.1 |                                                   | 177 | 04.9                                              |     | 130                                               | 28.2 |    | 188 | 44.3 |     | 25.5 |
| 3   | 308                                   | 44.2 | 236                                               | 01.9 |                                                   | 192 | 05.7                                              |     | 145                                               | 30.5 |    | 203 | 46.4 |     | 25.4 |
| 4   | 323                                   | 46.7 | 251                                               | 05.8 |                                                   | 207 | 06.5                                              |     | 160                                               | 32.7 |    | 218 | 48.5 |     | 25.4 |
| 5   | 338                                   | 49.1 | 266                                               | 09.6 | +20                                               | 222 | 07.3                                              | +22 | 175                                               | 34.9 | +8 | 233 | 50.6 | +22 | 25.4 |
| 6   | 353                                   | 51.6 | 281                                               | 13.4 | +20                                               | 237 | 08.1                                              | +22 | 190                                               | 37.1 | +8 | 248 | 52.8 | +22 | 25.4 |
| 7   | 8                                     | 54.0 | 296                                               | 17.2 |                                                   | 252 | 08.8                                              |     | 205                                               | 39.3 |    | 263 | 54.9 |     | 25.3 |
| 8   | 23                                    | 56.5 | 311                                               | 21.0 |                                                   | 267 | 09.6                                              |     | 220                                               | 41.5 |    | 278 | 57.0 |     | 25.3 |
| 9   | 38                                    | 59.0 | 326                                               | 24.8 |                                                   | 282 | 10.4                                              |     | 235                                               | 43.7 |    | 293 | 59.2 |     | 25.3 |
| 10  | 54                                    | 01.4 | 341                                               | 28.6 |                                                   | 297 | 11.2                                              |     | 250                                               | 45.9 |    | 309 | 01.3 |     | 25.2 |
| 11  | 69                                    | 03.9 | 356                                               | 32.4 | +20                                               | 312 | 12.0                                              | +22 | 265                                               | 48.1 | +8 | 324 | 03.4 | +22 | 25.2 |
| 12  | 84                                    | 06.4 | 11                                                | 36.2 | +20                                               | 327 | 12.8                                              | +22 | 280                                               | 50.3 | +8 | 339 | 05.5 | +22 | 25.2 |
| 13  | 99                                    | 08.8 | 26                                                | 40.0 |                                                   | 342 | 13.6                                              |     | 295                                               | 52.5 |    | 354 | 07.7 |     | 25.2 |
| 14  | 114                                   | 11.3 | 41                                                | 43.8 |                                                   | 357 | 14.4                                              |     | 310                                               | 54.7 |    | 9   | 09.8 |     | 25.1 |
| 15  | 129                                   | 13.8 | 56                                                | 47.6 |                                                   | 12  | 15.2                                              |     | 325                                               | 56.9 |    | 24  | 11.9 |     | 25.1 |
| 16  | 144                                   | 16.2 | 71                                                | 51.4 |                                                   | 27  | 15.9                                              |     | 340                                               | 59.1 |    | 39  | 14.0 |     | 25.1 |
| 17  | 159                                   | 18.7 | 86                                                | 55.2 | +20                                               | 42  | 16.7                                              | +22 | 356                                               | 01.3 | +8 | 54  | 16.2 | +22 | 25.0 |
| 18  | 174                                   | 21.2 | 101                                               | 59.0 | +20                                               | 57  | 17.5                                              | +22 | 11                                                | 03.5 | +8 | 69  | 18.3 | +22 | 25.0 |
| 19  | 189                                   | 23.6 | 117                                               | 02.7 |                                                   | 72  | 18.3                                              |     | 26                                                | 05.7 |    | 84  | 20.4 |     | 25.0 |
| 20  | 204                                   | 26.1 | 132                                               | 06.5 |                                                   | 87  | 19.1                                              |     | 41                                                | 07.9 |    | 99  | 22.5 |     | 25.0 |
| 21  | 219                                   | 28.5 | 147                                               | 10.3 |                                                   | 102 | 19.9                                              |     | 56                                                | 10.1 |    | 114 | 24.7 |     | 24.9 |
| 22  | 234                                   | 31.0 | 162                                               | 14.1 |                                                   | 117 | 20.7                                              |     | 71                                                | 12.3 |    | 129 | 26.8 |     | 24.9 |
| 23  | 249                                   | 33.5 | 177                                               | 17.8 |                                                   | 132 | 21.5                                              |     | 86                                                | 14.5 |    | 144 | 28.9 |     | 24.9 |
| 24  | 264                                   | 35.9 | 192                                               | 21.6 | +20                                               | 147 | 22.3                                              | +22 | 101                                               | 16.7 | +8 | 159 | 31.1 | +22 | 24.8 |
| Dif | —                                     |      | +38                                               |      | -7                                                | +8  |                                                   | -3  | +22                                               |      | -1 | +21 |      |     | 0    |

| UT | SOL                                    |      |     | ● LUNA                                                                                                                                                                |     |                     | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |          |    |
|----|----------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|---------------|----------------------|-------|----------------|-------|----------------|----------|----|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 27 <sup>d</sup> 8 PHE { 4 <sup>h</sup> : 54 <sup>o</sup> 0<br>12 <sup>h</sup> : 54 <sup>o</sup> 0<br>20 <sup>h</sup> : 54 <sup>o</sup> 0<br>R°: 50 <sup>m</sup> |     |                     |         |               |                      |       |                |       |                |          |    |
|    | PMG: 12 <sup>h</sup> 00 <sup>m</sup> 7 |      |     | SD: 14 <sup>h</sup> 7<br>PMG: 10 <sup>h</sup> 53 <sup>m</sup>                                                                                                         |     |                     |         |               |                      |       |                |       |                |          |    |
|    | hG ☉                                   |      | Dec | hG ☾                                                                                                                                                                  |     | Dif                 | Dec     | Dif           |                      | Civil | Náutico        | Hora  | R°             | Hora     | R° |
| h  | °                                      | '    | °   | '                                                                                                                                                                     | °   | '                   | °       | '             | °                    | h m   | h m            | h m   | m              | h m      | m  |
| 0  | 179                                    | 50.5 | +23 | 21.2                                                                                                                                                                  | 201 | 53.4                | +23     | 14.7          | 60 N                 | 21 26 | 23 11          | ** ** | 1 22 12        | 20 56 78 |    |
| 1  | 194                                    | 50.4 |     | 21.3                                                                                                                                                                  | 216 | 24.7 <sup>123</sup> |         | 22.4          | 58                   | 21 06 | 22 21          | ** ** | 41 18          | 31 72    |    |
| 2  | 209                                    | 50.2 |     | 21.4                                                                                                                                                                  | 230 | 55.9 <sup>122</sup> |         | 30.1          | 56                   | 20 49 | 21 51          | ** ** | 1 57 23        | 20 11 68 |    |
| 3  | 224                                    | 50.1 |     | 21.4                                                                                                                                                                  | 245 | 27.1 <sup>122</sup> |         | 37.6          | 54                   | 35    | 29             | 23 16 | 2 10 26        | 19 54 66 |    |
| 4  | 239                                    | 50.0 |     | 21.5                                                                                                                                                                  | 259 | 58.2 <sup>121</sup> |         | 45.0          | 52                   | 22    | 21 11          | 22 29 | 22 29          | 40 64    |    |
| 5  | 254                                    | 49.8 | +23 | 21.6                                                                                                                                                                  | 274 | 29.2 <sup>120</sup> | +23     | 52.3          | 50                   | 20 12 | 20 56          | 22 02 | 2 33 30        | 19 28 63 |    |
| 6  | 269                                    | 49.7 | +23 | 21.7                                                                                                                                                                  | 289 | 00.3 <sup>121</sup> | +23     | 59.5          | 45                   | 19 49 | 20 26          | 21 16 | 2 55 35        | 19 02 60 |    |
| 7  | 284                                    | 49.5 |     | 21.8                                                                                                                                                                  | 303 | 31.2 <sup>119</sup> | +24     | 06.6          | 40                   | 31    | 20 04          | 20 46 | 3 13 37        | 18 42 58 |    |
| 8  | 299                                    | 49.4 |     | 21.9                                                                                                                                                                  | 318 | 02.1 <sup>119</sup> |         | 13.6          | 35                   | 16    | 19 46          | 22    | 28 40          | 25 57    |    |
| 9  | 314                                    | 49.3 |     | 21.9                                                                                                                                                                  | 332 | 33.0 <sup>119</sup> |         | 20.4          | 30                   | 19 03 | 30             | 20 04 | 3 41 42        | 18 11 55 |    |
| 10 | 329                                    | 49.1 |     | 22.0                                                                                                                                                                  | 347 | 03.8 <sup>118</sup> |         | 27.2          | 20                   | 18 41 | 19 05          | 19 35 | 4 04 44        | 17 46 53 |    |
| 11 | 344                                    | 49.0 | +23 | 22.1                                                                                                                                                                  | 1   | 34.5 <sup>117</sup> | +24     | 33.8          | 10 N                 | 18 22 | 18 45          | 19 12 | 4 23 47        | 17 25 51 |    |
| 12 | 359                                    | 48.9 | +23 | 22.2                                                                                                                                                                  | 16  | 05.2 <sup>117</sup> | +24     | 40.4          | 0                    | 18 04 | 18 27          | 18 53 | 4 42 49        | 17 05 50 |    |
| 13 | 14                                     | 48.7 |     | 22.3                                                                                                                                                                  | 30  | 35.9 <sup>117</sup> |         | 46.8          | 10 S                 | 17 47 | 18 10          | 36    | 5 00 51        | 16 46 48 |    |
| 14 | 29                                     | 48.6 |     | 22.3                                                                                                                                                                  | 45  | 06.5 <sup>116</sup> |         | 53.1          | 20                   | 28    | 17 53          | 20    | 20 54          | 25 46    |    |
| 15 | 44                                     | 48.5 |     | 22.4                                                                                                                                                                  | 59  | 37.0 <sup>115</sup> | +24     | 59.3          | 30                   | 17 07 | 34             | 18 04 | 43 57          | 16 00 44 |    |
| 16 | 59                                     | 48.3 |     | 22.5                                                                                                                                                                  | 74  | 07.5 <sup>115</sup> | +25     | 05.3          | 35                   | 16 55 | 23             | 17 55 | 5 57 58        | 15 46 43 |    |
| 17 | 74                                     | 48.2 | +23 | 22.6                                                                                                                                                                  | 88  | 37.9 <sup>114</sup> | +25     | 11.3          | 40                   | 16 41 | 17 11          | 17 45 | 6 13 60        | 15 30 40 |    |
| 18 | 89                                     | 48.1 | +23 | 22.6                                                                                                                                                                  | 103 | 08.3 <sup>114</sup> | +25     | 17.2          | 45                   | 16 24 | 16 58          | 17 35 | 6 32 62        | 15 10 39 |    |
| 19 | 104                                    | 47.9 |     | 22.7                                                                                                                                                                  | 117 | 38.7 <sup>114</sup> |         | 22.9          | 50                   | 16 03 | 42             | 23    | 6 55 67        | 14 46 35 |    |
| 20 | 119                                    | 47.8 |     | 22.8                                                                                                                                                                  | 132 | 09.0 <sup>113</sup> |         | 28.5          | 52                   | 15 53 | 34             | 18    | 7 07 68        | 34 33    |    |
| 21 | 134                                    | 47.6 |     | 22.8                                                                                                                                                                  | 146 | 39.2 <sup>112</sup> |         | 34.0          | 54                   | 42    | 26             | 12    | 20 70          | 20 32    |    |
| 22 | 149                                    | 47.5 |     | 22.9                                                                                                                                                                  | 161 | 09.5 <sup>113</sup> |         | 39.4          | 56                   | 30    | 17             | 17 06 | 35 74          | 14 05 28 |    |
| 23 | 164                                    | 47.4 |     | 23.0                                                                                                                                                                  | 175 | 39.6 <sup>111</sup> |         | 44.6          | 58                   | 15 15 | 16 07          | 16 59 | 7 53 78        | 13 47 24 |    |
| 24 | 179                                    | 47.2 | +23 | 23.1                                                                                                                                                                  | 190 | 09.7 <sup>111</sup> | +25     | 49.8          | 60 S                 | 14 58 | 15 55          | 16 52 | 8 15 85        | 13 24 17 |    |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 20 <sup>m</sup> 6 |      | Mag: -4.1<br>PMG: 11 <sup>h</sup> 08 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 10 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 12 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 20 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 264                                   | 35.9 | 192                                               | 21.6 | +20                                               | 31.0 | 147                                               | 22.3 | +22                                               | 20.5 |
| 1   | 279                                   | 38.4 | 207                                               | 25.3 |                                                   | 30.4 | 162                                               | 23.1 |                                                   | 20.2 |
| 2   | 294                                   | 40.9 | 222                                               | 29.1 |                                                   | 29.7 | 177                                               | 23.8 |                                                   | 19.9 |
| 3   | 309                                   | 43.3 | 237                                               | 32.8 |                                                   | 29.0 | 192                                               | 24.6 |                                                   | 19.6 |
| 4   | 324                                   | 45.8 | 252                                               | 36.6 |                                                   | 28.4 | 207                                               | 25.4 |                                                   | 19.3 |
| 5   | 339                                   | 48.3 | 267                                               | 40.3 | +20                                               | 27.7 | 222                                               | 26.2 | +22                                               | 19.0 |
| 6   | 354                                   | 50.7 | 282                                               | 44.1 | +20                                               | 27.0 | 237                                               | 27.0 | +22                                               | 18.7 |
| 7   | 9                                     | 53.2 | 297                                               | 47.8 |                                                   | 26.4 | 252                                               | 27.8 |                                                   | 18.5 |
| 8   | 24                                    | 55.6 | 312                                               | 51.6 |                                                   | 25.7 | 267                                               | 28.6 |                                                   | 18.2 |
| 9   | 39                                    | 58.1 | 327                                               | 55.3 |                                                   | 25.0 | 282                                               | 29.4 |                                                   | 17.9 |
| 10  | 55                                    | 00.6 | 342                                               | 59.0 |                                                   | 24.4 | 297                                               | 30.2 |                                                   | 17.6 |
| 11  | 70                                    | 03.0 | 358                                               | 02.7 | +20                                               | 23.7 | 312                                               | 31.0 | +22                                               | 17.3 |
| 12  | 85                                    | 05.5 | 13                                                | 06.5 | +20                                               | 23.0 | 327                                               | 31.8 | +22                                               | 17.0 |
| 13  | 100                                   | 08.0 | 28                                                | 10.2 |                                                   | 22.4 | 342                                               | 32.5 |                                                   | 16.7 |
| 14  | 115                                   | 10.4 | 43                                                | 13.9 |                                                   | 21.7 | 357                                               | 33.3 |                                                   | 16.4 |
| 15  | 130                                   | 12.9 | 58                                                | 17.6 |                                                   | 21.1 | 12                                                | 34.1 |                                                   | 16.1 |
| 16  | 145                                   | 15.4 | 73                                                | 21.3 |                                                   | 20.4 | 27                                                | 34.9 |                                                   | 15.8 |
| 17  | 160                                   | 17.8 | 88                                                | 25.0 | +20                                               | 19.7 | 42                                                | 35.7 | +22                                               | 15.5 |
| 18  | 175                                   | 20.3 | 103                                               | 28.7 | +20                                               | 19.1 | 57                                                | 36.5 | +22                                               | 15.2 |
| 19  | 190                                   | 22.8 | 118                                               | 32.4 |                                                   | 18.4 | 72                                                | 37.3 |                                                   | 14.9 |
| 20  | 205                                   | 25.2 | 133                                               | 36.1 |                                                   | 17.8 | 87                                                | 38.1 |                                                   | 14.6 |
| 21  | 220                                   | 27.7 | 148                                               | 39.8 |                                                   | 17.1 | 102                                               | 38.9 |                                                   | 14.3 |
| 22  | 235                                   | 30.1 | 163                                               | 43.5 |                                                   | 16.5 | 117                                               | 39.7 |                                                   | 14.1 |
| 23  | 250                                   | 32.6 | 178                                               | 47.2 |                                                   | 15.8 | 132                                               | 40.5 |                                                   | 13.8 |
| 24  | 265                                   | 35.1 | 193                                               | 50.9 | +20                                               | 15.2 | 147                                               | 41.3 | +22                                               | 13.5 |
| Dif | —                                     |      | +37                                               |      | -7                                                |      | +8                                                |      | -3                                                |      |
|     |                                       |      |                                                   |      |                                                   |      | +22                                               |      | -1                                                |      |
|     |                                       |      |                                                   |      | +21                                               |      |                                                   |      |                                                   |      |

| UT | SOL                                    |      |     | ● LUNA                  |     |                       | Latitud | Principio del crepúsculo         |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |                |    |
|----|----------------------------------------|------|-----|-------------------------|-----|-----------------------|---------|----------------------------------|---------|---------------|----------------|------|----------------|------|----------------|----|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 28 <sup>d</sup> 8 | PHE | SD: 14 <sup>h</sup> 7 |         | R <sup>o</sup> : 51 <sup>m</sup> | Náutico |               | Civil          | Hora | R <sup>o</sup> | Hora | R <sup>o</sup> |    |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 0 |      |     |                         |     |                       |         |                                  |         |               |                |      |                |      |                |    |
|    | hG ☉                                   | Dec  |     | hG ☾                    | Dif | Dec                   | Dif     |                                  |         |               |                |      |                |      |                |    |
| h  | °                                      | '    | °   | °                       | '   | °                     | '       | °                                | h       | m             | h              | m    | h              | m    | h              | m  |
| 0  | 179                                    | 47.2 | +23 | 23.1                    | 190 | 09.7                  | +25     | 49.8                             | 60      | N             | **             | **   | 0              | 50   | 1              | 34 |
| 1  | 194                                    | 47.1 |     | 23.1                    | 204 | 39.8                  | 111     | 54.8                             | 50      | 58            | **             | **   | 1              | 41   | 2              | 56 |
| 2  | 209                                    | 47.0 |     | 23.2                    | 219 | 09.8                  | 110     | 59.7                             | 49      | 56            | **             | **   | 2              | 10   | 3              | 13 |
| 3  | 224                                    | 46.8 |     | 23.3                    | 233 | 39.8                  | 110     | 04.5                             | 48      | 54            | 0              | 46   | 33             | 27   | 36             | 38 |
| 4  | 239                                    | 46.7 |     | 23.3                    | 248 | 09.8                  | 110     | 09.1                             | 46      | 52            | 1              | 32   | 2              | 50   | 2              | 51 |
| 5  | 254                                    | 46.6 | +23 | 23.4                    | 262 | 39.7                  | 109     | 13.7                             | 46      | 50            | 2              | 00   | 3              | 06   | 3              | 03 |
| 6  | 269                                    | 46.4 | +23 | 23.5                    | 277 | 09.5                  | 108     | 18.1                             | 44      | 45            | 2              | 46   | 3              | 35   | 4              | 13 |
| 7  | 284                                    | 46.3 |     | 23.5                    | 291 | 39.4                  | 109     | 22.3                             | 42      | 40            | 3              | 16   | 3              | 58   | 3              | 50 |
| 8  | 299                                    | 46.1 |     | 23.6                    | 306 | 09.1                  | 107     | 26.5                             | 42      | 35            | 39             | 4    | 16             | 46   | 4              | 08 |
| 9  | 314                                    | 46.0 |     | 23.7                    | 320 | 38.9                  | 108     | 30.5                             | 40      | 30            | 3              | 58   | 31             | 4    | 59             | 23 |
| 10 | 329                                    | 45.9 |     | 23.7                    | 335 | 08.6                  | 107     | 34.5                             | 40      | 20            | 4              | 27   | 4              | 56   | 5              | 21 |
| 11 | 344                                    | 45.7 | +23 | 23.8                    | 349 | 38.3                  | 107     | 38.2                             | 37      | 10            | N              | 4    | 50             | 5    | 17             | 5  |
| 12 | 359                                    | 45.6 | +23 | 23.8                    | 4   | 07.9                  | 106     | 41.9                             | 37      | 0             |                | 5    | 09             | 5    | 35             | 5  |
| 13 | 14                                     | 45.5 |     | 23.9                    | 18  | 37.5                  | 106     | 45.4                             | 35      | 10            | S              | 26   | 5              | 52   | 6              | 15 |
| 14 | 29                                     | 45.3 |     | 24.0                    | 33  | 07.1                  | 106     | 48.8                             | 34      | 20            |                | 42   | 6              | 09   | 33             | 6  |
| 15 | 44                                     | 45.2 |     | 24.0                    | 47  | 36.6                  | 105     | 52.1                             | 33      | 30            |                | 5    | 58             | 28   | 6              | 54 |
| 16 | 59                                     | 45.1 |     | 24.1                    | 62  | 06.2                  | 106     | 55.3                             | 32      | 35            |                | 6    | 07             | 39   | 7              | 07 |
| 17 | 74                                     | 44.9 | +23 | 24.1                    | 76  | 35.6                  | 104     | 58.3                             | 30      | 40            |                | 6    | 16             | 6    | 50             | 7  |
| 18 | 89                                     | 44.8 | +23 | 24.2                    | 91  | 05.1                  | 105     | 01.2                             | 29      | 45            |                | 6    | 27             | 7    | 04             | 7  |
| 19 | 104                                    | 44.6 |     | 24.3                    | 105 | 34.5                  | 104     | 04.0                             | 28      | 50            |                | 38   | 20             | 7    | 59             | 8  |
| 20 | 119                                    | 44.5 |     | 24.3                    | 120 | 03.9                  | 104     | 06.6                             | 26      | 52            |                | 44   | 27             | 8    | 08             | 15 |
| 21 | 134                                    | 44.4 |     | 24.4                    | 134 | 33.3                  | 104     | 09.1                             | 25      | 54            |                | 49   | 36             | 20   | 30             | 61 |
| 22 | 149                                    | 44.2 |     | 24.4                    | 149 | 02.6                  | 103     | 11.5                             | 24      | 56            |                | 6    | 56             | 45   | 32             | 8  |
| 23 | 164                                    | 44.1 |     | 24.5                    | 163 | 31.9                  | 103     | 13.8                             | 23      | 58            |                | 7    | 02             | 7    | 55             | 8  |
| 24 | 179                                    | 44.0 | +23 | 24.5                    | 178 | 01.2                  | 103     | 15.9                             | 21      | 60            | S              | 7    | 10             | 8    | 07             | 9  |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 16 <sup>m</sup> 6 |      | Mag: -4.1<br>PMG: 11 <sup>h</sup> 02 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 09 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 09 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 17 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 265                                   | 35.1 | 193                                               | 50.9 | +20                                               | 15.2 | 147                                               | 41.3 | +22                                               | 13.5 |
| 1   | 280                                   | 37.5 | 208                                               | 54.6 |                                                   | 14.5 | 162                                               | 42.1 |                                                   | 13.2 |
| 2   | 295                                   | 40.0 | 223                                               | 58.2 |                                                   | 13.8 | 177                                               | 42.8 |                                                   | 12.9 |
| 3   | 310                                   | 42.5 | 239                                               | 01.9 |                                                   | 13.2 | 192                                               | 43.6 |                                                   | 12.6 |
| 4   | 325                                   | 44.9 | 254                                               | 05.6 |                                                   | 12.6 | 207                                               | 44.4 |                                                   | 12.3 |
| 5   | 340                                   | 47.4 | 269                                               | 09.3 | +20                                               | 11.9 | 222                                               | 45.2 | +22                                               | 12.0 |
| 6   | 355                                   | 49.9 | 284                                               | 12.9 | +20                                               | 11.3 | 237                                               | 46.0 | +22                                               | 11.7 |
| 7   | 10                                    | 52.3 | 299                                               | 16.6 |                                                   | 10.6 | 252                                               | 46.8 |                                                   | 11.4 |
| 8   | 25                                    | 54.8 | 314                                               | 20.2 |                                                   | 10.0 | 267                                               | 47.6 |                                                   | 11.1 |
| 9   | 40                                    | 57.3 | 329                                               | 23.9 |                                                   | 09.3 | 282                                               | 48.4 |                                                   | 10.8 |
| 10  | 55                                    | 59.7 | 344                                               | 27.5 |                                                   | 08.7 | 297                                               | 49.2 |                                                   | 10.5 |
| 11  | 71                                    | 02.2 | 359                                               | 31.2 | +20                                               | 08.0 | 312                                               | 50.0 | +22                                               | 10.2 |
| 12  | 86                                    | 04.6 | 14                                                | 34.8 | +20                                               | 07.4 | 327                                               | 50.8 | +22                                               | 09.9 |
| 13  | 101                                   | 07.1 | 29                                                | 38.5 |                                                   | 06.8 | 342                                               | 51.6 |                                                   | 09.6 |
| 14  | 116                                   | 09.6 | 44                                                | 42.1 |                                                   | 06.1 | 357                                               | 52.4 |                                                   | 09.3 |
| 15  | 131                                   | 12.0 | 59                                                | 45.7 |                                                   | 05.5 | 12                                                | 53.2 |                                                   | 09.0 |
| 16  | 146                                   | 14.5 | 74                                                | 49.4 |                                                   | 04.9 | 27                                                | 54.0 |                                                   | 08.7 |
| 17  | 161                                   | 17.0 | 89                                                | 53.0 | +20                                               | 04.2 | 42                                                | 54.8 | +22                                               | 08.4 |
| 18  | 176                                   | 19.4 | 104                                               | 56.6 | +20                                               | 03.6 | 57                                                | 55.6 | +22                                               | 08.1 |
| 19  | 191                                   | 21.9 | 120                                               | 00.2 |                                                   | 03.0 | 72                                                | 56.3 |                                                   | 07.8 |
| 20  | 206                                   | 24.4 | 135                                               | 03.8 |                                                   | 02.3 | 87                                                | 57.1 |                                                   | 07.5 |
| 21  | 221                                   | 26.8 | 150                                               | 07.4 |                                                   | 01.7 | 102                                               | 57.9 |                                                   | 07.2 |
| 22  | 236                                   | 29.3 | 165                                               | 11.0 |                                                   | 01.1 | 117                                               | 58.7 |                                                   | 06.9 |
| 23  | 251                                   | 31.8 | 180                                               | 14.6 | +20                                               | 00.4 | 132                                               | 59.5 |                                                   | 06.6 |
| 24  | 266                                   | 34.2 | 195                                               | 18.2 | +19                                               | 59.8 | 148                                               | 00.3 | +22                                               | 06.3 |
| Dif | —                                     |      | +36                                               | -6   |                                                   |      | +8                                                | -3   |                                                   |      |

| UT | SOL                                    |      |     | ● LUNA                  |                                                                                                           |                       | Latitud | Puesta de Sol | Final del crepúsculo                 |       |    | Salida de Luna |      | Puesta de Luna |         |          |          |
|----|----------------------------------------|------|-----|-------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------|---------|---------------|--------------------------------------|-------|----|----------------|------|----------------|---------|----------|----------|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 29 <sup>d</sup> 8 | PHE {<br>4 <sup>h</sup> : 53/9<br>12 <sup>h</sup> : 54/0<br>20 <sup>h</sup> : 54/0<br>R°: 51 <sup>m</sup> |                       |         |               |                                      |       |    |                |      |                |         |          |          |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 2 |      |     |                         |                                                                                                           | SD: 14 <sup>h</sup> 7 |         |               | PMG: 12 <sup>h</sup> 34 <sup>m</sup> |       |    |                |      |                |         |          |          |
|    | hG ☉                                   |      | Dec | hG ☾                    |                                                                                                           | Dif                   | Dec     | Dif           |                                      | Civil |    | Náutico        | Hora | R°             | Hora    | R°       |          |
| h  | °                                      | '    | °   | °                       | '                                                                                                         | °                     | °       | '             | °                                    | h     | m  | h              | m    | h              | m       | m        |          |
| 0  | 179                                    | 44.0 | +23 | 24.5                    | 178                                                                                                       | 01.2                  | +27     | 15.9          | 20                                   | 60 N  | 21 | 27             | 23   | 13             | ** ** * | 2 00 50  | 23 11 30 |
| 1  | 194                                    | 43.8 |     | 24.6                    | 192                                                                                                       | 30.5 <sup>103</sup>   |         | 17.9          | 18                                   | 58    | 21 | 07             | 22   | 22             | ** ** * | 31 51    | 22 38 36 |
| 2  | 209                                    | 43.7 |     | 24.6                    | 206                                                                                                       | 59.7 <sup>102</sup>   |         | 19.7          | 17                                   | 56    | 20 | 50             | 21   | 52             | ** ** * | 2 55 51  | 22 14 39 |
| 3  | 224                                    | 43.6 |     | 24.7                    | 221                                                                                                       | 29.0 <sup>103</sup>   |         | 21.4          | 17                                   | 54    |    | 35             | 30   | 23 18          |         | 3 14 51  | 21 55 4  |
| 4  | 239                                    | 43.4 |     | 24.7                    | 235                                                                                                       | 58.2 <sup>102</sup>   |         | 23.0          | 16                                   | 52    |    | 23             | 21   | 22 31          |         | 30 51    | 39 42    |
| 5  | 254                                    | 43.3 | +23 | 24.8                    | 250                                                                                                       | 27.4 <sup>102</sup>   | +27     | 24.5          | 15                                   | 50    | 20 | 12             | 20   | 57             | 22 03   | 3 44 51  | 21 25 43 |
| 6  | 269                                    | 43.1 | +23 | 24.8                    | 264                                                                                                       | 56.6 <sup>102</sup>   | +27     | 25.8          | 13                                   | 45    | 19 | 50             | 20   | 27             | 21 17   | 4 12 52  | 20 56 45 |
| 7  | 284                                    | 43.0 |     | 24.9                    | 279                                                                                                       | 25.7 <sup>101</sup>   |         | 27.0          | 12                                   | 40    |    | 32             | 20   | 05             | 20 46   | 35 51    | 33 47    |
| 8  | 299                                    | 42.9 |     | 24.9                    | 293                                                                                                       | 54.9 <sup>102</sup>   |         | 28.1          | 11                                   | 35    |    | 17             | 19   | 46             | 23      | 4 53 52  | 20 15 47 |
| 9  | 314                                    | 42.7 |     | 25.0                    | 308                                                                                                       | 24.0 <sup>101</sup>   |         | 29.0          | 9                                    | 30    | 19 | 04             | 31   | 20             | 04      | 5 09 52  | 19 59 48 |
| 10 | 329                                    | 42.6 |     | 25.0                    | 322                                                                                                       | 53.2 <sup>102</sup>   |         | 29.8          | 8                                    | 20    | 18 | 41             | 19   | 06             | 19 35   | 5 36 52  | 31 50    |
| 11 | 344                                    | 42.5 | +23 | 25.1                    | 337                                                                                                       | 22.3 <sup>101</sup>   | +27     | 30.5          | 7                                    | 10 N  | 18 | 22             | 18   | 46             | 19 13   | 6 00 51  | 19 08 50 |
| 12 | 359                                    | 42.3 | +23 | 25.1                    | 351                                                                                                       | 51.4 <sup>101</sup>   | +27     | 31.1          | 6                                    | 0     | 18 | 05             | 18   | 27             | 18 54   | 6 21 52  | 18 46 51 |
| 13 | 14                                     | 42.2 |     | 25.1                    | 6                                                                                                         | 20.5 <sup>101</sup>   |         | 31.5          | 4                                    | 10 S  | 17 | 47             | 18   | 10             | 37      | 6 43 51  | 24 52    |
| 14 | 29                                     | 42.0 |     | 25.2                    | 20                                                                                                        | 49.6 <sup>101</sup>   |         | 31.7          | 2                                    | 20    |    | 29             | 17   | 53             | 20      | 7 07 50  | 18 01 52 |
| 15 | 44                                     | 41.9 |     | 25.2                    | 35                                                                                                        | 18.7 <sup>101</sup>   |         | 31.9          | 0                                    | 30    | 17 | 08             | 34   | 18 04          |         | 34 50    | 17 34 53 |
| 16 | 59                                     | 41.8 |     | 25.3                    | 49                                                                                                        | 47.8 <sup>101</sup>   |         | 31.9          | 0                                    | 35    | 16 | 55             | 23   | 17 55          |         | 7 50 50  | 17 17 54 |
| 17 | 74                                     | 41.6 | +23 | 25.3                    | 64                                                                                                        | 16.8 <sup>100</sup>   | +27     | 31.7          | 2                                    | 40    | 16 | 41             | 17   | 12             | 17 46   | 8 09 50  | 16 59 54 |
| 18 | 89                                     | 41.5 | +23 | 25.4                    | 78                                                                                                        | 45.9 <sup>101</sup>   | +27     | 31.5          | 2                                    | 45    | 16 | 24             | 16   | 58             | 17 35   | 8 31 50  | 16 36 55 |
| 19 | 104                                    | 41.4 |     | 25.4                    | 93                                                                                                        | 15.0 <sup>101</sup>   |         | 31.1          | 4                                    | 50    | 16 | 03             | 42   | 24             |         | 9 00 49  | 16 07 56 |
| 20 | 119                                    | 41.2 |     | 25.4                    | 107                                                                                                       | 44.1 <sup>101</sup>   |         | 30.6          | 5                                    | 52    | 15 | 54             | 34   | 18             |         | 15 48    | 15 52 58 |
| 21 | 134                                    | 41.1 |     | 25.5                    | 122                                                                                                       | 13.2 <sup>101</sup>   |         | 29.9          | 7                                    | 54    |    | 42             | 26   | 13             |         | 31 48    | 36 58    |
| 22 | 149                                    | 41.0 |     | 25.5                    | 136                                                                                                       | 42.2 <sup>100</sup>   |         | 29.1          | 8                                    | 56    |    | 30             | 17   | 06             |         | 9 51 47  | 15 16 59 |
| 23 | 164                                    | 40.8 |     | 25.5                    | 151                                                                                                       | 11.3 <sup>101</sup>   |         | 28.2          | 9                                    | 58    | 15 | 15             | 16   | 07             | 17 00   | 10 16 45 | 14 51 61 |
| 24 | 179                                    | 40.7 | +23 | 25.6                    | 165                                                                                                       | 40.4 <sup>101</sup>   | +27     | 27.1          | 11                                   | 60 S  | 14 | 57             | 15   | 55             | 16 52   | 10 50 42 | 14 17 64 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 12 <sup>m</sup> 7 |      | Mag: -4.2<br>PMG: 10 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 07 <sup>m</sup> |      | Mag: -2.0<br>PMG: 17 <sup>h</sup> 05 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 13 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 266                                   | 34.2 | 195                                               | 18.2 | 148                                               | 00.3 | 103                                               | 02.2 | 161                                               | 13.1 |
| 1   | 281                                   | 36.7 | 210                                               | 21.8 | 163                                               | 01.1 | 118                                               | 04.4 | 176                                               | 15.2 |
| 2   | 296                                   | 39.1 | 225                                               | 25.4 | 178                                               | 01.9 | 133                                               | 06.6 | 191                                               | 17.3 |
| 3   | 311                                   | 41.6 | 240                                               | 29.0 | 193                                               | 02.7 | 148                                               | 08.7 | 206                                               | 19.4 |
| 4   | 326                                   | 44.1 | 255                                               | 32.6 | 208                                               | 03.5 | 163                                               | 10.9 | 221                                               | 21.6 |
| 5   | 341                                   | 46.5 | 270                                               | 36.2 | 223                                               | 04.3 | 178                                               | 13.1 | 236                                               | 23.7 |
| 6   | 356                                   | 49.0 | 285                                               | 39.8 | 238                                               | 05.1 | 193                                               | 15.3 | 251                                               | 25.8 |
| 7   | 11                                    | 51.5 | 300                                               | 43.3 | 253                                               | 05.9 | 208                                               | 17.5 | 266                                               | 27.9 |
| 8   | 26                                    | 53.9 | 315                                               | 46.9 | 268                                               | 06.7 | 223                                               | 19.7 | 281                                               | 30.1 |
| 9   | 41                                    | 56.4 | 330                                               | 50.5 | 283                                               | 07.5 | 238                                               | 21.9 | 296                                               | 32.2 |
| 10  | 56                                    | 58.9 | 345                                               | 54.0 | 298                                               | 08.3 | 253                                               | 24.1 | 311                                               | 34.3 |
| 11  | 72                                    | 01.3 | 0                                                 | 57.6 | 313                                               | 09.1 | 268                                               | 26.3 | 326                                               | 36.4 |
| 12  | 87                                    | 03.8 | 16                                                | 01.2 | 328                                               | 09.9 | 283                                               | 28.5 | 341                                               | 38.6 |
| 13  | 102                                   | 06.3 | 31                                                | 04.7 | 343                                               | 10.7 | 298                                               | 30.6 | 356                                               | 40.7 |
| 14  | 117                                   | 08.7 | 46                                                | 08.3 | 358                                               | 11.5 | 313                                               | 32.8 | 11                                                | 42.8 |
| 15  | 132                                   | 11.2 | 61                                                | 11.8 | 13                                                | 12.3 | 328                                               | 35.0 | 26                                                | 44.9 |
| 16  | 147                                   | 13.6 | 76                                                | 15.3 | 28                                                | 13.1 | 343                                               | 37.2 | 41                                                | 47.1 |
| 17  | 162                                   | 16.1 | 91                                                | 18.9 | 43                                                | 13.9 | 358                                               | 39.4 | 56                                                | 49.2 |
| 18  | 177                                   | 18.6 | 106                                               | 22.4 | 58                                                | 14.7 | 13                                                | 41.6 | 71                                                | 51.3 |
| 19  | 192                                   | 21.0 | 121                                               | 25.9 | 73                                                | 15.5 | 28                                                | 43.8 | 86                                                | 53.4 |
| 20  | 207                                   | 23.5 | 136                                               | 29.5 | 88                                                | 16.3 | 43                                                | 46.0 | 101                                               | 55.5 |
| 21  | 222                                   | 26.0 | 151                                               | 33.0 | 103                                               | 17.1 | 58                                                | 48.1 | 116                                               | 57.7 |
| 22  | 237                                   | 28.4 | 166                                               | 36.5 | 118                                               | 17.9 | 73                                                | 50.3 | 131                                               | 59.8 |
| 23  | 252                                   | 30.9 | 181                                               | 40.0 | 133                                               | 18.7 | 88                                                | 52.5 | 147                                               | 01.9 |
| 24  | 267                                   | 33.4 | 196                                               | 43.5 | 148                                               | 19.5 | 103                                               | 54.7 | 162                                               | 04.0 |
| Dif | —                                     |      | +36                                               |      | -6                                                |      | +22                                               |      | -1                                                |      |
|     |                                       |      |                                                   |      | +8                                                |      | -3                                                |      | +21                                               |      |
|     |                                       |      |                                                   |      |                                                   |      |                                                   |      | 0                                                 |      |

| UT  | SOL                                    |             |                                                   | ● LUNA                    |                       |                                                                                      | Latitud     | Principio del crepúsculo                                 |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |             |      |  |   |  |
|-----|----------------------------------------|-------------|---------------------------------------------------|---------------------------|-----------------------|--------------------------------------------------------------------------------------|-------------|----------------------------------------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|-------------|------|--|---|--|
|     | SD: 15 <sup>h</sup> 7                  |             |                                                   | Edad: 1 <sup>d</sup> 1    | PHE                   | $\left\{ \begin{array}{l} 4^h: 54'0 \\ 12^h: 54'1 \\ 20^h: 54'1 \end{array} \right.$ |             | PMG: 13 <sup>h</sup> 25 <sup>m</sup> R°: 50 <sup>m</sup> |                                                   |               | Hora    R°     |                                                   | Hora    R°     |             |      |  |   |  |
|     | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 4 |             |                                                   |                           |                       |                                                                                      |             |                                                          |                                                   |               |                |                                                   |                |             |      |  |   |  |
|     | hG ☉                                   | Dec         |                                                   | hG ☾                      | Dif      Dec      Dif |                                                                                      |             | Náutico                                                  | Civil                                             |               | Hora           | R°                                                | Hora           | R°          |      |  |   |  |
| h   | °    '    "                            | °    '    " | °    '    "                                       | °    '    "               | °    '    "           | °    '    "                                                                          | °    '    " | h    m                                                   | h    m                                            | h    m        | h    m    m    | h    m    m                                       | h    m    m    | h    m    m |      |  |   |  |
| 0   | 179   40.7                             | +23   25.6  |                                                   | 165   40.4                | +27   27.1            |                                                                                      | 60 N        | **   **   *                                              | 0   49                                            | 2   35        | 2   50   75    | 23   41   15                                      |                |             |      |  |   |  |
| 1   | 194   40.5                             |             | 25.6                                              | 180   09.5 <sup>101</sup> |                       | 25.9   12                                                                            | 58          | **   **   *                                              | 1   40                                            | 2   56        | 3   22   69    | 23   14   22                                      |                |             |      |  |   |  |
| 2   | 209   40.4                             |             | 25.6                                              | 194   38.6 <sup>101</sup> |                       | 24.6   13                                                                            | 56          | **   **   *                                              | 2   10                                            | 3   13        | 3   46   66    | 22   53   26                                      |                |             |      |  |   |  |
| 3   | 224   40.3                             |             | 25.7                                              | 209   07.7 <sup>101</sup> |                       | 23.1   15                                                                            | 54          |                                                          | 0   45                                            | 32   27       | 4   05   64    | 36   28                                           |                |             |      |  |   |  |
| 4   | 239   40.1                             |             | 25.7                                              | 223   36.9 <sup>102</sup> |                       | 21.5   16                                                                            | 52          |                                                          | 1   32                                            | 2   51        | 21   63        | 21   31                                           |                |             |      |  |   |  |
| 5   | 254   40.0                             | +23   25.7  |                                                   | 238   06.0 <sup>101</sup> | +27   19.8            | 17                                                                                   | 50          |                                                          | 2   00                                            | 3   06        | 4   35   62    | 22   08   33                                      |                |             |      |  |   |  |
| 6   | 269   39.9                             | +23   25.8  |                                                   | 252   35.2 <sup>102</sup> | +27   18.0            | 18                                                                                   | 45          |                                                          | 2   46                                            | 3   35        | 5   04   59    | 21   41   37                                      |                |             |      |  |   |  |
| 7   | 284   39.7                             |             | 25.8                                              | 267   04.3 <sup>101</sup> |                       | 16.0   20                                                                            | 40          |                                                          | 3   16                                            | 3   58        | 26   58        | 20   39                                           |                |             |      |  |   |  |
| 8   | 299   39.6                             |             | 25.8                                              | 281   33.5 <sup>102</sup> |                       | 13.9   21                                                                            | 35          |                                                          | 40                                                | 4   16        | 46   55        | 21   02   41                                      |                |             |      |  |   |  |
| 9   | 314   39.4                             |             | 25.9                                              | 296   02.7 <sup>102</sup> |                       | 11.6   23                                                                            | 30          |                                                          | 3   58                                            | 32            | 6   01   55    | 20   47   43                                      |                |             |      |  |   |  |
| 10  | 329   39.3                             |             | 25.9                                              | 310   31.9 <sup>102</sup> |                       | 09.2   24                                                                            | 20          |                                                          | 4   27                                            | 4   57        | 28   53        | 20   21   45                                      |                |             |      |  |   |  |
| 11  | 344   39.2                             | +23   25.9  |                                                   | 325   01.1 <sup>102</sup> | +27   06.7            | 25                                                                                   | 10 N        |                                                          | 4   50                                            | 5   17        | 6   51   52    | 19   58   48                                      |                |             |      |  |   |  |
| 12  | 359   39.0                             | +23   25.9  |                                                   | 339   30.4 <sup>103</sup> | +27   04.1            | 26                                                                                   | 0           |                                                          | 5   09                                            | 5   35        | 7   13   50    | 19   37   50                                      |                |             |      |  |   |  |
| 13  | 14   38.9                              |             | 26.0                                              | 353   59.6 <sup>102</sup> | +27   01.3            | 28                                                                                   | 10 S        |                                                          | 26                                                | 5   52        | 34   49        | 19   16   52                                      |                |             |      |  |   |  |
| 14  | 29   38.8                              |             | 26.0                                              | 8   28.9 <sup>103</sup>   | +26   58.4            | 29                                                                                   | 20          |                                                          | 42                                                | 6   10        | 7   57   48    | 18   53   54                                      |                |             |      |  |   |  |
| 15  | 44   38.6                              |             | 26.0                                              | 22   58.2 <sup>103</sup>  |                       | 55.3   31                                                                            | 30          |                                                          | 5   59                                            | 29            | 8   24   46    | 27   57                                           |                |             |      |  |   |  |
| 16  | 59   38.5                              |             | 26.0                                              | 37   27.6 <sup>104</sup>  |                       | 52.2   31                                                                            | 35          |                                                          | 6   07                                            | 39            | 40   44        | 18   11   58                                      |                |             |      |  |   |  |
| 17  | 74   38.3                              | +23   26.1  |                                                   | 51   56.9 <sup>103</sup>  | +26   48.9            | 33                                                                                   | 40          |                                                          | 6   17                                            | 6   51        | 8   59   42    | 17   53   60                                      |                |             |      |  |   |  |
| 18  | 89   38.2                              | +23   26.1  |                                                   | 66   26.3 <sup>104</sup>  | +26   45.4            | 35                                                                                   | 45          |                                                          | 6   27                                            | 7   05        | 9   21   41    | 17   31   63                                      |                |             |      |  |   |  |
| 19  | 104   38.1                             |             | 26.1                                              | 80   55.7 <sup>104</sup>  |                       | 41.9   35                                                                            | 50          |                                                          | 39                                                | 21            | 9   49   38    | 17   03   66                                      |                |             |      |  |   |  |
| 20  | 119   37.9                             |             | 26.1                                              | 95   25.1 <sup>104</sup>  |                       | 38.2   37                                                                            | 52          |                                                          | 44                                                | 28            | 10   03   36   | 16   50   67                                      |                |             |      |  |   |  |
| 21  | 134   37.8                             |             | 26.2                                              | 109   54.6 <sup>105</sup> |                       | 34.4   38                                                                            | 54          |                                                          | 50                                                | 36            | 19   34        | 34   69                                           |                |             |      |  |   |  |
| 22  | 149   37.7                             |             | 26.2                                              | 124   24.1 <sup>105</sup> |                       | 30.4   40                                                                            | 56          |                                                          | 6   56                                            | 45            | 10   38   31   | 16   15   72                                      |                |             |      |  |   |  |
| 23  | 164   37.5                             |             | 26.2                                              | 138   53.6 <sup>105</sup> |                       | 26.4   40                                                                            | 58          |                                                          | 7   03                                            | 7   56        | 11   01   28   | 15   52   76                                      |                |             |      |  |   |  |
| 24  | 179   37.4                             | +23   26.2  |                                                   | 153   23.2 <sup>106</sup> | +26   22.2            | 42                                                                                   | 60 S        |                                                          | 7   11                                            | 8   07        | 11   32   21   | 15   21   84                                      |                |             |      |  |   |  |
| UT  | ARIES                                  |             | VENUS                                             |                           |                       | MARTE                                                                                |             |                                                          | JÚPITER                                           |               |                | SATURNO                                           |                |             |      |  |   |  |
|     | PMG: 6 <sup>h</sup> 08 <sup>m</sup> 8  |             | Mag: -4.2<br>PMG: 10 <sup>h</sup> 51 <sup>m</sup> |                           |                       | Mag: +1.8<br>PMG: 14 <sup>h</sup> 06 <sup>m</sup>                                    |             |                                                          | Mag: -2.0<br>PMG: 17 <sup>h</sup> 02 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 10 <sup>m</sup> |                |             |      |  |   |  |
|     | hG ♈                                   | Dec         |                                                   | hG ♀                      | Dec                   |                                                                                      | hG ♂        | Dec                                                      |                                                   | hG ♃          | Dec            |                                                   | hG ♄           | Dec         |      |  |   |  |
| h   | °    '    "                            | °    '    " | °    '    "                                       | °    '    "               | °    '    "           | °    '    "                                                                          | °    '    " | °    '    "                                              | °    '    "                                       | °    '    "   | °    '    "    | °    '    "                                       | °    '    "    | °    '    " |      |  |   |  |
| 0   | 267   33.4                             |             |                                                   | 196   43.5                | +19   45.1            |                                                                                      | 148   19.5  | +21   58.9                                               |                                                   | 103   54.7    | +8   15.2      |                                                   | 162   04.0     | +22   22.8  |      |  |   |  |
| 1   | 282   35.8                             |             |                                                   | 211   47.0                |                       | 44.5                                                                                 | 163   20.3  |                                                          | 58.6                                              | 118   56.9    |                | 15.0                                              | 177   06.2     |             | 22.7 |  |   |  |
| 2   | 297   38.3                             |             |                                                   | 226   50.5                |                       | 43.9                                                                                 | 178   21.1  |                                                          | 58.3                                              | 133   59.1    |                | 14.9                                              | 192   08.3     |             | 22.7 |  |   |  |
| 3   | 312   40.8                             |             |                                                   | 241   54.0                |                       | 43.3                                                                                 | 193   21.9  |                                                          | 58.0                                              | 149   01.3    |                | 14.8                                              | 207   10.4     |             | 22.7 |  |   |  |
| 4   | 327   43.2                             |             |                                                   | 256   57.5                |                       | 42.7                                                                                 | 208   22.7  |                                                          | 57.7                                              | 164   03.4    |                | 14.7                                              | 222   12.5     |             | 22.6 |  |   |  |
| 5   | 342   45.7                             |             |                                                   | 272   01.0                | +19   42.1            |                                                                                      | 223   23.5  | +21   57.4                                               |                                                   | 179   05.6    | +8   14.6      |                                                   | 237   14.7     | +22   22.6  |      |  |   |  |
| 6   | 357   48.1                             |             |                                                   | 287   04.5                | +19   41.5            |                                                                                      | 238   24.3  | +21   57.1                                               |                                                   | 194   07.8    | +8   14.4      |                                                   | 252   16.8     | +22   22.6  |      |  |   |  |
| 7   | 12   50.6                              |             |                                                   | 302   08.0                |                       | 40.9                                                                                 | 253   25.1  |                                                          | 56.8                                              | 209   10.0    |                | 14.3                                              | 267   18.9     |             | 22.5 |  |   |  |
| 8   | 27   53.1                              |             |                                                   | 317   11.5                |                       | 40.3                                                                                 | 268   25.9  |                                                          | 56.5                                              | 224   12.2    |                | 14.2                                              | 282   21.0     |             | 22.5 |  |   |  |
| 9   | 42   55.5                              |             |                                                   | 332   15.0                |                       | 39.7                                                                                 | 283   26.7  |                                                          | 56.2                                              | 239   14.4    |                | 14.1                                              | 297   23.2     |             | 22.5 |  |   |  |
| 10  | 57   58.0                              |             |                                                   | 347   18.4                |                       | 39.1                                                                                 | 298   27.5  |                                                          | 55.8                                              | 254   16.6    |                | 13.9                                              | 312   25.3     |             | 22.5 |  |   |  |
| 11  | 73   00.5                              |             |                                                   | 2   21.9                  | +19   38.5            |                                                                                      | 313   28.3  | +21   55.5                                               |                                                   | 269   18.7    | +8   13.8      |                                                   | 327   27.4     | +22   22.4  |      |  |   |  |
| 12  | 88   02.9                              |             |                                                   | 17   25.4                 | +19   38.0            |                                                                                      | 328   29.1  | +21   55.2                                               |                                                   | 284   20.9    | +8   13.7      |                                                   | 342   29.5     | +22   22.4  |      |  |   |  |
| 13  | 103   05.4                             |             |                                                   | 32   28.8                 |                       | 37.4                                                                                 | 343   29.9  |                                                          | 54.9                                              | 299   23.1    |                | 13.6                                              | 357   31.6     |             | 22.4 |  |   |  |
| 14  | 118   07.9                             |             |                                                   | 47   32.3                 |                       | 36.8                                                                                 | 358   30.7  |                                                          | 54.6                                              | 314   25.3    |                | 13.5                                              | 12   33.8      |             | 22.3 |  |   |  |
| 15  | 133   10.3                             |             |                                                   | 62   35.7                 |                       | 36.2                                                                                 | 13   31.5   |                                                          | 54.3                                              | 329   27.5    |                | 13.3                                              | 27   35.9      |             | 22.3 |  |   |  |
| 16  | 148   12.8                             |             |                                                   | 77   39.2                 |                       | 35.6                                                                                 | 28   32.3   |                                                          | 54.0                                              | 344   29.7    |                | 13.2                                              | 42   38.0      |             | 22.3 |  |   |  |
| 17  | 163   15.2                             |             |                                                   | 92   42.6                 | +19   35.0            |                                                                                      | 43   33.1   | +21   53.7                                               |                                                   | 359   31.8    | +8   13.1      |                                                   | 57   40.1      | +22   22.2  |      |  |   |  |
| 18  | 178   17.7                             |             |                                                   | 107   46.1                | +19   34.5            |                                                                                      | 58   33.9   | +21   53.3                                               |                                                   | 14   34.0     | +8   13.0      |                                                   | 72   42.3      | +22   22.2  |      |  |   |  |
| 19  | 193   20.2                             |             |                                                   | 122   49.5                |                       | 33.9                                                                                 | 73   34.7   |                                                          | 53.0                                              | 29   36.2     |                | 12.8                                              | 87   44.4      |             | 22.2 |  |   |  |
| 20  | 208   22.6                             |             |                                                   | 137   53.0                |                       | 33.3                                                                                 | 88   35.5   |                                                          | 52.7                                              | 44   38.4     |                | 12.7                                              | 102   46.5     |             | 22.2 |  |   |  |
| 21  | 223   25.1                             |             |                                                   | 152   56.4                |                       | 32.7                                                                                 | 103   36.3  |                                                          | 52.4                                              | 59   40.6     |                | 12.6                                              | 117   48.6     |             | 22.1 |  |   |  |
| 22  | 238   27.6                             |             |                                                   | 167   59.8                |                       | 32.2                                                                                 | 118   37.1  |                                                          | 52.1                                              | 74   42.8     |                | 12.5                                              | 132   50.8     |             | 22.1 |  |   |  |
| 23  | 253   30.0                             |             |                                                   | 183   03.2                |                       | 31.6                                                                                 | 133   37.9  |                                                          | 51.8                                              | 89   44.9     |                | 12.4                                              | 147   52.9     |             | 22.1 |  |   |  |
| 24  | 268   32.5                             |             |                                                   | 198   06.7                | +19   31.0            |                                                                                      | 148   38.7  | +21   51.5                                               |                                                   | 104   47.1    | +8   12.2      |                                                   | 162   55.0     | +22   22.0  |      |  |   |  |
| Dif | —                                      |             | +35                                               |                           | -6                    |                                                                                      | +8          |                                                          | -3                                                |               | +22            |                                                   | -1             |             | +21  |  | 0 |  |

| UT | SOL                                    |      |     | ● LUNA                 |       |                                                                                                                     | Latitud | Puesta de Sol | Final del crepúsculo |       |       | Salida de Luna |         | Puesta de Luna |          |
|----|----------------------------------------|------|-----|------------------------|-------|---------------------------------------------------------------------------------------------------------------------|---------|---------------|----------------------|-------|-------|----------------|---------|----------------|----------|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 2 <sup>d</sup> 1 | PHE { | 4 <sup>h</sup> : 54 <sup>h</sup> /2<br>12 <sup>h</sup> : 54 <sup>h</sup> /3<br>20 <sup>h</sup> : 54 <sup>h</sup> /4 |         |               | Final del crepúsculo |       |       | Salida de Luna |         | Puesta de Luna |          |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 6 |      |     |                        |       |                                                                                                                     |         |               | Civil                |       |       | Náutico        |         | Hora           |          |
|    | hG ☉                                   | Dec  |     | hG ☾                   | Dif   | Dec                                                                                                                 | Dif     |               |                      |       |       |                |         |                |          |
| h  | °                                      | '    | °   | '                      | °     | '                                                                                                                   | °       | h             | m                    | h     | m     | h              | m       | h              | m        |
| 0  | 179                                    | 37.4 | +23 | 26.2                   | 153   | 23.2                                                                                                                | +26     | 22.2          | 60 N                 | 21 28 | 23 14 | ** **          | 4 05 88 | 23 56          | 7        |
| 1  | 194                                    | 37.3 |     | 26.2                   | 167   | 52.7 <sup>105</sup>                                                                                                 |         | 17.8          | 44                   | 58    | 21 07 | 22 23          | ** **   | 31 81          | 36 12    |
| 2  | 209                                    | 37.1 |     | 26.2                   | 182   | 22.4 <sup>107</sup>                                                                                                 |         | 13.4          | 44                   | 56    | 20 50 | 21 53          | ** **   | 4 52 77        | 19 17    |
| 3  | 224                                    | 37.0 |     | 26.3                   | 196   | 52.0 <sup>106</sup>                                                                                                 |         | 08.8          | 46                   | 54    | 36    | 31             | 23 19   | 5 09 74        | 23 04 21 |
| 4  | 239                                    | 36.8 |     | 26.3                   | 211   | 21.7 <sup>107</sup>                                                                                                 | +26     | 04.1          | 47                   | 52    | 24    | 21 13          | 22 31   | 24 71          | 22 52 23 |
| 5  | 254                                    | 36.7 | +23 | 26.3                   | 225   | 51.4 <sup>107</sup>                                                                                                 | +25     | 59.3          | 48                   | 50    | 20 13 | 20 57          | 22 03   | 5 37 68        | 22 41 25 |
| 6  | 269                                    | 36.6 | +23 | 26.3                   | 240   | 21.2 <sup>108</sup>                                                                                                 | +25     | 54.3          | 50                   | 45    | 19 50 | 20 28          | 21 17   | 6 03 65        | 22 18 29 |
| 7  | 284                                    | 36.4 |     | 26.3                   | 254   | 50.9 <sup>107</sup>                                                                                                 |         | 49.3          | 50                   | 40    | 32    | 20 05          | 20 47   | 24 61          | 21 59 33 |
| 8  | 299                                    | 36.3 |     | 26.3                   | 269   | 20.8 <sup>109</sup>                                                                                                 |         | 44.1          | 52                   | 35    | 17    | 19 47          | 24      | 41 59          | 43 36    |
| 9  | 314                                    | 36.2 |     | 26.3                   | 283   | 50.6 <sup>108</sup>                                                                                                 |         | 38.8          | 53                   | 30    | 19 04 | 31             | 20 05   | 6 56 57        | 30 38    |
| 10 | 329                                    | 36.0 |     | 26.4                   | 298   | 20.5 <sup>109</sup>                                                                                                 |         | 33.3          | 55                   | 20    | 18 42 | 19 06          | 19 36   | 7 21 54        | 21 06 42 |
| 11 | 344                                    | 35.9 | +23 | 26.4                   | 312   | 50.5 <sup>110</sup>                                                                                                 | +25     | 27.7          | 56                   | 10 N  | 18 23 | 18 46          | 19 13   | 7 43 51        | 20 46 45 |
| 12 | 359                                    | 35.7 | +23 | 26.4                   | 327   | 20.5 <sup>110</sup>                                                                                                 | +25     | 22.1          | 58                   | 0     | 18 05 | 18 28          | 18 54   | 8 03 49        | 20 27 48 |
| 13 | 14                                     | 35.6 |     | 26.4                   | 341   | 50.5 <sup>110</sup>                                                                                                 |         | 16.3          | 58                   | 10 S  | 17 48 | 18 11          | 37      | 23 47          | 20 08 51 |
| 14 | 29                                     | 35.5 |     | 26.4                   | 356   | 20.6 <sup>111</sup>                                                                                                 |         | 10.3          | 60                   | 20    | 29    | 17 53          | 21      | 8 45 44        | 19 47 54 |
| 15 | 44                                     | 35.3 |     | 26.4                   | 10    | 50.7 <sup>111</sup>                                                                                                 | +25     | 04.3          | 60                   | 30    | 17 08 | 34             | 18 04   | 9 10 40        | 24 57    |
| 16 | 59                                     | 35.2 |     | 26.4                   | 25    | 20.8 <sup>111</sup>                                                                                                 | +24     | 58.1          | 62                   | 35    | 16 56 | 24             | 17 55   | 24 39          | 19 09 60 |
| 17 | 74                                     | 35.1 | +23 | 26.4                   | 39    | 51.0 <sup>112</sup>                                                                                                 | +24     | 51.8          | 63                   | 40    | 16 41 | 17 12          | 17 46   | 9 41 36        | 18 53 63 |
| 18 | 89                                     | 34.9 | +23 | 26.4                   | 54    | 21.2 <sup>112</sup>                                                                                                 | +24     | 45.4          | 64                   | 45    | 16 25 | 16 58          | 17 36   | 10 02 33       | 18 34 66 |
| 19 | 104                                    | 34.8 |     | 26.4                   | 68    | 51.5 <sup>113</sup>                                                                                                 |         | 38.9          | 65                   | 50    | 16 04 | 42             | 24      | 27 29          | 18 09 71 |
| 20 | 119                                    | 34.7 |     | 26.4                   | 83    | 21.8 <sup>113</sup>                                                                                                 |         | 32.3          | 66                   | 52    | 15 54 | 35             | 19      | 39 27          | 17 57 73 |
| 21 | 134                                    | 34.5 |     | 26.4                   | 97    | 52.2 <sup>114</sup>                                                                                                 |         | 25.5          | 68                   | 54    | 43    | 27             | 13      | 10 53 24       | 43 76    |
| 22 | 149                                    | 34.4 |     | 26.4                   | 112   | 22.6 <sup>114</sup>                                                                                                 |         | 18.6          | 69                   | 56    | 30    | 17             | 07      | 11 09 21       | 27 80    |
| 23 | 164                                    | 34.2 |     | 26.4                   | 126   | 53.1 <sup>115</sup>                                                                                                 |         | 11.7          | 69                   | 58    | 15 15 | 16 07          | 17 00   | 29 16          | 17 08 85 |
| 24 | 179                                    | 34.1 | +23 | 26.4                   | 141   | 23.6 <sup>115</sup>                                                                                                 | +24     | 04.6          | 71                   | 60 S  | 14 58 | 15 55          | 16 52   | 11 53 10       | 16 45 91 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 04 <sup>m</sup> 8 |      | Mag: -4.3<br>PMG: 10 <sup>h</sup> 45 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 05 <sup>m</sup> |      | Mag: -2.0<br>PMG: 16 <sup>h</sup> 58 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 06 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 268                                   | 32.5 | 198                                               | 06.7 | +19                                               | 31.0 | 148                                               | 38.7 | +21                                               | 51.5 |
| 1   | 283                                   | 35.0 | 213                                               | 10.1 |                                                   | 30.4 | 163                                               | 39.5 |                                                   | 51.1 |
| 2   | 298                                   | 37.4 | 228                                               | 13.5 |                                                   | 29.9 | 178                                               | 40.3 |                                                   | 50.8 |
| 3   | 313                                   | 39.9 | 243                                               | 16.9 |                                                   | 29.3 | 193                                               | 41.1 |                                                   | 50.5 |
| 4   | 328                                   | 42.4 | 258                                               | 20.3 |                                                   | 28.7 | 208                                               | 41.9 |                                                   | 50.2 |
| 5   | 343                                   | 44.8 | 273                                               | 23.7 | +19                                               | 28.2 | 223                                               | 42.7 | +21                                               | 49.9 |
| 6   | 358                                   | 47.3 | 288                                               | 27.1 | +19                                               | 27.6 | 238                                               | 43.5 | +21                                               | 49.6 |
| 7   | 13                                    | 49.7 | 303                                               | 30.5 |                                                   | 27.0 | 253                                               | 44.3 |                                                   | 49.2 |
| 8   | 28                                    | 52.2 | 318                                               | 33.9 |                                                   | 26.5 | 268                                               | 45.1 |                                                   | 48.9 |
| 9   | 43                                    | 54.7 | 333                                               | 37.2 |                                                   | 25.9 | 283                                               | 45.9 |                                                   | 48.6 |
| 10  | 58                                    | 57.1 | 348                                               | 40.6 |                                                   | 25.4 | 298                                               | 46.7 |                                                   | 48.3 |
| 11  | 73                                    | 59.6 | 3                                                 | 44.0 | +19                                               | 24.8 | 313                                               | 47.5 | +21                                               | 48.0 |
| 12  | 89                                    | 02.1 | 18                                                | 47.4 | +19                                               | 24.2 | 328                                               | 48.3 | +21                                               | 47.6 |
| 13  | 104                                   | 04.5 | 33                                                | 50.7 |                                                   | 23.7 | 343                                               | 49.1 |                                                   | 47.3 |
| 14  | 119                                   | 07.0 | 48                                                | 54.1 |                                                   | 23.1 | 358                                               | 49.9 |                                                   | 47.0 |
| 15  | 134                                   | 09.5 | 63                                                | 57.5 |                                                   | 22.6 | 13                                                | 50.7 |                                                   | 46.7 |
| 16  | 149                                   | 11.9 | 79                                                | 00.8 |                                                   | 22.0 | 28                                                | 51.5 |                                                   | 46.4 |
| 17  | 164                                   | 14.4 | 94                                                | 04.2 | +19                                               | 21.5 | 43                                                | 52.3 | +21                                               | 46.1 |
| 18  | 179                                   | 16.9 | 109                                               | 07.5 | +19                                               | 20.9 | 58                                                | 53.1 | +21                                               | 45.7 |
| 19  | 194                                   | 19.3 | 124                                               | 10.9 |                                                   | 20.4 | 73                                                | 53.9 |                                                   | 45.4 |
| 20  | 209                                   | 21.8 | 139                                               | 14.2 |                                                   | 19.8 | 88                                                | 54.7 |                                                   | 45.1 |
| 21  | 224                                   | 24.2 | 154                                               | 17.5 |                                                   | 19.3 | 103                                               | 55.5 |                                                   | 44.8 |
| 22  | 239                                   | 26.7 | 169                                               | 20.9 |                                                   | 18.7 | 118                                               | 56.3 |                                                   | 44.4 |
| 23  | 254                                   | 29.2 | 184                                               | 24.2 |                                                   | 18.2 | 133                                               | 57.1 |                                                   | 44.1 |
| 24  | 269                                   | 31.6 | 199                                               | 27.5 | +19                                               | 17.7 | 148                                               | 57.9 | +21                                               | 43.8 |
| Dif | —                                     |      | +34                                               |      | -6                                                |      | +8                                                |      | -3                                                |      |
|     |                                       |      |                                                   |      |                                                   |      | +22                                               |      | -1                                                |      |
|     |                                       |      |                                                   |      |                                                   |      |                                                   |      | +21                                               |      |

| UT | SOL                                    |      |     | ● LUNA                 |                                                                                    |                                      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |      | Puesta de Luna |       |          |
|----|----------------------------------------|------|-----|------------------------|------------------------------------------------------------------------------------|--------------------------------------|---------|--------------------------|-------|---------------|----------------|------|----------------|-------|----------|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 3 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 54'5<br>12 <sup>h</sup> : 54'6<br>20 <sup>h</sup> : 54'7 | Principio del crepúsculo             |         | Salida de Luna           |       |               | Puesta de Luna |      |                |       |          |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 8 |      |     |                        |                                                                                    | PMG: 15 <sup>h</sup> 04 <sup>m</sup> |         | Rº: 46 <sup>m</sup>      |       |               |                |      |                |       |          |
|    | hG ☉                                   | Dec  |     | hG ☾                   | Dif                                                                                | Dec                                  | Dif     | Náutico                  | Civil |               | Hora           | Rº   | Hora           | Rº    |          |
| h  | °                                      | '    | °   | °                      | '                                                                                  | °                                    | '       | h                        | m     | h             | m              | h    | m              | h     | m        |
| 0  | 179                                    | 34.1 | +23 | 26.4                   | 141                                                                                | 23.6                                 | +24     | 04.6                     | 73    | 60 N          | 0 49           | 2 36 | 5 33           | 91    | *** ** * |
| 1  | 194                                    | 34.0 |     | 26.4                   | 155                                                                                | 54.1 <sup>115</sup>                  | +23     | 57.3                     | 73    | 58            | *** ** *       | 1 40 | 2 56           | 5 52  | 85       |
| 2  | 209                                    | 33.8 |     | 26.4                   | 170                                                                                | 24.7 <sup>116</sup>                  |         | 50.0                     | 73    | 56            | *** ** *       | 2 10 | 3 13           | 6 09  | 80       |
| 3  | 224                                    | 33.7 |     | 26.4                   | 184                                                                                | 55.4 <sup>117</sup>                  |         | 42.6                     | 74    | 54            | 0 45           | 33   | 27             | 23    | 77       |
| 4  | 239                                    | 33.6 |     | 26.4                   | 199                                                                                | 26.1 <sup>117</sup>                  |         | 35.0                     | 76    | 52            | 1 32           | 2 51 | 40             | 35    | 74       |
| 5  | 254                                    | 33.4 | +23 | 26.4                   | 213                                                                                | 56.8 <sup>117</sup>                  | +23     | 27.4                     | 76    | 50            | 2 00           | 3 06 | 3 51           | 6 45  | 72       |
| 6  | 269                                    | 33.3 | +23 | 26.4                   | 228                                                                                | 27.6 <sup>118</sup>                  | +23     | 19.6                     | 78    | 45            | 2 46           | 3 36 | 4 13           | 7 08  | 67       |
| 7  | 284                                    | 33.1 |     | 26.4                   | 242                                                                                | 58.4 <sup>118</sup>                  |         | 11.7                     | 79    | 40            | 3 17           | 3 58 | 31             | 25    | 64       |
| 8  | 299                                    | 33.0 |     | 26.4                   | 257                                                                                | 29.3 <sup>119</sup>                  | +23     | 03.7                     | 80    | 35            | 40             | 4 17 | 46             | 40    | 61       |
| 9  | 314                                    | 32.9 |     | 26.4                   | 272                                                                                | 00.2 <sup>119</sup>                  | +22     | 55.6                     | 81    | 30            | 3 59           | 32   | 4 59           | 7 53  | 58       |
| 10 | 329                                    | 32.7 |     | 26.4                   | 286                                                                                | 31.2 <sup>120</sup>                  |         | 47.4                     | 82    | 20            | 4 28           | 4 57 | 5 22           | 8 15  | 54       |
| 11 | 344                                    | 32.6 | +23 | 26.4                   | 301                                                                                | 02.3 <sup>121</sup>                  | +22     | 39.1                     | 83    | 10 N          | 4 50           | 5 17 | 5 41           | 8 34  | 51       |
| 12 | 359                                    | 32.5 | +23 | 26.4                   | 315                                                                                | 33.3 <sup>120</sup>                  | +22     | 30.7                     | 84    | 0             | 5 09           | 5 36 | 5 58           | 8 52  | 47       |
| 13 | 14                                     | 32.3 |     | 26.4                   | 330                                                                                | 04.5 <sup>122</sup>                  |         | 22.2                     | 85    | 10 S          | 26             | 5 53 | 6 16           | 9 10  | 44       |
| 14 | 29                                     | 32.2 |     | 26.4                   | 344                                                                                | 35.6 <sup>121</sup>                  |         | 13.5                     | 87    | 20            | 43             | 6 10 | 34             | 29    | 40       |
| 15 | 44                                     | 32.1 |     | 26.4                   | 359                                                                                | 06.9 <sup>123</sup>                  | +22     | 04.8                     | 87    | 30            | 5 59           | 29   | 6 55           | 9 50  | 36       |
| 16 | 59                                     | 31.9 |     | 26.4                   | 13                                                                                 | 38.1 <sup>122</sup>                  | +21     | 56.0                     | 88    | 35            | 6 08           | 40   | 7 08           | 10 03 | 34       |
| 17 | 74                                     | 31.8 | +23 | 26.3                   | 28                                                                                 | 09.5 <sup>124</sup>                  | +21     | 47.0                     | 90    | 40            | 6 17           | 6 51 | 7 22           | 10 17 | 31       |
| 18 | 89                                     | 31.6 | +23 | 26.3                   | 42                                                                                 | 40.8 <sup>123</sup>                  | +21     | 38.0                     | 90    | 45            | 6 28           | 7 05 | 7 39           | 10 35 | 27       |
| 19 | 104                                    | 31.5 |     | 26.3                   | 57                                                                                 | 12.3 <sup>125</sup>                  |         | 28.8                     | 92    | 50            | 40             | 21   | 8 00           | 10 56 | 22       |
| 20 | 119                                    | 31.4 |     | 26.3                   | 71                                                                                 | 43.7 <sup>124</sup>                  |         | 19.6                     | 92    | 52            | 45             | 29   | 10             | 11 06 | 20       |
| 21 | 134                                    | 31.2 |     | 26.3                   | 86                                                                                 | 15.2 <sup>125</sup>                  |         | 10.3                     | 93    | 54            | 51             | 37   | 21             | 17    | 17       |
| 22 | 149                                    | 31.1 |     | 26.3                   | 100                                                                                | 46.8 <sup>126</sup>                  | +21     | 00.8                     | 95    | 56            | 6 57           | 46   | 33             | 30    | 14       |
| 23 | 164                                    | 31.0 |     | 26.3                   | 115                                                                                | 18.4 <sup>126</sup>                  | +20     | 51.3                     | 95    | 58            | 7 04           | 7 56 | 8 48           | 11 45 | 10       |
| 24 | 179                                    | 30.8 | +23 | 26.2                   | 129                                                                                | 50.1 <sup>127</sup>                  | +20     | 41.6                     | 97    | 60 S          | 7 11           | 8 08 | 9 06           | 12 03 | 4        |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 6 <sup>h</sup> 00 <sup>m</sup> 9 |      | Mag: -4.3<br>PMG: 10 <sup>h</sup> 40 <sup>m</sup> |      | Mag: +1.8<br>PMG: 14 <sup>h</sup> 03 <sup>m</sup> |      | Mag: -2.0<br>PMG: 16 <sup>h</sup> 55 <sup>m</sup> |      | Mag: +0.1<br>PMG: 13 <sup>h</sup> 03 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 269                                   | 31.6 | 199                                               | 27.5 | 148                                               | 57.9 | 105                                               | 39.4 | 163                                               | 45.9 |
| 1   | 284                                   | 34.1 | 214                                               | 30.8 | 163                                               | 58.7 | 120                                               | 41.6 | 178                                               | 48.1 |
| 2   | 299                                   | 36.6 | 229                                               | 34.2 | 178                                               | 59.5 | 135                                               | 43.8 | 193                                               | 50.2 |
| 3   | 314                                   | 39.0 | 244                                               | 37.5 | 194                                               | 00.4 | 150                                               | 45.9 | 208                                               | 52.3 |
| 4   | 329                                   | 41.5 | 259                                               | 40.8 | 209                                               | 01.2 | 165                                               | 48.1 | 223                                               | 54.4 |
| 5   | 344                                   | 44.0 | 274                                               | 44.1 | 224                                               | 02.0 | 180                                               | 50.3 | 238                                               | 56.5 |
| 6   | 359                                   | 46.4 | 289                                               | 47.4 | 239                                               | 02.8 | 195                                               | 52.5 | 253                                               | 58.7 |
| 7   | 14                                    | 48.9 | 304                                               | 50.7 | 254                                               | 03.6 | 210                                               | 54.6 | 269                                               | 00.8 |
| 8   | 29                                    | 51.4 | 319                                               | 54.0 | 269                                               | 04.4 | 225                                               | 56.8 | 284                                               | 02.9 |
| 9   | 44                                    | 53.8 | 334                                               | 57.3 | 284                                               | 05.2 | 240                                               | 59.0 | 299                                               | 05.0 |
| 10  | 59                                    | 56.3 | 350                                               | 00.5 | 299                                               | 06.0 | 256                                               | 01.2 | 314                                               | 07.1 |
| 11  | 74                                    | 58.7 | 5                                                 | 03.8 | 314                                               | 06.8 | 271                                               | 03.3 | 329                                               | 09.3 |
| 12  | 90                                    | 01.2 | 20                                                | 07.1 | 329                                               | 07.6 | 286                                               | 05.5 | 344                                               | 11.4 |
| 13  | 105                                   | 03.7 | 35                                                | 10.4 | 344                                               | 08.4 | 301                                               | 07.7 | 359                                               | 13.5 |
| 14  | 120                                   | 06.1 | 50                                                | 13.6 | 359                                               | 09.2 | 316                                               | 09.9 | 14                                                | 15.6 |
| 15  | 135                                   | 08.6 | 65                                                | 16.9 | 14                                                | 10.0 | 331                                               | 12.0 | 29                                                | 17.8 |
| 16  | 150                                   | 11.1 | 80                                                | 20.2 | 29                                                | 10.8 | 346                                               | 14.2 | 44                                                | 19.9 |
| 17  | 165                                   | 13.5 | 95                                                | 23.4 | 44                                                | 11.6 | 1                                                 | 16.4 | 59                                                | 22.0 |
| 18  | 180                                   | 16.0 | 110                                               | 26.7 | 59                                                | 12.4 | 16                                                | 18.6 | 74                                                | 24.1 |
| 19  | 195                                   | 18.5 | 125                                               | 29.9 | 74                                                | 13.3 | 31                                                | 20.7 | 89                                                | 26.2 |
| 20  | 210                                   | 20.9 | 140                                               | 33.1 | 89                                                | 14.1 | 46                                                | 22.9 | 104                                               | 28.4 |
| 21  | 225                                   | 23.4 | 155                                               | 36.4 | 104                                               | 14.9 | 61                                                | 25.1 | 119                                               | 30.5 |
| 22  | 240                                   | 25.9 | 170                                               | 39.6 | 119                                               | 15.7 | 76                                                | 27.3 | 134                                               | 32.6 |
| 23  | 255                                   | 28.3 | 185                                               | 42.8 | 134                                               | 16.5 | 91                                                | 29.4 | 149                                               | 34.7 |
| 24  | 270                                   | 30.8 | 200                                               | 46.1 | 149                                               | 17.3 | 106                                               | 31.6 | 164                                               | 36.8 |
| Dif | —                                     |      | +33                                               | -5   | +8                                                | -3   | +22                                               | -1   | +21                                               | 0    |



| UT  | SOL                                                             |      |                                                   |  LUNA                                                                             |     |                                                   | Latitud | Puesta de Sol       | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |          |     |      |     |      |  |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|---------------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|-----|------|-----|------|--|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 1 |      |                                                   | Edad: 4 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54/9<br>12 <sup>h</sup> : 55/0<br>20 <sup>h</sup> : 55/2<br>PMG: 15 <sup>h</sup> 50 <sup>m</sup> R°: 45 <sup>m</sup> |     |                                                   |         |                     |                                                   |       |                |                                                   |                |          |     |      |     |      |  |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                                                                                               | Dif | Dec                                               |         |                     | Dif                                               | Civil | Náutico        | Hora                                              | R°             | Hora     | R°  |      |     |      |  |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                  | °   | '                                                 | °       | '                   | h m                                               | h m   | h m            | h m m                                             | h m m          | h m m    |     |      |     |      |  |
| 0   | 179                                                             | 30.8 | +23                                               | 26.2                                                                                                                                                               | 129 | 50.1                                              | +20     | 41.6                | 60 N                                              | 21 28 | 23 14          | ** **                                             | 7 04 90        | 0 03 4   |     |      |     |      |  |
| 1   | 194                                                             | 30.7 |                                                   | 26.2                                                                                                                                                               | 144 | 21.8 <sup>127</sup>                               |         | 31.9 <sup>97</sup>  | 58                                                | 21 07 | 22 23          | ** **                                             | 17 86          | 23 56 6  |     |      |     |      |  |
| 2   | 209                                                             | 30.6 |                                                   | 26.2                                                                                                                                                               | 158 | 53.6 <sup>128</sup>                               |         | 22.1 <sup>98</sup>  | 56                                                | 20 51 | 21 53          | ** **                                             | 29 82          | 48 8     |     |      |     |      |  |
| 3   | 224                                                             | 30.4 |                                                   | 26.2                                                                                                                                                               | 173 | 25.4 <sup>128</sup>                               |         | 12.1 <sup>100</sup> | 54                                                | 36    | 31             | 23 18                                             | 40 78          | 40 1     |     |      |     |      |  |
| 4   | 239                                                             | 30.3 |                                                   | 26.2                                                                                                                                                               | 187 | 57.2 <sup>128</sup>                               | +20     | 02.1 <sup>100</sup> | 52                                                | 24    | 21 13          | 22 31                                             | 49 76          | 32 15    |     |      |     |      |  |
| 5   | 254                                                             | 30.1 | +23                                               | 26.2                                                                                                                                                               | 202 | 29.1 <sup>129</sup>                               | +19     | 52.0 <sup>101</sup> | 50                                                | 20 13 | 20 58          | 22 03                                             | 7 57 73        | 23 26 16 |     |      |     |      |  |
| 6   | 269                                                             | 30.0 | +23                                               | 26.1                                                                                                                                                               | 217 | 01.1 <sup>130</sup>                               | +19     | 41.8 <sup>102</sup> | 45                                                | 19 51 | 20 28          | 21 18                                             | 8 15 68        | 23 12 21 |     |      |     |      |  |
| 7   | 284                                                             | 29.9 |                                                   | 26.1                                                                                                                                                               | 231 | 33.1 <sup>130</sup>                               |         | 31.5 <sup>103</sup> | 40                                                | 33    | 20 05          | 20 47                                             | 29 64          | 23 01 25 |     |      |     |      |  |
| 8   | 299                                                             | 29.7 |                                                   | 26.1                                                                                                                                                               | 246 | 05.1 <sup>130</sup>                               |         | 21.1 <sup>104</sup> | 35                                                | 17    | 19 47          | 24                                                | 41 61          | 22 51 28 |     |      |     |      |  |
| 9   | 314                                                             | 29.6 |                                                   | 26.1                                                                                                                                                               | 260 | 37.2 <sup>131</sup>                               | +19     | 10.6 <sup>105</sup> | 30                                                | 19 04 | 32             | 20 05                                             | 8 51 58        | 42 31    |     |      |     |      |  |
| 10  | 329                                                             | 29.5 |                                                   | 26.0                                                                                                                                                               | 275 | 09.3 <sup>131</sup>                               | +19     | 00.0 <sup>106</sup> | 20                                                | 18 42 | 19 07          | 19 36                                             | 9 09 53        | 27 36    |     |      |     |      |  |
| 11  | 344                                                             | 29.3 | +23                                               | 26.0                                                                                                                                                               | 289 | 41.5 <sup>132</sup>                               | +18     | 49.4 <sup>106</sup> | 10 N                                              | 18 23 | 18 46          | 19 14                                             | 9 25 49        | 22 14 40 |     |      |     |      |  |
| 12  | 359                                                             | 29.2 | +23                                               | 26.0                                                                                                                                                               | 304 | 13.7 <sup>132</sup>                               | +18     | 38.6 <sup>108</sup> | 0                                                 | 18 06 | 18 28          | 18 55                                             | 9 39 45        | 22 01 44 |     |      |     |      |  |
| 13  | 14                                                              | 29.1 |                                                   | 26.0                                                                                                                                                               | 318 | 46.0 <sup>133</sup>                               |         | 27.8 <sup>108</sup> | 10 S                                              | 17 48 | 18 11          | 37                                                | 9 54 41        | 21 48 49 |     |      |     |      |  |
| 14  | 29                                                              | 28.9 |                                                   | 25.9                                                                                                                                                               | 333 | 18.3 <sup>133</sup>                               |         | 16.9 <sup>109</sup> | 20                                                | 30    | 17 54          | 21                                                | 10 09 37       | 35 53    |     |      |     |      |  |
| 15  | 44                                                              | 28.8 |                                                   | 25.9                                                                                                                                                               | 347 | 50.7 <sup>134</sup>                               | +18     | 05.9 <sup>110</sup> | 30                                                | 17 08 | 35             | 18 05                                             | 26 33          | 19 58    |     |      |     |      |  |
| 16  | 59                                                              | 28.7 |                                                   | 25.9                                                                                                                                                               | 2   | 23.1 <sup>134</sup>                               | +17     | 54.8 <sup>111</sup> | 35                                                | 16 56 | 24             | 17 56                                             | 37 29          | 10 61    |     |      |     |      |  |
| 17  | 74                                                              | 28.5 | +23                                               | 25.9                                                                                                                                                               | 16  | 55.5 <sup>134</sup>                               | +17     | 43.6 <sup>112</sup> | 40                                                | 16 42 | 17 12          | 17 47                                             | 10 48 27       | 21 00 64 |     |      |     |      |  |
| 18  | 89                                                              | 28.4 | +23                                               | 25.8                                                                                                                                                               | 31  | 28.0 <sup>135</sup>                               | +17     | 32.3 <sup>113</sup> | 45                                                | 16 25 | 16 59          | 17 36                                             | 11 02 22       | 20 47 69 |     |      |     |      |  |
| 19  | 104                                                             | 28.2 |                                                   | 25.8                                                                                                                                                               | 46  | 00.5 <sup>135</sup>                               |         | 21.0 <sup>113</sup> | 50                                                | 16 04 | 43             | 24                                                | 18 18          | 32 74    |     |      |     |      |  |
| 20  | 119                                                             | 28.1 |                                                   | 25.8                                                                                                                                                               | 60  | 33.1 <sup>136</sup>                               | +17     | 09.5 <sup>115</sup> | 52                                                | 15 54 | 35             | 19                                                | 26 15          | 25 76    |     |      |     |      |  |
| 21  | 134                                                             | 28.0 |                                                   | 25.7                                                                                                                                                               | 75  | 05.7 <sup>136</sup>                               | +16     | 58.0 <sup>115</sup> | 54                                                | 43    | 27             | 13                                                | 34 13          | 17 79    |     |      |     |      |  |
| 22  | 149                                                             | 27.8 |                                                   | 25.7                                                                                                                                                               | 89  | 38.3 <sup>136</sup>                               |         | 46.4 <sup>116</sup> | 56                                                | 31    | 18             | 07                                                | 44 10          | 20 08 82 |     |      |     |      |  |
| 23  | 164                                                             | 27.7 |                                                   | 25.7                                                                                                                                                               | 104 | 11.0 <sup>137</sup>                               |         | 34.7 <sup>117</sup> | 58                                                | 15 16 | 16 08          | 17 00                                             | 11 55 6        | 19 58 86 |     |      |     |      |  |
| 24  | 179                                                             | 27.6 | +23                                               | 25.6                                                                                                                                                               | 118 | 43.7 <sup>137</sup>                               | +16     | 23.0 <sup>117</sup> | 60 S                                              | 14 58 | 15 56          | 16 53                                             | 12 07 3        | 19 47 89 |     |      |     |      |  |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                    |     | MARTE                                             |         |                     | JÚPITER                                           |       |                | SATURNO                                           |                |          |     |      |     |      |  |
|     | PMG: 5 <sup>h</sup> 57 <sup>m</sup> 0                           |      | Mag: -4.4<br>PMG: 10 <sup>h</sup> 35 <sup>m</sup> |                                                                                                                                                                    |     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 02 <sup>m</sup> |         |                     | Mag: -1.9<br>PMG: 16 <sup>h</sup> 51 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 13 <sup>h</sup> 00 <sup>m</sup> |                |          |     |      |     |      |  |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                                                                                                |     | hG ♂                                              | Dec     |                     | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |          |     |      |     |      |  |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                  | °   | '                                                 | °       | '                   | °                                                 | '     | °              | '                                                 | °              | '        |     |      |     |      |  |
| 0   | 270                                                             | 30.8 | 200                                               | 46.1                                                                                                                                                               | +19 | 05.0                                              | 149     | 17.3                | +21                                               | 36.0  | 106            | 31.6                                              | +8             | 06.2     | 164 | 36.8 | +22 | 20.6 |  |
| 1   | 285                                                             | 33.2 | 215                                               | 49.3                                                                                                                                                               |     | 04.5                                              | 164     | 18.1                |                                                   | 35.7  | 121            | 33.8                                              |                | 06.1     | 179 | 39.0 |     | 20.5 |  |
| 2   | 300                                                             | 35.7 | 230                                               | 52.5                                                                                                                                                               |     | 04.0                                              | 179     | 18.9                |                                                   | 35.4  | 136            | 35.9                                              |                | 06.0     | 194 | 41.1 |     | 20.5 |  |
| 3   | 315                                                             | 38.2 | 245                                               | 55.7                                                                                                                                                               |     | 03.5                                              | 194     | 19.7                |                                                   | 35.0  | 151            | 38.1                                              |                | 05.9     | 209 | 43.2 |     | 20.5 |  |
| 4   | 330                                                             | 40.6 | 260                                               | 58.9                                                                                                                                                               |     | 03.0                                              | 209     | 20.5                |                                                   | 34.7  | 166            | 40.3                                              |                | 05.7     | 224 | 45.3 |     | 20.5 |  |
| 5   | 345                                                             | 43.1 | 276                                               | 02.1                                                                                                                                                               | +19 | 02.5                                              | 224     | 21.3                | +21                                               | 34.4  | 181            | 42.5                                              | +8             | 05.6     | 239 | 47.5 | +22 | 20.4 |  |
| 6   | 0                                                               | 45.6 | 291                                               | 05.3                                                                                                                                                               | +19 | 02.0                                              | 239     | 22.1                | +21                                               | 34.0  | 196            | 44.6                                              | +8             | 05.5     | 254 | 49.6 | +22 | 20.4 |  |
| 7   | 15                                                              | 48.0 | 306                                               | 08.5                                                                                                                                                               |     | 01.5                                              | 254     | 22.9                |                                                   | 33.7  | 211            | 46.8                                              |                | 05.4     | 269 | 51.7 |     | 20.4 |  |
| 8   | 30                                                              | 50.5 | 321                                               | 11.7                                                                                                                                                               |     | 01.0                                              | 269     | 23.8                |                                                   | 33.4  | 226            | 49.0                                              |                | 05.2     | 284 | 53.8 |     | 20.3 |  |
| 9   | 45                                                              | 53.0 | 336                                               | 14.9                                                                                                                                                               | +19 | 00.5                                              | 284     | 24.6                |                                                   | 33.0  | 241            | 51.1                                              |                | 05.1     | 299 | 55.9 |     | 20.3 |  |
| 10  | 60                                                              | 55.4 | 351                                               | 18.1                                                                                                                                                               | +19 | 00.0                                              | 299     | 25.4                |                                                   | 32.7  | 256            | 53.3                                              |                | 05.0     | 314 | 58.1 |     | 20.3 |  |
| 11  | 75                                                              | 57.9 | 6                                                 | 21.3                                                                                                                                                               | +18 | 59.5                                              | 314     | 26.2                | +21                                               | 32.4  | 271            | 55.5                                              | +8             | 04.8     | 330 | 00.2 | +22 | 20.2 |  |
| 12  | 91                                                              | 00.3 | 21                                                | 24.5                                                                                                                                                               | +18 | 59.0                                              | 329     | 27.0                | +21                                               | 32.1  | 286            | 57.6                                              | +8             | 04.7     | 345 | 02.3 | +22 | 20.2 |  |
| 13  | 106                                                             | 02.8 | 36                                                | 27.6                                                                                                                                                               |     | 58.5                                              | 344     | 27.8                |                                                   | 31.7  | 301            | 59.8                                              |                | 04.6     | 0   | 04.4 |     | 20.2 |  |
| 14  | 121                                                             | 05.3 | 51                                                | 30.8                                                                                                                                                               |     | 58.1                                              | 359     | 28.6                |                                                   | 31.4  | 317            | 02.0                                              |                | 04.5     | 15  | 06.5 |     | 20.1 |  |
| 15  | 136                                                             | 07.7 | 66                                                | 34.0                                                                                                                                                               |     | 57.6                                              | 14      | 29.4                |                                                   | 31.1  | 332            | 04.2                                              |                | 04.3     | 30  | 08.7 |     | 20.1 |  |
| 16  | 151                                                             | 10.2 | 81                                                | 37.1                                                                                                                                                               |     | 57.1                                              | 29      | 30.2                |                                                   | 30.7  | 347            | 06.3                                              |                | 04.2     | 45  | 10.8 |     | 20.1 |  |
| 17  | 166                                                             | 12.7 | 96                                                | 40.3                                                                                                                                                               | +18 | 56.6                                              | 44      | 31.0                | +21                                               | 30.4  | 2              | 08.5                                              | +8             | 04.1     | 60  | 12.9 | +22 | 20.0 |  |
| 18  | 181                                                             | 15.1 | 111                                               | 43.4                                                                                                                                                               | +18 | 56.1                                              | 59      | 31.8                | +21                                               | 30.1  | 17             | 10.7                                              | +8             | 04.0     | 75  | 15.0 | +22 | 20.0 |  |
| 19  | 196                                                             | 17.6 | 126                                               | 46.6                                                                                                                                                               |     | 55.6                                              | 74      | 32.7                |                                                   | 29.7  | 32             | 12.8                                              |                | 03.8     | 90  | 17.1 |     | 20.0 |  |
| 20  | 211                                                             | 20.1 | 141                                               | 49.7                                                                                                                                                               |     | 55.1                                              | 89      | 33.5                |                                                   | 29.4  | 47             | 15.0                                              |                | 03.7     | 105 | 19.3 |     | 20.0 |  |
| 21  | 226                                                             | 22.5 | 156                                               | 52.9                                                                                                                                                               |     | 54.7                                              | 104     | 34.3                |                                                   | 29.1  | 62             | 17.2                                              |                | 03.6     | 120 | 21.4 |     | 19.9 |  |
| 22  | 241                                                             | 25.0 | 171                                               | 56.0                                                                                                                                                               |     | 54.2                                              | 119     | 35.1                |                                                   | 28.7  | 77             | 19.3                                              |                | 03.4     | 135 | 23.5 |     | 19.9 |  |
| 23  | 256                                                             | 27.5 | 186                                               | 59.1                                                                                                                                                               |     | 53.7                                              | 134     | 35.9                |                                                   | 28.4  | 92             | 21.5                                              |                | 03.3     | 150 | 25.6 |     | 19.9 |  |
| 24  | 271                                                             | 29.9 | 202                                               | 02.3                                                                                                                                                               | +18 | 53.2                                              | 149     | 36.7                | +21                                               | 28.1  | 107            | 23.7                                              | +8             | 03.2     | 165 | 27.7 | +22 | 19.8 |  |
| Dif | —                                                               |      | +32                                               |                                                                                                                                                                    |     | -5                                                |         | +8                  |                                                   | -3    |                | +22                                               |                | -1       |     | +21  |     |      |  |

| UT  | SOL                                                             |      |                                                   |      |  LUNA                                                                                                                                                   |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |       | Puesta de Luna                                    |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 3 |      |                                                   |      | Edad: 5 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 55 <sup>h</sup> 4<br>12 <sup>h</sup> : 55 <sup>h</sup> 6<br>20 <sup>h</sup> : 55 <sup>h</sup> 8<br>Rº: 44 <sup>m</sup><br>SD: 15 <sup>h</sup> 1<br>PMG: 16 <sup>h</sup> 35 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |       |                                                   |      |     |      |
|     | hG ☉                                                            |      | Dec                                               |      | hG ☾                                                                                                                                                                                                                                     |                     | Dif                                               |                     |         | Náutico                  | Civil                                             |               | Hora           | Rº    | Hora                                              | Rº   |     |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                        | '                   | °                                                 | '                   | °       | h                        | m                                                 | h             | m              | h     | m                                                 | h    | m   |      |
| 0   | 179                                                             | 27.6 | +23                                               | 25.6 | 118                                                                                                                                                                                                                                      | 43.7                | +16                                               | 23.0                | 60 N    | ** **                    | 0 50                                              | 2 36          | 8 34           | 89    | 0 07                                              | 1    |     |      |
| 1   | 194                                                             | 27.4 |                                                   | 25.6 | 133                                                                                                                                                                                                                                      | 16.5 <sup>138</sup> | +16                                               | 11.2 <sup>118</sup> | 58      | ** **                    | 1 41                                              | 2 57          | 43 85          | ** ** | **                                                |      |     |      |
| 2   | 209                                                             | 27.3 |                                                   | 25.6 | 147                                                                                                                                                                                                                                      | 49.3 <sup>138</sup> | +15                                               | 59.3 <sup>119</sup> | 56      | ** **                    | 2 11                                              | 3 14          | 51 82          | 23 56 | 7                                                 |      |     |      |
| 3   | 224                                                             | 27.2 |                                                   | 25.5 | 162                                                                                                                                                                                                                                      | 22.1 <sup>138</sup> |                                                   | 47.3 <sup>120</sup> | 54      | 0 46                     | 33                                                | 28            | 8 58           | 79    | 51                                                | 10   |     |      |
| 4   | 239                                                             | 27.0 |                                                   | 25.5 | 176                                                                                                                                                                                                                                      | 55.0 <sup>139</sup> |                                                   | 35.2 <sup>121</sup> | 52      | 1 33                     | 2 51                                              | 40            | 9 05           | 76    | 47                                                | 12   |     |      |
| 5   | 254                                                             | 26.9 | +23                                               | 25.5 | 191                                                                                                                                                                                                                                      | 27.9 <sup>139</sup> | +15                                               | 23.1 <sup>121</sup> | 50      | 2 01                     | 3 07                                              | 3 51          | 9 10           | 74    | 23                                                | 42   | 15  |      |
| 6   | 269                                                             | 26.8 | +23                                               | 25.4 | 206                                                                                                                                                                                                                                      | 00.8 <sup>139</sup> | +15                                               | 10.9 <sup>122</sup> | 45      | 2 47                     | 3 36                                              | 4 14          | 9 23           | 68    | 23                                                | 33   | 19  |      |
| 7   | 284                                                             | 26.6 |                                                   | 25.4 | 220                                                                                                                                                                                                                                      | 33.8 <sup>140</sup> | +14                                               | 58.6 <sup>123</sup> | 40      | 3 17                     | 3 59                                              | 32            | 33 64          |       | 26                                                | 23   |     |      |
| 8   | 299                                                             | 26.5 |                                                   | 25.4 | 235                                                                                                                                                                                                                                      | 06.8 <sup>140</sup> |                                                   | 46.2 <sup>124</sup> | 35      | 40                       | 4 17                                              | 4 47          | 42 61          |       | 19                                                | 27   |     |      |
| 9   | 314                                                             | 26.4 |                                                   | 25.3 | 249                                                                                                                                                                                                                                      | 39.8 <sup>140</sup> |                                                   | 33.8 <sup>124</sup> | 30      | 3 59                     | 32                                                | 5 00          | 9 49           | 58    | 13                                                | 30   |     |      |
| 10  | 329                                                             | 26.2 |                                                   | 25.3 | 264                                                                                                                                                                                                                                      | 12.9 <sup>141</sup> |                                                   | 21.3 <sup>125</sup> | 20      | 4 28                     | 4 57                                              | 22            | 10 02          | 53    | 23                                                | 03   | 35  |      |
| 11  | 344                                                             | 26.1 | +23                                               | 25.2 | 278                                                                                                                                                                                                                                      | 46.0 <sup>141</sup> | +14                                               | 08.7 <sup>126</sup> | 10 N    | 4 51                     | 5 18                                              | 5 41          | 10 14          | 48    | 22                                                | 54   | 39  |      |
| 12  | 359                                                             | 26.0 | +23                                               | 25.2 | 293                                                                                                                                                                                                                                      | 19.1 <sup>141</sup> | +13                                               | 56.0 <sup>127</sup> | 0       | 5 10                     | 5 36                                              | 5 59          | 10 24          | 44    | 22                                                | 45   | 44  |      |
| 13  | 14                                                              | 25.8 |                                                   | 25.1 | 307                                                                                                                                                                                                                                      | 52.3 <sup>142</sup> |                                                   | 43.3 <sup>127</sup> | 10 S    | 27                       | 5 53                                              | 6 16          | 35 40          |       | 37                                                | 48   |     |      |
| 14  | 29                                                              | 25.7 |                                                   | 25.1 | 322                                                                                                                                                                                                                                      | 25.4 <sup>141</sup> |                                                   | 30.5 <sup>128</sup> | 20      | 5 43                     | 6 11                                              | 35            | 46 35          |       | 28                                                | 52   |     |      |
| 15  | 44                                                              | 25.5 |                                                   | 25.1 | 336                                                                                                                                                                                                                                      | 58.6 <sup>142</sup> |                                                   | 17.7 <sup>128</sup> | 30      | 6 00                     | 29                                                | 6 56          | 10 59          | 30    | 17                                                | 58   |     |      |
| 16  | 59                                                              | 25.4 |                                                   | 25.0 | 351                                                                                                                                                                                                                                      | 31.9 <sup>143</sup> | +13                                               | 04.8 <sup>129</sup> | 35      | 08                       | 40                                                | 7 08          | 11 06          | 28    | 11                                                | 61   |     |      |
| 17  | 74                                                              | 25.3 | +23                                               | 25.0 | 6                                                                                                                                                                                                                                        | 05.2 <sup>143</sup> | +12                                               | 51.8 <sup>130</sup> | 40      | 6 18                     | 6 52                                              | 7 22          | 11 15          | 24    | 22                                                | 04   | 64  |      |
| 18  | 89                                                              | 25.1 | +23                                               | 24.9 | 20                                                                                                                                                                                                                                       | 38.4 <sup>142</sup> | +12                                               | 38.7 <sup>131</sup> | 45      | 6 28                     | 7 05                                              | 7 39          | 11 24          | 20    | 21                                                | 56   | 68  |      |
| 19  | 104                                                             | 25.0 |                                                   | 24.9 | 35                                                                                                                                                                                                                                       | 11.8 <sup>144</sup> |                                                   | 25.6 <sup>131</sup> | 50      | 40                       | 22                                                | 8 00          | 36 15          |       | 46                                                | 73   |     |      |
| 20  | 119                                                             | 24.9 |                                                   | 24.8 | 49                                                                                                                                                                                                                                       | 45.1 <sup>143</sup> | +12                                               | 12.5 <sup>131</sup> | 52      | 45                       | 29                                                | 10            | 41 13          |       | 41                                                | 76   |     |      |
| 21  | 134                                                             | 24.7 |                                                   | 24.8 | 64                                                                                                                                                                                                                                       | 18.4 <sup>143</sup> | +11                                               | 59.2 <sup>133</sup> | 54      | 51                       | 37                                                | 21            | 47 11          |       | 36                                                | 79   |     |      |
| 22  | 149                                                             | 24.6 |                                                   | 24.7 | 78                                                                                                                                                                                                                                       | 51.8 <sup>144</sup> |                                                   | 45.9 <sup>133</sup> | 56      | 6 57                     | 46                                                | 34            | 11 54          | 8     | 30                                                | 82   |     |      |
| 23  | 164                                                             | 24.5 |                                                   | 24.7 | 93                                                                                                                                                                                                                                       | 25.2 <sup>144</sup> |                                                   | 32.5 <sup>134</sup> | 58      | 7 04                     | 7 57                                              | 8 48          | 12 01          | 5     | 24                                                | 85   |     |      |
| 24  | 179                                                             | 24.3 | +23                                               | 24.6 | 107                                                                                                                                                                                                                                      | 58.6 <sup>144</sup> | +11                                               | 19.1 <sup>134</sup> | 60 S    | 7 11                     | 8 08                                              | 9 06          | 12 10          | 1     | 21                                                | 16   | 89  |      |
| UT  | ARIES                                                           |      | VENUS                                             |      |                                                                                                                                                                                                                                          |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |       | SATURNO                                           |      |     |      |
|     | PMG<br>5 <sup>h</sup> 53 <sup>m</sup> 0                         |      | Mag: -4.4<br>PMG: 10 <sup>h</sup> 30 <sup>m</sup> |      |                                                                                                                                                                                                                                          |                     | Mag: +1.8<br>PMG: 14 <sup>h</sup> 01 <sup>m</sup> |                     |         |                          | Mag: -1.9<br>PMG: 16 <sup>h</sup> 48 <sup>m</sup> |               |                |       | Mag: +0.1<br>PMG: 12 <sup>h</sup> 56 <sup>m</sup> |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              |      | Dec                                                                                                                                                                                                                                      |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |       | hG ♄                                              |      | Dec |      |
| h   | °                                                               | '    | °                                                 | '    | °                                                                                                                                                                                                                                        | '                   | °                                                 | '                   | °       | '                        | °                                                 | '             | °              | '     | °                                                 | '    | °   | '    |
| 0   | 271                                                             | 29.9 | 202                                               | 02.3 | +18                                                                                                                                                                                                                                      | 53.2                | 149                                               | 36.7                | +21     | 28.1                     | 107                                               | 23.7          | +8             | 03.2  | 165                                               | 27.7 | +22 | 19.8 |
| 1   | 286                                                             | 32.4 | 217                                               | 05.4 |                                                                                                                                                                                                                                          | 52.7                | 164                                               | 37.5                |         | 27.7                     | 122                                               | 25.8          |                | 03.1  | 180                                               | 29.9 |     | 19.8 |
| 2   | 301                                                             | 34.8 | 232                                               | 08.5 |                                                                                                                                                                                                                                          | 52.3                | 179                                               | 38.3                |         | 27.4                     | 137                                               | 28.0          |                | 02.9  | 195                                               | 32.0 |     | 19.8 |
| 3   | 316                                                             | 37.3 | 247                                               | 11.6 |                                                                                                                                                                                                                                          | 51.8                | 194                                               | 39.1                |         | 27.1                     | 152                                               | 30.2          |                | 02.8  | 210                                               | 34.1 |     | 19.7 |
| 4   | 331                                                             | 39.8 | 262                                               | 14.7 |                                                                                                                                                                                                                                          | 51.3                | 209                                               | 40.0                |         | 26.7                     | 167                                               | 32.3          |                | 02.7  | 225                                               | 36.2 |     | 19.7 |
| 5   | 346                                                             | 42.2 | 277                                               | 17.8 | +18                                                                                                                                                                                                                                      | 50.9                | 224                                               | 40.8                | +21     | 26.4                     | 182                                               | 34.5          | +8             | 02.5  | 240                                               | 38.4 | +22 | 19.7 |
| 6   | 1                                                               | 44.7 | 292                                               | 20.9 | +18                                                                                                                                                                                                                                      | 50.4                | 239                                               | 41.6                | +21     | 26.1                     | 197                                               | 36.7          | +8             | 02.4  | 255                                               | 40.5 | +22 | 19.6 |
| 7   | 16                                                              | 47.2 | 307                                               | 24.0 |                                                                                                                                                                                                                                          | 49.9                | 254                                               | 42.4                |         | 25.7                     | 212                                               | 38.8          |                | 02.3  | 270                                               | 42.6 |     | 19.6 |
| 8   | 31                                                              | 49.6 | 322                                               | 27.1 |                                                                                                                                                                                                                                          | 49.5                | 269                                               | 43.2                |         | 25.4                     | 227                                               | 41.0          |                | 02.2  | 285                                               | 44.7 |     | 19.6 |
| 9   | 46                                                              | 52.1 | 337                                               | 30.2 |                                                                                                                                                                                                                                          | 49.0                | 284                                               | 44.0                |         | 25.0                     | 242                                               | 43.2          |                | 02.0  | 300                                               | 46.8 |     | 19.5 |
| 10  | 61                                                              | 54.6 | 352                                               | 33.3 |                                                                                                                                                                                                                                          | 48.5                | 299                                               | 44.8                |         | 24.7                     | 257                                               | 45.3          |                | 01.9  | 315                                               | 49.0 |     | 19.5 |
| 11  | 76                                                              | 57.0 | 7                                                 | 36.4 | +18                                                                                                                                                                                                                                      | 48.1                | 314                                               | 45.6                | +21     | 24.4                     | 272                                               | 47.5          | +8             | 01.8  | 330                                               | 51.1 | +22 | 19.5 |
| 12  | 91                                                              | 59.5 | 22                                                | 39.5 | +18                                                                                                                                                                                                                                      | 47.6                | 329                                               | 46.4                | +21     | 24.0                     | 287                                               | 49.7          | +8             | 01.6  | 345                                               | 53.2 | +22 | 19.5 |
| 13  | 107                                                             | 02.0 | 37                                                | 42.5 |                                                                                                                                                                                                                                          | 47.2                | 344                                               | 47.3                |         | 23.7                     | 302                                               | 51.8          |                | 01.5  | 0                                                 | 55.3 |     | 19.4 |
| 14  | 122                                                             | 04.4 | 52                                                | 45.6 |                                                                                                                                                                                                                                          | 46.7                | 359                                               | 48.1                |         | 23.4                     | 317                                               | 54.0          |                | 01.4  | 15                                                | 57.4 |     | 19.4 |
| 15  | 137                                                             | 06.9 | 67                                                | 48.7 |                                                                                                                                                                                                                                          | 46.2                | 14                                                | 48.9                |         | 23.0                     | 332                                               | 56.1          |                | 01.2  | 30                                                | 59.6 |     | 19.4 |
| 16  | 152                                                             | 09.3 | 82                                                | 51.7 |                                                                                                                                                                                                                                          | 45.8                | 29                                                | 49.7                |         | 22.7                     | 347                                               | 58.3          |                | 01.1  | 46                                                | 01.7 |     | 19.3 |
| 17  | 167                                                             | 11.8 | 97                                                | 54.8 | +18                                                                                                                                                                                                                                      | 45.3                | 44                                                | 50.5                | +21     | 22.3                     | 3                                                 | 00.5          | +8             | 01.0  | 61                                                | 03.8 | +22 | 19.3 |
| 18  | 182                                                             | 14.3 | 112                                               | 57.8 | +18                                                                                                                                                                                                                                      | 44.9                | 59                                                | 51.3                | +21     | 22.0                     | 18                                                | 02.6          | +8             | 00.9  | 76                                                | 05.9 | +22 | 19.3 |
| 19  | 197                                                             | 16.7 | 128                                               | 00.9 |                                                                                                                                                                                                                                          | 44.4                | 74                                                | 52.1                |         | 21.7                     | 33                                                | 04.8          |                | 00.7  | 91                                                | 08.0 |     | 19.2 |
| 20  | 212                                                             | 19.2 | 143                                               | 03.9 |                                                                                                                                                                                                                                          | 44.0                | 89                                                | 52.9                |         | 21.3                     | 48                                                | 07.0          |                | 00.6  | 106                                               | 10.2 |     | 19.2 |
| 21  | 227                                                             | 21.7 | 158                                               | 07.0 |                                                                                                                                                                                                                                          | 43.5                | 104                                               | 53.8                |         | 21.0                     | 63                                                | 09.1          |                | 00.5  | 121                                               | 12.3 |     | 19.2 |
| 22  | 242                                                             | 24.1 | 173                                               | 10.0 |                                                                                                                                                                                                                                          | 43.1                | 119                                               | 54.6                |         | 20.6                     | 78                                                | 11.3          |                | 00.3  | 136                                               | 14.4 |     | 19.1 |
| 23  | 257                                                             | 26.6 | 188                                               | 13.0 |                                                                                                                                                                                                                                          | 42.7                | 134                                               | 55.4                |         | 20.3                     | 93                                                | 13.5          |                | 00.2  | 151                                               | 16.5 |     | 19.1 |
| 24  | 272                                                             | 29.1 | 203                                               | 16.0 | +18                                                                                                                                                                                                                                      | 42.2                | 149                                               | 56.2                | +21     | 20.0                     | 108                                               | 15.6          | +8             | 00.1  | 166                                               | 18.6 | +22 | 19.1 |
| Dif | —                                                               |      | +31                                               |      | -5                                                                                                                                                                                                                                       |                     | +8                                                |                     | -3      |                          | +22                                               |               | -1             |       | +21                                               |      |     |      |

| UT  | SOL                                                             |      |                                                   | ☾ LUNA                                                                                        |                                                   |                     | Latitud                                           | Puesta de Sol       | Final del crepúsculo                              |       | Salida de Luna |       | Puesta de Luna |          |      |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------------------------------------------|-------|----------------|-------|----------------|----------|------|------|-----|------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 5 |      |                                                   | Edad: 6 <sup>d</sup> 1 PHE {<br>SD: 15 <sup>h</sup> 2<br>PMG: 17 <sup>h</sup> 19 <sup>m</sup> |                                                   |                     |                                                   |                     |                                                   |       |                |       |                |          |      |      |     |      |
|     | hG ☉                                                            | Dec  |                                                   | hG ☾                                                                                          | Dif                                               | Dec                 |                                                   |                     | Dif                                               | Civil | Náutico        | Hora  | R°             | Hora     | R°   |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                             | °                                                 | '                   | °                                                 | '                   | h m                                               | h m   | h m            | h m   | m              | m        |      |      |     |      |
| 0   | 179                                                             | 24.3 | +23                                               | 24.6                                                                                          | 107                                               | 58.6                | +11                                               | 19.1                | 60 N                                              | 21 28 | 23 13          | ** ** | 10 03 89       | 0 08 1   |      |      |     |      |
| 1   | 194                                                             | 24.2 |                                                   | 24.6                                                                                          | 122                                               | 32.1 <sup>145</sup> | +11                                               | 05.6 <sup>135</sup> | 58                                                | 21 07 | 22 23          | ** ** | 08 86          | 0 02 4   |      |      |     |      |
| 2   | 209                                                             | 24.1 |                                                   | 24.5                                                                                          | 137                                               | 05.5 <sup>144</sup> | +10                                               | 52.1 <sup>135</sup> | 56                                                | 20 51 | 21 53          | ** ** | 13 82          | ** ** *  |      |      |     |      |
| 3   | 224                                                             | 23.9 |                                                   | 24.5                                                                                          | 151                                               | 39.0 <sup>145</sup> |                                                   | 38.5 <sup>136</sup> | 54                                                | 36    | 31             | 23 17 | 17 79          | ** ** *  |      |      |     |      |
| 4   | 239                                                             | 23.8 |                                                   | 24.4                                                                                          | 166                                               | 12.5 <sup>145</sup> |                                                   | 24.8 <sup>137</sup> | 52                                                | 24    | 21 13          | 22 31 | 21 76          | 23 59 12 |      |      |     |      |
| 5   | 254                                                             | 23.7 | +23                                               | 24.4                                                                                          | 180                                               | 46.0 <sup>145</sup> | +10                                               | 11.1 <sup>137</sup> | 50                                                | 20 13 | 20 58          | 22 03 | 10 24 74       | 23 57 14 |      |      |     |      |
| 6   | 269                                                             | 23.5 | +23                                               | 24.3                                                                                          | 195                                               | 19.5 <sup>145</sup> | +9                                                | 57.3 <sup>138</sup> | 45                                                | 19 51 | 20 28          | 21 18 | 10 31 70       | 23 52 19 |      |      |     |      |
| 7   | 284                                                             | 23.4 |                                                   | 24.3                                                                                          | 209                                               | 53.0 <sup>145</sup> |                                                   | 43.5 <sup>138</sup> | 40                                                | 33    | 20 06          | 20 47 | 37 65          | 49 22    |      |      |     |      |
| 8   | 299                                                             | 23.3 |                                                   | 24.2                                                                                          | 224                                               | 26.6 <sup>146</sup> |                                                   | 29.6 <sup>139</sup> | 35                                                | 18    | 19 47          | 24    | 43 61          | 46 26    |      |      |     |      |
| 9   | 314                                                             | 23.1 |                                                   | 24.1                                                                                          | 239                                               | 00.1 <sup>145</sup> |                                                   | 15.7 <sup>139</sup> | 30                                                | 19 05 | 32             | 20 06 | 47 58          | 43 29    |      |      |     |      |
| 10  | 329                                                             | 23.0 |                                                   | 24.1                                                                                          | 253                                               | 33.7 <sup>146</sup> | +9                                                | 01.7 <sup>140</sup> | 20                                                | 18 43 | 19 07          | 19 36 | 10 55 53       | 38 34    |      |      |     |      |
| 11  | 344                                                             | 22.9 | +23                                               | 24.0                                                                                          | 268                                               | 07.2 <sup>145</sup> | +8                                                | 47.7 <sup>140</sup> | 10 N                                              | 18 24 | 18 47          | 19 14 | 11 02 48       | 23 33 40 |      |      |     |      |
| 12  | 359                                                             | 22.7 | +23                                               | 24.0                                                                                          | 282                                               | 40.8 <sup>146</sup> | +8                                                | 33.6 <sup>141</sup> | 0                                                 | 18 06 | 18 29          | 18 55 | 11 08 44       | 23 29 44 |      |      |     |      |
| 13  | 14                                                              | 22.6 |                                                   | 23.9                                                                                          | 297                                               | 14.4 <sup>146</sup> |                                                   | 19.4 <sup>142</sup> | 10 S                                              | 17 49 | 18 12          | 38    | 15 39          | 25 48    |      |      |     |      |
| 14  | 29                                                              | 22.5 |                                                   | 23.8                                                                                          | 311                                               | 48.0 <sup>146</sup> | +8                                                | 05.2 <sup>142</sup> | 20                                                | 30    | 17 54          | 22    | 21 35          | 20 53    |      |      |     |      |
| 15  | 44                                                              | 22.3 |                                                   | 23.8                                                                                          | 326                                               | 21.6 <sup>146</sup> | +7                                                | 51.0 <sup>142</sup> | 30                                                | 17 09 | 35             | 18 05 | 29 29          | 15 59    |      |      |     |      |
| 16  | 59                                                              | 22.2 |                                                   | 23.7                                                                                          | 340                                               | 55.2 <sup>146</sup> |                                                   | 36.7 <sup>143</sup> | 35                                                | 16 57 | 25             | 17 56 | 34 26          | 12 62    |      |      |     |      |
| 17  | 74                                                              | 22.1 | +23                                               | 23.7                                                                                          | 355                                               | 28.7 <sup>145</sup> | +7                                                | 22.4 <sup>143</sup> | 40                                                | 16 42 | 17 13          | 17 47 | 11 39 22       | 23 08 66 |      |      |     |      |
| 18  | 89                                                              | 21.9 | +23                                               | 23.6                                                                                          | 10                                                | 02.3 <sup>146</sup> | +7                                                | 08.0 <sup>144</sup> | 45                                                | 16 26 | 17 00          | 17 37 | 11 44 19       | 23 04 70 |      |      |     |      |
| 19  | 104                                                             | 21.8 |                                                   | 23.5                                                                                          | 24                                                | 35.9 <sup>146</sup> | +6                                                | 53.6 <sup>144</sup> | 50                                                | 16 05 | 16 43          | 25    | 51 14          | 22 59 76 |      |      |     |      |
| 20  | 119                                                             | 21.7 |                                                   | 23.5                                                                                          | 39                                                | 09.5 <sup>146</sup> |                                                   | 39.1 <sup>145</sup> | 52                                                | 15 55 | 36             | 20    | 54 12          | 57 78    |      |      |     |      |
| 21  | 134                                                             | 21.5 |                                                   | 23.4                                                                                          | 53                                                | 43.1 <sup>146</sup> |                                                   | 24.6 <sup>145</sup> | 54                                                | 44    | 28             | 14    | 11 58 9        | 55 80    |      |      |     |      |
| 22  | 149                                                             | 21.4 |                                                   | 23.3                                                                                          | 68                                                | 16.7 <sup>146</sup> | +6                                                | 10.0 <sup>146</sup> | 56                                                | 31    | 19             | 08    | 12 02 7        | 52 83    |      |      |     |      |
| 23  | 164                                                             | 21.3 |                                                   | 23.3                                                                                          | 82                                                | 50.3 <sup>146</sup> | +5                                                | 55.4 <sup>146</sup> | 58                                                | 15 17 | 16 08          | 17 01 | 06 4           | 49 86    |      |      |     |      |
| 24  | 179                                                             | 21.1 | +23                                               | 23.2                                                                                          | 97                                                | 23.8 <sup>145</sup> | +5                                                | 40.8 <sup>146</sup> | 60 S                                              | 14 59 | 15 57          | 16 54 | 12 11 0        | 22 45 90 |      |      |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                               | MARTE                                             |                     | JÚPITER                                           |                     | SATURNO                                           |       |                |       |                |          |      |      |     |      |
|     | PMG: 5 <sup>h</sup> 49 <sup>m</sup> 1                           |      | Mag: -4.4<br>PMG: 10 <sup>h</sup> 25 <sup>m</sup> |                                                                                               | Mag: +1.8<br>PMG: 13 <sup>h</sup> 59 <sup>m</sup> |                     | Mag: -1.9<br>PMG: 16 <sup>h</sup> 45 <sup>m</sup> |                     | Mag: +0.1<br>PMG: 12 <sup>h</sup> 53 <sup>m</sup> |       |                |       |                |          |      |      |     |      |
|     | hG ♈                                                            |      | hG ♀                                              | Dec                                                                                           | hG ♂                                              | Dec                 | hG ♃                                              | Dec                 | hG ♄                                              | Dec   |                |       |                |          |      |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                             | °                                                 | '                   | °                                                 | '                   | °                                                 | '     |                |       |                |          |      |      |     |      |
| 0   | 272                                                             | 29.1 | 203                                               | 16.0                                                                                          | 149                                               | 56.2                | +21                                               | 20.0                | 108                                               | 15.6  | +8             | 00.1  | 166            | 18.6     | +22  | 19.1 |     |      |
| 1   | 287                                                             | 31.5 | 218                                               | 19.1                                                                                          |                                                   | 41.8                | 164                                               | 57.0                | 19.6                                              | 123   | 17.8           | +7    | 59.9           | 181      | 20.8 | 19.0 |     |      |
| 2   | 302                                                             | 34.0 | 233                                               | 22.1                                                                                          |                                                   | 41.3                | 179                                               | 57.8                | 19.3                                              | 138   | 19.9           |       | 59.8           | 196      | 22.9 | 19.0 |     |      |
| 3   | 317                                                             | 36.4 | 248                                               | 25.1                                                                                          |                                                   | 40.9                | 194                                               | 58.6                | 18.9                                              | 153   | 22.1           |       | 59.7           | 211      | 25.0 | 19.0 |     |      |
| 4   | 332                                                             | 38.9 | 263                                               | 28.1                                                                                          |                                                   | 40.5                | 209                                               | 59.5                | 18.6                                              | 168   | 24.3           |       | 59.5           | 226      | 27.1 | 19.0 |     |      |
| 5   | 347                                                             | 41.4 | 278                                               | 31.1                                                                                          | +18                                               | 40.0                | 225                                               | 00.3                | +21                                               | 18.3  | 183            | 26.4  | +7             | 59.4     | 241  | 29.2 | +22 | 18.9 |
| 6   | 2                                                               | 43.8 | 293                                               | 34.1                                                                                          | +18                                               | 39.6                | 240                                               | 01.1                | +21                                               | 17.9  | 198            | 28.6  | +7             | 59.3     | 256  | 31.4 | +22 | 18.9 |
| 7   | 17                                                              | 46.3 | 308                                               | 37.1                                                                                          |                                                   | 39.2                | 255                                               | 01.9                | 17.6                                              | 213   | 30.7           |       | 59.2           | 271      | 33.5 | 18.9 |     |      |
| 8   | 32                                                              | 48.8 | 323                                               | 40.1                                                                                          |                                                   | 38.7                | 270                                               | 02.7                | 17.2                                              | 228   | 32.9           |       | 59.0           | 286      | 35.6 | 18.8 |     |      |
| 9   | 47                                                              | 51.2 | 338                                               | 43.1                                                                                          |                                                   | 38.3                | 285                                               | 03.5                | 16.9                                              | 243   | 35.1           |       | 58.9           | 301      | 37.7 | 18.8 |     |      |
| 10  | 62                                                              | 53.7 | 353                                               | 46.1                                                                                          |                                                   | 37.9                | 300                                               | 04.3                | 16.5                                              | 258   | 37.2           |       | 58.8           | 316      | 39.8 | 18.8 |     |      |
| 11  | 77                                                              | 56.2 | 8                                                 | 49.1                                                                                          | +18                                               | 37.4                | 315                                               | 05.2                | +21                                               | 16.2  | 273            | 39.4  | +7             | 58.6     | 331  | 41.9 | +22 | 18.7 |
| 12  | 92                                                              | 58.6 | 23                                                | 52.0                                                                                          | +18                                               | 37.0                | 330                                               | 06.0                | +21                                               | 15.9  | 288            | 41.6  | +7             | 58.5     | 346  | 44.1 | +22 | 18.7 |
| 13  | 108                                                             | 01.1 | 38                                                | 55.0                                                                                          |                                                   | 36.6                | 345                                               | 06.8                | 15.5                                              | 303   | 43.7           |       | 58.4           | 1        | 46.2 | 18.7 |     |      |
| 14  | 123                                                             | 03.6 | 53                                                | 58.0                                                                                          |                                                   | 36.2                | 0                                                 | 07.6                | 15.2                                              | 318   | 45.9           |       | 58.2           | 16       | 48.3 | 18.6 |     |      |
| 15  | 138                                                             | 06.0 | 69                                                | 00.9                                                                                          |                                                   | 35.7                | 15                                                | 08.4                | 14.8                                              | 333   | 48.0           |       | 58.1           | 31       | 50.4 | 18.6 |     |      |
| 16  | 153                                                             | 08.5 | 84                                                | 03.9                                                                                          |                                                   | 35.3                | 30                                                | 09.2                | 14.5                                              | 348   | 50.2           |       | 58.0           | 46       | 52.5 | 18.6 |     |      |
| 17  | 168                                                             | 10.9 | 99                                                | 06.9                                                                                          | +18                                               | 34.9                | 45                                                | 10.1                | +21                                               | 14.1  | 3              | 52.3  | +7             | 57.8     | 61   | 54.7 | +22 | 18.5 |
| 18  | 183                                                             | 13.4 | 114                                               | 09.8                                                                                          | +18                                               | 34.5                | 60                                                | 10.9                | +21                                               | 13.8  | 18             | 54.5  | +7             | 57.7     | 76   | 56.8 | +22 | 18.5 |
| 19  | 198                                                             | 15.9 | 129                                               | 12.8                                                                                          |                                                   | 34.1                | 75                                                | 11.7                | 13.4                                              | 33    | 56.7           |       | 57.6           | 91       | 58.9 | 18.5 |     |      |
| 20  | 213                                                             | 18.3 | 144                                               | 15.7                                                                                          |                                                   | 33.7                | 90                                                | 12.5                | 13.1                                              | 48    | 58.8           |       | 57.4           | 107      | 01.0 | 18.4 |     |      |
| 21  | 228                                                             | 20.8 | 159                                               | 18.6                                                                                          |                                                   | 33.2                | 105                                               | 13.3                | 12.8                                              | 64    | 01.0           |       | 57.3           | 122      | 03.1 | 18.4 |     |      |
| 22  | 243                                                             | 23.3 | 174                                               | 21.6                                                                                          |                                                   | 32.8                | 120                                               | 14.1                | 12.4                                              | 79    | 03.1           |       | 57.2           | 137      | 05.3 | 18.4 |     |      |
| 23  | 258                                                             | 25.7 | 189                                               | 24.5                                                                                          |                                                   | 32.4                | 135                                               | 15.0                | 12.1                                              | 94    | 05.3           |       | 57.0           | 152      | 07.4 | 18.3 |     |      |
| 24  | 273                                                             | 28.2 | 204                                               | 27.4                                                                                          | +18                                               | 32.0                | 150                                               | 15.8                | +21                                               | 11.7  | 109            | 07.5  | +7             | 56.9     | 167  | 09.5 | +22 | 18.3 |
| Dif | —                                                               |      | +30                                               |                                                                                               | -4                                                |                     | +8                                                |                     | -3                                                |       | +22            |       | -1             |          | +21  |      | 0   |      |

| UT  | SOL                                                             |      |                                                   | ☾ LUNA                                                                                                                                                                  |                     |                                                   | Latitud             | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |       |     |      |     |      |
|-----|-----------------------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|-------|-----|------|-----|------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 7 |      |                                                   | Edad: 7 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 56 <sup>s</sup> 8<br>12 <sup>h</sup> : 57 <sup>s</sup> 0<br>20 <sup>h</sup> : 57 <sup>s</sup> 3<br>R°: 45 <sup>m</sup> | hG ☾ Dif            | Dec                                               |                     | Dif                      | Náutico                                           |               | Civil          | Hora                                              | R°             | Hora  | R°  |      |     |      |
|     | hG ☉                                                            | Dec  | Dec                                               |                                                                                                                                                                         |                     |                                                   |                     |                          |                                                   |               |                |                                                   |                |       |     |      |     |      |
| h   | °                                                               | '    | °                                                 | °                                                                                                                                                                       | '                   | °                                                 | °                   | h                        | m                                                 | h             | m              | h                                                 | m              | h     | m   |      |     |      |
| 0   | 179                                                             | 21.1 | +23                                               | 97                                                                                                                                                                      | 23.8                | +5                                                | 40.8                | 60 N                     | ** **                                             | 0 52          | 2 37           | 11 32                                             | 92             | 0 09  | 1   |      |     |      |
| 1   | 194                                                             | 21.0 |                                                   | 111                                                                                                                                                                     | 57.4 <sup>146</sup> |                                                   | 26.1 <sup>147</sup> | 58                       | ** **                                             | 1 42          | 2 58           | 34                                                | 87             | 06    | 4   |      |     |      |
| 2   | 209                                                             | 20.9 |                                                   | 126                                                                                                                                                                     | 31.0 <sup>146</sup> | +5                                                | 11.4 <sup>147</sup> | 56                       | ** **                                             | 2 12          | 3 15           | 35                                                | 85             | 03    | 7   |      |     |      |
| 3   | 224                                                             | 20.7 |                                                   | 141                                                                                                                                                                     | 04.5 <sup>145</sup> | +4                                                | 56.6 <sup>148</sup> | 54                       | 0 48                                              | 34            | 29             | 36                                                | 82             | 0 01  | 9   |      |     |      |
| 4   | 239                                                             | 20.6 |                                                   | 155                                                                                                                                                                     | 38.0 <sup>145</sup> |                                                   | 41.8 <sup>148</sup> | 52                       | 1 34                                              | 2 52          | 41             | 37                                                | 79             | ** ** | **  |      |     |      |
| 5   | 254                                                             | 20.5 | +23                                               | 170                                                                                                                                                                     | 11.6 <sup>146</sup> | +4                                                | 27.0 <sup>148</sup> | 50                       | 2 02                                              | 3 07          | 3 52           | 11 38                                             | 77             | ** ** | **  |      |     |      |
| 6   | 269                                                             | 20.3 | +23                                               | 184                                                                                                                                                                     | 45.1 <sup>145</sup> | +4                                                | 12.1 <sup>149</sup> | 45                       | 2 47                                              | 3 37          | 4 14           | 11 41                                             | 71             | ** ** | **  |      |     |      |
| 7   | 284                                                             | 20.2 |                                                   | 199                                                                                                                                                                     | 18.6 <sup>145</sup> | +3                                                | 57.2 <sup>149</sup> | 40                       | 3 18                                              | 4 00          | 32             | 42                                                | 67             | ** ** | **  |      |     |      |
| 8   | 299                                                             | 20.1 |                                                   | 213                                                                                                                                                                     | 52.0 <sup>144</sup> |                                                   | 42.3 <sup>149</sup> | 35                       | 3 41                                              | 18            | 4 47           | 44                                                | 63             | ** ** | **  |      |     |      |
| 9   | 314                                                             | 19.9 |                                                   | 228                                                                                                                                                                     | 25.5 <sup>145</sup> |                                                   | 27.3 <sup>150</sup> | 30                       | 4 00                                              | 33            | 5 00           | 45                                                | 60             | ** ** | **  |      |     |      |
| 10  | 329                                                             | 19.8 |                                                   | 242                                                                                                                                                                     | 58.9 <sup>144</sup> | +3                                                | 12.3 <sup>150</sup> | 20                       | 29                                                | 4 58          | 23             | 48                                                | 54             | ** ** | **  |      |     |      |
| 11  | 344                                                             | 19.7 | +23                                               | 257                                                                                                                                                                     | 32.4 <sup>145</sup> | +2                                                | 57.3 <sup>150</sup> | 10 N                     | 4 51                                              | 5 18          | 5 41           | 11 50                                             | 49             | ** ** | **  |      |     |      |
| 12  | 359                                                             | 19.5 | +23                                               | 272                                                                                                                                                                     | 05.8 <sup>144</sup> | +2                                                | 42.2 <sup>151</sup> | 0                        | 5 10                                              | 5 36          | 5 59           | 11 52                                             | 44             | ** ** | **  |      |     |      |
| 13  | 14                                                              | 19.4 |                                                   | 286                                                                                                                                                                     | 39.1 <sup>143</sup> |                                                   | 27.1 <sup>151</sup> | 10 S                     | 27                                                | 5 54          | 6 16           | 54                                                | 40             | ** ** | **  |      |     |      |
| 14  | 29                                                              | 19.3 |                                                   | 301                                                                                                                                                                     | 12.5 <sup>144</sup> | +2                                                | 12.0 <sup>151</sup> | 20                       | 5 43                                              | 6 11          | 35             | 56                                                | 35             | ** ** | **  |      |     |      |
| 15  | 44                                                              | 19.1 |                                                   | 315                                                                                                                                                                     | 45.8 <sup>143</sup> | +1                                                | 56.8 <sup>152</sup> | 30                       | 6 00                                              | 30            | 6 56           | 11 58                                             | 30             | ** ** | **  |      |     |      |
| 16  | 59                                                              | 19.0 |                                                   | 330                                                                                                                                                                     | 19.1 <sup>143</sup> |                                                   | 41.6 <sup>152</sup> | 35                       | 09                                                | 40            | 7 08           | 12 00                                             | 26             | ** ** | **  |      |     |      |
| 17  | 74                                                              | 18.9 | +23                                               | 344                                                                                                                                                                     | 52.4 <sup>143</sup> | +1                                                | 26.4 <sup>152</sup> | 40                       | 6 18                                              | 6 52          | 7 23           | 12 01                                             | 23             | ** ** | **  |      |     |      |
| 18  | 89                                                              | 18.8 | +23                                               | 359                                                                                                                                                                     | 25.6 <sup>142</sup> | +1                                                | 11.2 <sup>152</sup> | 45                       | 6 28                                              | 7 06          | 7 39           | 12 03                                             | 19             | ** ** | **  |      |     |      |
| 19  | 104                                                             | 18.6 |                                                   | 13                                                                                                                                                                      | 58.9 <sup>143</sup> | +0                                                | 56.0 <sup>152</sup> | 50                       | 40                                                | 22            | 8 00           | 05                                                | 14             | ** ** | **  |      |     |      |
| 20  | 119                                                             | 18.5 |                                                   | 28                                                                                                                                                                      | 32.0 <sup>141</sup> |                                                   | 40.7 <sup>153</sup> | 52                       | 45                                                | 29            | 10             | 06                                                | 12             | ** ** | **  |      |     |      |
| 21  | 134                                                             | 18.4 |                                                   | 43                                                                                                                                                                      | 05.2 <sup>142</sup> |                                                   | 25.4 <sup>153</sup> | 54                       | 51                                                | 37            | 21             | 07                                                | 10             | ** ** | **  |      |     |      |
| 22  | 149                                                             | 18.2 |                                                   | 57                                                                                                                                                                      | 38.3 <sup>141</sup> | +0                                                | 10.1 <sup>153</sup> | 56                       | 6 57                                              | 46            | 34             | 09                                                | 6              | ** ** | **  |      |     |      |
| 23  | 164                                                             | 18.1 |                                                   | 72                                                                                                                                                                      | 11.4 <sup>141</sup> | -0                                                | 05.3 <sup>154</sup> | 58                       | 7 04                                              | 7 57          | 8 48           | 10                                                | 4              | ** ** | **  |      |     |      |
| 24  | 179                                                             | 18.0 | +23                                               | 86                                                                                                                                                                      | 44.4 <sup>140</sup> | -0                                                | 20.6 <sup>153</sup> | 60 S                     | 7 11                                              | 8 08          | 9 06           | 12 11                                             | 1              | ** ** | **  |      |     |      |
| UT  | ARIES                                                           |      | VENUS                                             |                                                                                                                                                                         |                     | MARTE                                             |                     |                          | JÚPITER                                           |               |                | SATURNO                                           |                |       |     |      |     |      |
|     | PMG 5 <sup>h</sup> 45 <sup>m</sup> 2                            |      | Mag: -4.5<br>PMG: 10 <sup>h</sup> 20 <sup>m</sup> |                                                                                                                                                                         |                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 58 <sup>m</sup> |                     |                          | Mag: -1.9<br>PMG: 16 <sup>h</sup> 41 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 12 <sup>h</sup> 50 <sup>m</sup> |                |       |     |      |     |      |
| h   | hG ♈                                                            |      | hG ♀                                              |                                                                                                                                                                         | Dec                 | hG ♂                                              |                     | Dec                      | hG ♃                                              |               | Dec            | hG ♄                                              |                | Dec   |     |      |     |      |
| h   | °                                                               | '    | °                                                 | '                                                                                                                                                                       | °                   | °                                                 | °                   | '                        | °                                                 | °             | '              | °                                                 | '              | °     |     |      |     |      |
| 0   | 273                                                             | 28.2 | 204                                               | 27.4                                                                                                                                                                    | +18                 | 32.0                                              | 150                 | 15.8                     | +21                                               | 11.7          | 109            | 07.5                                              | +7             | 56.9  | 167 | 09.5 | +22 | 18.3 |
| 1   | 288                                                             | 30.7 | 219                                               | 30.3                                                                                                                                                                    |                     | 31.6                                              | 165                 | 16.6                     |                                                   | 11.4          | 124            | 09.6                                              |                | 56.8  | 182 | 11.6 |     | 18.3 |
| 2   | 303                                                             | 33.1 | 234                                               | 33.3                                                                                                                                                                    |                     | 31.2                                              | 180                 | 17.4                     |                                                   | 11.0          | 139            | 11.8                                              |                | 56.6  | 197 | 13.7 |     | 18.3 |
| 3   | 318                                                             | 35.6 | 249                                               | 36.2                                                                                                                                                                    |                     | 30.8                                              | 195                 | 18.2                     |                                                   | 10.7          | 154            | 13.9                                              |                | 56.5  | 212 | 15.9 |     | 18.2 |
| 4   | 333                                                             | 38.1 | 264                                               | 39.1                                                                                                                                                                    |                     | 30.4                                              | 210                 | 19.0                     |                                                   | 10.3          | 169            | 16.1                                              |                | 56.4  | 227 | 18.0 |     | 18.2 |
| 5   | 348                                                             | 40.5 | 279                                               | 42.0                                                                                                                                                                    | +18                 | 30.0                                              | 225                 | 19.9                     | +21                                               | 10.0          | 184            | 18.2                                              | +7             | 56.2  | 242 | 20.1 | +22 | 18.2 |
| 6   | 3                                                               | 43.0 | 294                                               | 44.9                                                                                                                                                                    | +18                 | 29.6                                              | 240                 | 20.7                     | +21                                               | 09.6          | 199            | 20.4                                              | +7             | 56.1  | 257 | 22.2 | +22 | 18.1 |
| 7   | 18                                                              | 45.4 | 309                                               | 47.8                                                                                                                                                                    |                     | 29.2                                              | 255                 | 21.5                     |                                                   | 09.3          | 214            | 22.6                                              |                | 56.0  | 272 | 24.3 |     | 18.1 |
| 8   | 33                                                              | 47.9 | 324                                               | 50.7                                                                                                                                                                    |                     | 28.8                                              | 270                 | 22.3                     |                                                   | 08.9          | 229            | 24.7                                              |                | 55.9  | 287 | 26.5 |     | 18.1 |
| 9   | 48                                                              | 50.4 | 339                                               | 53.6                                                                                                                                                                    |                     | 28.4                                              | 285                 | 23.1                     |                                                   | 08.6          | 244            | 26.9                                              |                | 55.7  | 302 | 28.6 |     | 18.0 |
| 10  | 63                                                              | 52.8 | 354                                               | 56.4                                                                                                                                                                    |                     | 28.0                                              | 300                 | 23.9                     |                                                   | 08.2          | 259            | 29.0                                              |                | 55.6  | 317 | 30.7 |     | 18.0 |
| 11  | 78                                                              | 55.3 | 9                                                 | 59.3                                                                                                                                                                    | +18                 | 27.6                                              | 315                 | 24.8                     | +21                                               | 07.9          | 274            | 31.2                                              | +7             | 55.5  | 332 | 32.8 | +22 | 18.0 |
| 12  | 93                                                              | 57.8 | 25                                                | 02.2                                                                                                                                                                    | +18                 | 27.2                                              | 330                 | 25.6                     | +21                                               | 07.5          | 289            | 33.3                                              | +7             | 55.3  | 347 | 34.9 | +22 | 17.9 |
| 13  | 109                                                             | 00.2 | 40                                                | 05.1                                                                                                                                                                    |                     | 26.8                                              | 345                 | 26.4                     |                                                   | 07.2          | 304            | 35.5                                              |                | 55.2  | 2   | 37.1 |     | 17.9 |
| 14  | 124                                                             | 02.7 | 55                                                | 07.9                                                                                                                                                                    |                     | 26.5                                              | 0                   | 27.2                     |                                                   | 06.8          | 319            | 37.7                                              |                | 55.1  | 17  | 39.2 |     | 17.9 |
| 15  | 139                                                             | 05.2 | 70                                                | 10.8                                                                                                                                                                    |                     | 26.1                                              | 15                  | 28.0                     |                                                   | 06.5          | 334            | 39.8                                              |                | 54.9  | 32  | 41.3 |     | 17.8 |
| 16  | 154                                                             | 07.6 | 85                                                | 13.7                                                                                                                                                                    |                     | 25.7                                              | 30                  | 28.9                     |                                                   | 06.1          | 349            | 42.0                                              |                | 54.8  | 47  | 43.4 |     | 17.8 |
| 17  | 169                                                             | 10.1 | 100                                               | 16.5                                                                                                                                                                    | +18                 | 25.3                                              | 45                  | 29.7                     | +21                                               | 05.8          | 4              | 44.1                                              | +7             | 54.6  | 62  | 45.5 | +22 | 17.8 |
| 18  | 184                                                             | 12.5 | 115                                               | 19.4                                                                                                                                                                    | +18                 | 24.9                                              | 60                  | 30.5                     | +21                                               | 05.4          | 19             | 46.3                                              | +7             | 54.5  | 77  | 47.6 | +22 | 17.7 |
| 19  | 199                                                             | 15.0 | 130                                               | 22.2                                                                                                                                                                    |                     | 24.5                                              | 75                  | 31.3                     |                                                   | 05.1          | 34             | 48.4                                              |                | 54.4  | 92  | 49.8 |     | 17.7 |
| 20  | 214                                                             | 17.5 | 145                                               | 25.0                                                                                                                                                                    |                     | 24.2                                              | 90                  | 32.1                     |                                                   | 04.7          | 49             | 50.6                                              |                | 54.2  | 107 | 51.9 |     | 17.7 |
| 21  | 229                                                             | 19.9 | 160                                               | 27.9                                                                                                                                                                    |                     | 23.8                                              | 105                 | 33.0                     |                                                   | 04.4          | 64             | 52.7                                              |                | 54.1  | 122 | 54.0 |     | 17.6 |
| 22  | 244                                                             | 22.4 | 175                                               | 30.7                                                                                                                                                                    |                     | 23.4                                              | 120                 | 33.8                     |                                                   | 04.0          | 79             | 54.9                                              |                | 54.0  | 137 | 56.1 |     | 17.6 |
| 23  | 259                                                             | 24.9 | 190                                               | 33.5                                                                                                                                                                    |                     | 23.0                                              | 135                 | 34.6                     |                                                   | 03.7          | 94             | 57.0                                              |                | 53.8  | 152 | 58.2 |     | 17.6 |
| 24  | 274                                                             | 27.3 | 205                                               | 36.4                                                                                                                                                                    | +18                 | 22.7                                              | 150                 | 35.4                     | +21                                               | 03.3          | 109            | 59.2                                              | +7             | 53.7  | 168 | 00.4 | +22 | 17.5 |
| Dif | —                                                               |      | +29                                               |                                                                                                                                                                         | -4                  | +8                                                |                     | -3                       | +22                                               |               | -1             |                                                   | +21            |       |     |      |     |      |

| UT  | SOL                                                |      |                                                   |      | LUNA                                                                             |                     |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |       |
|-----|----------------------------------------------------|------|---------------------------------------------------|------|----------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|----------------------|-------|----------------|-------|----------------|-------|
|     | SD: 15'7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 9 |      |                                                   |      | Edad: 8 <sup>d</sup> 1 PHE {<br>SD: 15'6<br>PMG: 18 <sup>h</sup> 47 <sup>m</sup> |                     |                                                   |                     |                                                   |               |                      |       |                |       |                |       |
|     | hG ☉                                               |      | Dec                                               |      | hG ☾                                                                             |                     | Dif                                               |                     |                                                   |               | Civl                 |       | Náutico        |       | Hora           |       |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                | '                   | °                                                 | '                   | °                                                 | h m           | h m                  | h m   | h m m          | h m m | h m m          | h m m |
| 0   | 179                                                | 18.0 | +23                                               | 21.4 | 86                                                                               | 44.4                | -0                                                | 20.6                | 60 N                                              | 21 27         | 23 11                | ** ** | 13 04 96       |       | 0 10 0         |       |
| 1   | 194                                                | 17.8 |                                                   | 21.3 | 101                                                                              | 17.4 <sup>140</sup> |                                                   | 36.0 <sup>154</sup> | 58                                                | 21 07         | 22 22                | ** ** | 01 93          |       | 10 4           |       |
| 2   | 209                                                | 17.7 |                                                   | 21.2 | 115                                                                              | 50.4 <sup>140</sup> | -0                                                | 51.4 <sup>154</sup> | 56                                                | 20 50         | 21 53                | ** ** | 13 00 88       |       | 10 7           |       |
| 3   | 224                                                | 17.6 |                                                   | 21.1 | 130                                                                              | 23.3 <sup>139</sup> | -1                                                | 06.8 <sup>154</sup> | 54                                                | 36            | 31                   | 23 15 | 12 58 85       |       | 10 10          |       |
| 4   | 239                                                | 17.4 |                                                   | 21.0 | 144                                                                              | 56.2 <sup>139</sup> |                                                   | 22.2 <sup>154</sup> | 52                                                | 24            | 21 13                | 22 30 | 56 83          |       | 11 12          |       |
| 5   | 254                                                | 17.3 | +23                                               | 20.9 | 159                                                                              | 29.1 <sup>139</sup> | -1                                                | 37.7 <sup>155</sup> | 50                                                | 20 13         | 20 58                | 22 03 | 12 55 80       |       | 0 11 14        |       |
| 6   | 269                                                | 17.2 | +23                                               | 20.8 | 174                                                                              | 01.8 <sup>137</sup> | -1                                                | 53.1 <sup>154</sup> | 45                                                | 19 51         | 20 28                | 21 18 | 12 52 74       |       | 0 11 19        |       |
| 7   | 284                                                | 17.0 |                                                   | 20.7 | 188                                                                              | 34.6 <sup>138</sup> | -2                                                | 08.6 <sup>155</sup> | 40                                                | 33            | 20 06                | 20 47 | 49 70          |       | 11 24          |       |
| 8   | 299                                                | 16.9 |                                                   | 20.7 | 203                                                                              | 07.3 <sup>137</sup> |                                                   | 24.0 <sup>154</sup> | 35                                                | 18            | 19 48                | 24    | 47 66          |       | 12 27          |       |
| 9   | 314                                                | 16.8 |                                                   | 20.6 | 217                                                                              | 39.9 <sup>136</sup> |                                                   | 39.5 <sup>155</sup> | 30                                                | 19 05         | 32                   | 20 06 | 45 63          |       | 12 30          |       |
| 10  | 329                                                | 16.7 |                                                   | 20.5 | 232                                                                              | 12.5 <sup>136</sup> | -2                                                | 55.0 <sup>155</sup> | 20                                                | 18 43         | 19 08                | 19 37 | 42 57          |       | 12 36          |       |
| 11  | 344                                                | 16.5 | +23                                               | 20.4 | 246                                                                              | 45.1 <sup>136</sup> | -3                                                | 10.5 <sup>155</sup> | 10 N                                              | 18 24         | 18 47                | 19 14 | 12 39 52       |       | 0 13 40        |       |
| 12  | 359                                                | 16.4 | +23                                               | 20.3 | 261                                                                              | 17.6 <sup>135</sup> | -3                                                | 26.0 <sup>155</sup> | 0                                                 | 18 07         | 18 29                | 18 55 | 12 36 47       |       | 0 13 45        |       |
| 13  | 14                                                 | 16.3 |                                                   | 20.2 | 275                                                                              | 50.0 <sup>134</sup> |                                                   | 41.5 <sup>155</sup> | 10 S                                              | 17 49         | 18 12                | 38    | 34 42          |       | 13 50          |       |
| 14  | 29                                                 | 16.1 |                                                   | 20.1 | 290                                                                              | 22.4 <sup>134</sup> | -3                                                | 57.0 <sup>155</sup> | 20                                                | 31            | 17 55                | 22    | 31 37          |       | 13 56          |       |
| 15  | 44                                                 | 16.0 |                                                   | 20.0 | 304                                                                              | 54.7 <sup>133</sup> | -4                                                | 12.5 <sup>155</sup> | 30                                                | 17 10         | 36                   | 18 06 | 28 32          |       | 14 61          |       |
| 16  | 59                                                 | 15.9 |                                                   | 19.9 | 319                                                                              | 27.0 <sup>133</sup> |                                                   | 28.0 <sup>155</sup> | 35                                                | 16 57         | 25                   | 17 57 | 26 29          |       | 14 64          |       |
| 17  | 74                                                 | 15.7 | +23                                               | 19.8 | 333                                                                              | 59.2 <sup>132</sup> | -4                                                | 43.5 <sup>155</sup> | 40                                                | 16 43         | 17 14                | 17 48 | 12 24 25       |       | 0 14 68        |       |
| 18  | 89                                                 | 15.6 | +23                                               | 19.7 | 348                                                                              | 31.3 <sup>131</sup> | -4                                                | 59.0 <sup>155</sup> | 45                                                | 16 26         | 17 00                | 17 37 | 12 22 21       |       | 0 14 73        |       |
| 19  | 104                                                | 15.5 |                                                   | 19.6 | 3                                                                                | 03.4 <sup>131</sup> | -5                                                | 14.5 <sup>155</sup> | 50                                                | 16 06         | 16 44                | 26    | 19 16          |       | 15 77          |       |
| 20  | 119                                                | 15.4 |                                                   | 19.5 | 17                                                                               | 35.4 <sup>130</sup> |                                                   | 30.0 <sup>155</sup> | 52                                                | 15 56         | 37                   | 20    | 18 13          |       | 15 80          |       |
| 21  | 134                                                | 15.2 |                                                   | 19.4 | 32                                                                               | 07.3 <sup>129</sup> | -5                                                | 45.5 <sup>155</sup> | 54                                                | 45            | 29                   | 15    | 17 11          |       | 15 83          |       |
| 22  | 149                                                | 15.1 |                                                   | 19.3 | 46                                                                               | 39.2 <sup>129</sup> | -6                                                | 01.0 <sup>155</sup> | 56                                                | 32            | 20                   | 09    | 15 8           |       | 15 86          |       |
| 23  | 164                                                | 15.0 |                                                   | 19.2 | 61                                                                               | 11.0 <sup>128</sup> |                                                   | 16.5 <sup>155</sup> | 58                                                | 18            | 16 09                | 17 02 | 14 5           |       | 15 90          |       |
| 24  | 179                                                | 14.8 | +23                                               | 19.1 | 75                                                                               | 42.8 <sup>128</sup> | -6                                                | 31.9 <sup>154</sup> | 60 S                                              | 15 00         | 15 58                | 16 55 | 12 12 1        |       | 0 15 94        |       |
| UT  | ARIES                                              |      | VENUS                                             |      | MARTE                                                                            |                     | JÚPITER                                           |                     | SATURNO                                           |               |                      |       |                |       |                |       |
|     | PMG: 5 <sup>h</sup> 41 <sup>m</sup> 2              |      | Mag: -4.5<br>PMG: 10 <sup>h</sup> 16 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 57 <sup>m</sup>                                |                     | Mag: -1.9<br>PMG: 16 <sup>h</sup> 38 <sup>m</sup> |                     | Mag: +0.1<br>PMG: 12 <sup>h</sup> 46 <sup>m</sup> |               |                      |       |                |       |                |       |
|     | hG ♈                                               |      | hG ♀                                              |      | hG ♂                                                                             |                     | hG ♃                                              |                     | hG ♄                                              |               |                      |       |                |       |                |       |
| h   | °                                                  | '    | °                                                 | '    | °                                                                                | '                   | °                                                 | '                   | °                                                 | '             |                      |       |                |       |                |       |
| 0   | 274                                                | 27.3 | 205                                               | 36.4 | +18                                                                              | 22.7                | 150                                               | 35.4                | +7                                                | 53.7          |                      |       |                |       |                |       |
| 1   | 289                                                | 29.8 | 220                                               | 39.2 |                                                                                  | 22.3                | 165                                               | 36.2                |                                                   | 53.6          |                      |       |                |       |                |       |
| 2   | 304                                                | 32.3 | 235                                               | 42.0 |                                                                                  | 21.9                | 180                                               | 37.1                |                                                   | 53.4          |                      |       |                |       |                |       |
| 3   | 319                                                | 34.7 | 250                                               | 44.8 |                                                                                  | 21.5                | 195                                               | 37.9                |                                                   | 53.3          |                      |       |                |       |                |       |
| 4   | 334                                                | 37.2 | 265                                               | 47.6 |                                                                                  | 21.2                | 210                                               | 38.7                |                                                   | 53.2          |                      |       |                |       |                |       |
| 5   | 349                                                | 39.7 | 280                                               | 50.4 | +18                                                                              | 20.8                | 225                                               | 39.5                | +21                                               | 53.0          |                      |       |                |       |                |       |
| 6   | 4                                                  | 42.1 | 295                                               | 53.2 | +18                                                                              | 20.4                | 240                                               | 40.3                | +21                                               | 52.9          |                      |       |                |       |                |       |
| 7   | 19                                                 | 44.6 | 310                                               | 56.0 |                                                                                  | 20.1                | 255                                               | 41.2                |                                                   | 52.8          |                      |       |                |       |                |       |
| 8   | 34                                                 | 47.0 | 325                                               | 58.8 |                                                                                  | 19.7                | 270                                               | 42.0                |                                                   | 52.6          |                      |       |                |       |                |       |
| 9   | 49                                                 | 49.5 | 341                                               | 01.6 |                                                                                  | 19.4                | 285                                               | 42.8                | +21                                               | 52.5          |                      |       |                |       |                |       |
| 10  | 64                                                 | 52.0 | 356                                               | 04.4 |                                                                                  | 19.0                | 300                                               | 43.6                | +20                                               | 52.4          |                      |       |                |       |                |       |
| 11  | 79                                                 | 54.4 | 11                                                | 07.2 | +18                                                                              | 18.6                | 315                                               | 44.4                | +20                                               | 52.2          |                      |       |                |       |                |       |
| 12  | 94                                                 | 56.9 | 26                                                | 09.9 | +18                                                                              | 18.3                | 330                                               | 45.3                | +20                                               | 52.1          |                      |       |                |       |                |       |
| 13  | 109                                                | 59.4 | 41                                                | 12.7 |                                                                                  | 17.9                | 345                                               | 46.1                |                                                   | 52.0          |                      |       |                |       |                |       |
| 14  | 125                                                | 01.8 | 56                                                | 15.5 |                                                                                  | 17.6                | 0                                                 | 46.9                |                                                   | 51.8          |                      |       |                |       |                |       |
| 15  | 140                                                | 04.3 | 71                                                | 18.2 |                                                                                  | 17.2                | 15                                                | 47.7                |                                                   | 51.7          |                      |       |                |       |                |       |
| 16  | 155                                                | 06.8 | 86                                                | 21.0 |                                                                                  | 16.9                | 30                                                | 48.6                |                                                   | 51.5          |                      |       |                |       |                |       |
| 17  | 170                                                | 09.2 | 101                                               | 23.7 | +18                                                                              | 16.5                | 45                                                | 49.4                | +20                                               | 51.4          |                      |       |                |       |                |       |
| 18  | 185                                                | 11.7 | 116                                               | 26.5 | +18                                                                              | 16.2                | 60                                                | 50.2                | +20                                               | 51.3          |                      |       |                |       |                |       |
| 19  | 200                                                | 14.1 | 131                                               | 29.2 |                                                                                  | 15.8                | 75                                                | 51.0                |                                                   | 51.1          |                      |       |                |       |                |       |
| 20  | 215                                                | 16.6 | 146                                               | 32.0 |                                                                                  | 15.5                | 90                                                | 51.8                |                                                   | 51.0          |                      |       |                |       |                |       |
| 21  | 230                                                | 19.1 | 161                                               | 34.7 |                                                                                  | 15.2                | 105                                               | 52.7                |                                                   | 50.9          |                      |       |                |       |                |       |
| 22  | 245                                                | 21.5 | 176                                               | 37.4 |                                                                                  | 14.8                | 120                                               | 53.5                |                                                   | 50.7          |                      |       |                |       |                |       |
| 23  | 260                                                | 24.0 | 191                                               | 40.2 |                                                                                  | 14.5                | 135                                               | 54.3                |                                                   | 50.6          |                      |       |                |       |                |       |
| 24  | 275                                                | 26.5 | 206                                               | 42.9 | +18                                                                              | 14.1                | 150                                               | 55.1                | +20                                               | 50.5          |                      |       |                |       |                |       |
| Dif | —                                                  |      | +28                                               |      | -4                                                                               |                     | +8                                                |                     | -4                                                |               |                      |       |                |       |                |       |
|     |                                                    |      |                                                   |      |                                                                                  |                     | +22                                               |                     | -1                                                |               |                      |       |                |       |                |       |
|     |                                                    |      |                                                   |      |                                                                                  |                     |                                                   |                     | +21                                               |               |                      |       |                |       |                |       |
|     |                                                    |      |                                                   |      |                                                                                  |                     |                                                   |                     | 0                                                 |               |                      |       |                |       |                |       |

| UT | SOL                                                             |      |     | LUNA                                                                                    |                                                                                                                                                  |                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |         | Puesta de Luna |      |      |      |
|----|-----------------------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------------|------|---------------|----------------|---------|----------------|------|------|------|
|    | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 1 |      |     | Edad: 9 <sup>d</sup> 1<br>SD: 15 <sup>h</sup> 9<br>PMG: 19 <sup>h</sup> 35 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 58 <sup>h</sup> 5<br>12 <sup>h</sup> : 58 <sup>h</sup> 8<br>20 <sup>h</sup> : 59 <sup>h</sup> 1<br>Rº: 52 <sup>m</sup> |                     |         |                          |      |               |                |         |                |      |      |      |
|    | hG ☉                                                            | Dec  |     |                                                                                         |                                                                                                                                                  | hG ☾                |         | Dif                      | Dec  |               | Dif            | Náutico | Civil          | Hora | Rº   | Hora |
| h  | °                                                               | '    | °   | °                                                                                       | '                                                                                                                                                | °                   | °       | h                        | m    | h             | m              | h       | m              | h    | m    |      |
| 0  | 179                                                             | 14.8 | +23 | 19.1                                                                                    | 75                                                                                                                                               | 42.8                | -6      | 31.9                     | 60 N | ** **         | 0 55           | 2 39    | 14 40          | 103  | 0 10 | 1    |
| 1  | 194                                                             | 14.7 |     | 19.0                                                                                    | 90                                                                                                                                               | 14.4 <sup>126</sup> | -6      | 47.4 <sup>155</sup>      | 58   | ** **         | 1 44           | 2 59    | 34 98          |      | 14   | 5    |
| 2  | 209                                                             | 14.6 |     | 18.9                                                                                    | 104                                                                                                                                              | 46.0 <sup>126</sup> | -7      | 02.9 <sup>155</sup>      | 56   | ** **         | 2 13           | 3 16    | 28 95          |      | 17   | 9    |
| 3  | 224                                                             | 14.5 |     | 18.8                                                                                    | 119                                                                                                                                              | 17.5 <sup>125</sup> |         | 18.3 <sup>154</sup>      | 54   | 0 51          | 35             | 30      | 23 91          |      | 20   | 1    |
| 4  | 239                                                             | 14.3 |     | 18.7                                                                                    | 133                                                                                                                                              | 49.0 <sup>125</sup> |         | 33.7 <sup>154</sup>      | 52   | 1 36          | 2 53           | 42      | 19 88          |      | 23   | 14   |
| 5  | 254                                                             | 14.2 | +23 | 18.6                                                                                    | 148                                                                                                                                              | 20.3 <sup>123</sup> | -7      | 49.1 <sup>154</sup>      | 50   | 2 03          | 3 08           | 3 53    | 14 15          | 85   | 0 25 | 17   |
| 6  | 269                                                             | 14.1 | +23 | 18.5                                                                                    | 162                                                                                                                                              | 51.6 <sup>123</sup> | -8      | 04.5 <sup>154</sup>      | 45   | 2 48          | 3 38           | 4 15    | 14 06          | 79   | 0 30 | 22   |
| 7  | 284                                                             | 13.9 |     | 18.4                                                                                    | 177                                                                                                                                              | 22.8 <sup>122</sup> |         | 19.8 <sup>153</sup>      | 40   | 3 19          | 4 00           | 33      | 13 59          | 74   | 35   | 26   |
| 8  | 299                                                             | 13.8 |     | 18.3                                                                                    | 191                                                                                                                                              | 53.9 <sup>121</sup> |         | 35.2 <sup>154</sup>      | 35   | 3 42          | 18             | 4 48    | 53 70          |      | 39   | 30   |
| 9  | 314                                                             | 13.7 |     | 18.2                                                                                    | 206                                                                                                                                              | 24.9 <sup>120</sup> | -8      | 50.5 <sup>153</sup>      | 30   | 4 00          | 34             | 5 01    | 48 66          |      | 42   | 33   |
| 10 | 329                                                             | 13.6 |     | 18.0                                                                                    | 220                                                                                                                                              | 55.9 <sup>120</sup> | -9      | 05.8 <sup>153</sup>      | 20   | 29            | 4 59           | 23      | 39 60          |      | 48   | 39   |
| 11 | 344                                                             | 13.4 | +23 | 17.9                                                                                    | 235                                                                                                                                              | 26.7 <sup>118</sup> | -9      | 21.1 <sup>153</sup>      | 10 N | 4 52          | 5 19           | 5 42    | 13 31          | 55   | 0 53 | 44   |
| 12 | 359                                                             | 13.3 | +23 | 17.8                                                                                    | 249                                                                                                                                              | 57.5 <sup>118</sup> | -9      | 36.3 <sup>152</sup>      | 0    | 5 11          | 5 37           | 5 59    | 13 23          | 51   | 0 58 | 49   |
| 13 | 14                                                              | 13.2 |     | 17.7                                                                                    | 264                                                                                                                                              | 28.2 <sup>117</sup> | -9      | 51.5 <sup>152</sup>      | 10 S | 28            | 5 54           | 6 17    | 16 46          |      | 1 03 | 54   |
| 14 | 29                                                              | 13.0 |     | 17.6                                                                                    | 278                                                                                                                                              | 58.8 <sup>116</sup> | -10     | 06.7 <sup>152</sup>      | 20   | 5 44          | 6 11           | 35      | 08 42          |      | 09   | 58   |
| 15 | 44                                                              | 12.9 |     | 17.5                                                                                    | 293                                                                                                                                              | 29.3 <sup>115</sup> |         | 21.9 <sup>152</sup>      | 30   | 6 00          | 30             | 6 56    | 13 00          | 35   | 15   | 64   |
| 16 | 59                                                              | 12.8 |     | 17.4                                                                                    | 307                                                                                                                                              | 59.7 <sup>114</sup> |         | 37.0 <sup>151</sup>      | 35   | 09            | 41             | 7 09    | 12 55          | 32   | 18   | 68   |
| 17 | 74                                                              | 12.7 | +23 | 17.3                                                                                    | 322                                                                                                                                              | 30.0 <sup>113</sup> | -10     | 52.1 <sup>151</sup>      | 40   | 6 18          | 6 52           | 7 23    | 12 49          | 29   | 1 22 | 72   |
| 18 | 89                                                              | 12.5 | +23 | 17.1                                                                                    | 337                                                                                                                                              | 00.2 <sup>112</sup> | -11     | 07.2 <sup>151</sup>      | 45   | 6 28          | 7 06           | 7 39    | 12 43          | 24   | 1 27 | 76   |
| 19 | 104                                                             | 12.4 |     | 17.0                                                                                    | 351                                                                                                                                              | 30.3 <sup>111</sup> |         | 22.2 <sup>150</sup>      | 50   | 40            | 22             | 8 00    | 35 19          |      | 32   | 83   |
| 20 | 119                                                             | 12.3 |     | 16.9                                                                                    | 6                                                                                                                                                | 00.3 <sup>110</sup> |         | 37.1 <sup>149</sup>      | 52   | 45            | 29             | 10      | 31 16          |      | 35   | 85   |
| 21 | 134                                                             | 12.1 |     | 16.8                                                                                    | 20                                                                                                                                               | 30.3 <sup>110</sup> | -11     | 52.1 <sup>150</sup>      | 54   | 51            | 37             | 21      | 28 13          |      | 38   | 88   |
| 22 | 149                                                             | 12.0 |     | 16.7                                                                                    | 35                                                                                                                                               | 00.1 <sup>108</sup> | -12     | 07.0 <sup>149</sup>      | 56   | 6 57          | 46             | 34      | 23 10          |      | 41   | 91   |
| 23 | 164                                                             | 11.9 |     | 16.6                                                                                    | 49                                                                                                                                               | 29.8 <sup>107</sup> |         | 21.8 <sup>148</sup>      | 58   | 7 04          | 7 56           | 8 48    | 19 6           |      | 45   | 94   |
| 24 | 179                                                             | 11.8 | +23 | 16.4                                                                                    | 63                                                                                                                                               | 59.4 <sup>106</sup> | -12     | 36.6 <sup>148</sup>      | 60 S | 7 11          | 8 08           | 9 05    | 12 13          | 3    | 1 49 | 99   |

| UT  | ARIES                                |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |   |
|-----|--------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|---|
|     | PMG 5 <sup>h</sup> 37 <sup>m</sup> 3 |      | Mag: -4.5<br>PMG: 10 <sup>h</sup> 11 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 56 <sup>m</sup> |      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 34 <sup>m</sup> |      | Mag: +0.1<br>PMG: 12 <sup>h</sup> 43 <sup>m</sup> |      |     |   |
|     | hG ♈                                 |      | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |   |
| h   | °                                    | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |   |
| 0   | 275                                  | 26.5 | 206                                               | 42.9 | +18                                               | 14.1 | 110                                               | 50.8 | +7                                                | 50.5 |     |   |
| 1   | 290                                  | 28.9 | 221                                               | 45.6 |                                                   | 13.8 | 125                                               | 53.0 |                                                   | 50.3 |     |   |
| 2   | 305                                  | 31.4 | 236                                               | 48.3 |                                                   | 13.5 | 140                                               | 55.1 |                                                   | 50.2 |     |   |
| 3   | 320                                  | 33.9 | 251                                               | 51.0 |                                                   | 13.1 | 155                                               | 57.3 |                                                   | 50.1 |     |   |
| 4   | 335                                  | 36.3 | 266                                               | 53.7 |                                                   | 12.8 | 170                                               | 59.4 |                                                   | 49.9 |     |   |
| 5   | 350                                  | 38.8 | 281                                               | 56.4 | +18                                               | 12.5 | 186                                               | 01.6 | +7                                                | 49.8 |     |   |
| 6   | 5                                    | 41.3 | 296                                               | 59.1 | +18                                               | 12.1 | 201                                               | 03.7 | +7                                                | 49.6 |     |   |
| 7   | 20                                   | 43.7 | 312                                               | 01.8 |                                                   | 11.8 | 216                                               | 05.9 |                                                   | 49.5 |     |   |
| 8   | 35                                   | 46.2 | 327                                               | 04.5 |                                                   | 11.5 | 231                                               | 08.0 |                                                   | 49.4 |     |   |
| 9   | 50                                   | 48.6 | 342                                               | 07.2 |                                                   | 11.2 | 246                                               | 10.2 |                                                   | 49.2 |     |   |
| 10  | 65                                   | 51.1 | 357                                               | 09.9 |                                                   | 10.8 | 261                                               | 12.3 |                                                   | 49.1 |     |   |
| 11  | 80                                   | 53.6 | 12                                                | 12.6 | +18                                               | 10.5 | 276                                               | 14.4 | +7                                                | 49.0 |     |   |
| 12  | 95                                   | 56.0 | 27                                                | 15.3 | +18                                               | 10.2 | 291                                               | 16.6 | +7                                                | 48.8 |     |   |
| 13  | 110                                  | 58.5 | 42                                                | 17.9 |                                                   | 09.9 | 306                                               | 18.7 |                                                   | 48.7 |     |   |
| 14  | 126                                  | 01.0 | 57                                                | 20.6 |                                                   | 09.5 | 321                                               | 20.9 |                                                   | 48.5 |     |   |
| 15  | 141                                  | 03.4 | 72                                                | 23.2 |                                                   | 09.2 | 336                                               | 23.0 |                                                   | 48.4 |     |   |
| 16  | 156                                  | 05.9 | 87                                                | 25.9 |                                                   | 08.9 | 351                                               | 25.2 |                                                   | 48.3 |     |   |
| 17  | 171                                  | 08.4 | 102                                               | 28.6 | +18                                               | 08.6 | 6                                                 | 27.3 | +7                                                | 48.1 |     |   |
| 18  | 186                                  | 10.8 | 117                                               | 31.2 | +18                                               | 08.3 | 21                                                | 29.5 | +7                                                | 48.0 |     |   |
| 19  | 201                                  | 13.3 | 132                                               | 33.8 |                                                   | 08.0 | 36                                                | 31.6 |                                                   | 47.9 |     |   |
| 20  | 216                                  | 15.8 | 147                                               | 36.5 |                                                   | 07.7 | 51                                                | 33.8 |                                                   | 47.7 |     |   |
| 21  | 231                                  | 18.2 | 162                                               | 39.1 |                                                   | 07.4 | 66                                                | 35.9 |                                                   | 47.6 |     |   |
| 22  | 246                                  | 20.7 | 177                                               | 41.8 |                                                   | 07.1 | 81                                                | 38.0 |                                                   | 47.4 |     |   |
| 23  | 261                                  | 23.1 | 192                                               | 44.4 |                                                   | 06.7 | 96                                                | 40.2 |                                                   | 47.3 |     |   |
| 24  | 276                                  | 25.6 | 207                                               | 47.0 | +18                                               | 06.4 | 111                                               | 42.3 | +7                                                | 47.2 |     |   |
| Dif | —                                    |      | +27                                               | -3   |                                                   | +8   | -4                                                | +21  | -1                                                |      | +21 | 0 |

| UT  | SOL                                    |      |     |      | LUNA                                                                                                                                                                  |                     |     |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo |         | Salida de Luna                                    |       | Puesta de Luna |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
|-----|----------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|---------------------------------------------------|---------------|----------------------|---------|---------------------------------------------------|-------|----------------|------|---------------------------------------------------|------|---|---|-----|--|--|--|---|--|--|--|
|     | SD: 15 <sup>h</sup> 7                  |      |     |      | Edad: 10 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> 4<br>12 <sup>h</sup> : 59 <sup>m</sup> 7<br>20 <sup>h</sup> : 59 <sup>m</sup> 9<br>R°: 58 <sup>m</sup> |                     |     |                     |                                                   |               |                      |         |                                                   |       |                |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
|     | PMG: 12 <sup>h</sup> 03 <sup>m</sup> 3 |      |     |      | SD: 16 <sup>h</sup> 1<br>PMG: 20 <sup>h</sup> 27 <sup>m</sup>                                                                                                         |                     |     |                     |                                                   |               |                      |         |                                                   |       |                |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
|     | hG ☉                                   | Dec  |     |      | hG ☾                                                                                                                                                                  | Dif                 |     |                     |                                                   |               | Civil                | Náutico | Hora                                              | R°    | Hora           | R°   |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| h   | °                                      | '    | °   | '    | °                                                                                                                                                                     | '                   | °   | '                   | °                                                 | h m           | h m                  | h m     | h m m                                             | h m m | h m m          | m    |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 0   | 179                                    | 11.8 | +23 | 16.4 | 63                                                                                                                                                                    | 59.4                | -12 | 36.6                | 60 N                                              | 21 27         | 23 08                | ** **   | 16 23 112                                         | 0 11  | 3              |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 1   | 194                                    | 11.6 |     | 16.3 | 78                                                                                                                                                                    | 28.9 <sup>105</sup> | -12 | 51.4 <sup>148</sup> | 58                                                | 21 07         | 22 21                | ** **   | 12 106                                            | 19    | 7              |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 2   | 209                                    | 11.5 |     | 16.2 | 92                                                                                                                                                                    | 58.3 <sup>104</sup> | -13 | 06.1 <sup>147</sup> | 56                                                | 20 50         | 21 52                | ** **   | 16 03 100                                         | 26    | 11             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 3   | 224                                    | 11.4 |     | 16.1 | 107                                                                                                                                                                   | 27.6 <sup>103</sup> |     | 20.7 <sup>146</sup> | 54                                                | 36            | 30                   | 23 13   | 15 54 96                                          | 31    | 15             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 4   | 239                                    | 11.3 |     | 16.0 | 121                                                                                                                                                                   | 56.7 <sup>101</sup> |     | 35.3 <sup>146</sup> | 52                                                | 24            | 21 12                | 22 29   | 47 92                                             | 37    | 18             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 5   | 254                                    | 11.1 | +23 | 15.8 | 136                                                                                                                                                                   | 25.8 <sup>101</sup> | -13 | 49.9 <sup>146</sup> | 50                                                | 20 13         | 20 57                | 22 02   | 15 40 89                                          | 0 42  | 20             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 6   | 269                                    | 11.0 | +23 | 15.7 | 150                                                                                                                                                                   | 54.7 <sup>99</sup>  | -14 | 04.3 <sup>144</sup> | 45                                                | 19 51         | 20 28                | 21 17   | 15 25 83                                          | 0 52  | 27             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 7   | 284                                    | 10.9 |     | 15.6 | 165                                                                                                                                                                   | 23.6 <sup>99</sup>  |     | 18.8 <sup>145</sup> | 40                                                | 33            | 20 06                | 20 47   | 13 78                                             | 1 01  | 31             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 8   | 299                                    | 10.7 |     | 15.5 | 179                                                                                                                                                                   | 52.3 <sup>97</sup>  |     | 33.1 <sup>143</sup> | 35                                                | 18            | 19 48                | 24      | 15 03 74                                          | 09    | 34             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 9   | 314                                    | 10.6 |     | 15.3 | 194                                                                                                                                                                   | 20.9 <sup>96</sup>  | -14 | 47.4 <sup>143</sup> | 30                                                | 19 05         | 33                   | 20 06   | 14 54 71                                          | 15    | 38             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 10  | 329                                    | 10.5 |     | 15.2 | 208                                                                                                                                                                   | 49.4 <sup>95</sup>  | -15 | 01.7 <sup>143</sup> | 20                                                | 18 43         | 19 08                | 19 37   | 39 66                                             | 27    | 44             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 11  | 344                                    | 10.4 | +23 | 15.1 | 223                                                                                                                                                                   | 17.8 <sup>94</sup>  | -15 | 15.8 <sup>141</sup> | 10 N                                              | 18 24         | 18 47                | 19 15   | 14 26 61                                          | 1 37  | 49             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 12  | 359                                    | 10.2 | +23 | 15.0 | 237                                                                                                                                                                   | 46.0 <sup>92</sup>  | -15 | 29.9 <sup>141</sup> | 0                                                 | 18 07         | 18 29                | 18 56   | 14 14 56                                          | 1 47  | 53             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 13  | 14                                     | 10.1 |     | 14.8 | 252                                                                                                                                                                   | 14.2 <sup>92</sup>  |     | 44.0 <sup>141</sup> | 10 S                                              | 17 50         | 18 12                | 39      | 14 02 52                                          | 1 57  | 58             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 14  | 29                                     | 10.0 |     | 14.7 | 266                                                                                                                                                                   | 42.2 <sup>90</sup>  | -15 | 57.9 <sup>139</sup> | 20                                                | 31            | 17 55                | 23      | 13 50 47                                          | 2 07  | 63             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 15  | 44                                     | 09.9 |     | 14.6 | 281                                                                                                                                                                   | 10.1 <sup>89</sup>  | -16 | 11.8 <sup>139</sup> | 30                                                | 17 10         | 37                   | 18 06   | 35 42                                             | 19    | 69             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 16  | 59                                     | 09.7 |     | 14.4 | 295                                                                                                                                                                   | 37.8 <sup>87</sup>  |     | 25.6 <sup>138</sup> | 35                                                | 16 58         | 26                   | 17 58   | 27 38                                             | 26    | 72             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 17  | 74                                     | 09.6 | +23 | 14.3 | 310                                                                                                                                                                   | 05.5 <sup>87</sup>  | -16 | 39.3 <sup>137</sup> | 40                                                | 16 44         | 17 14                | 17 48   | 13 18 34                                          | 2 34  | 76             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 18  | 89                                     | 09.5 | +23 | 14.2 | 324                                                                                                                                                                   | 33.0 <sup>85</sup>  | -16 | 53.0 <sup>137</sup> | 45                                                | 16 27         | 17 01                | 17 38   | 13 07 30                                          | 2 43  | 81             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 19  | 104                                    | 09.4 |     | 14.0 | 339                                                                                                                                                                   | 00.4 <sup>84</sup>  | -17 | 06.5 <sup>135</sup> | 50                                                | 16 07         | 16 45                | 27      | 12 54 24                                          | 2 55  | 86             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 20  | 119                                    | 09.2 |     | 13.9 | 353                                                                                                                                                                   | 27.6 <sup>82</sup>  |     | 20.0 <sup>135</sup> | 52                                                | 15 57         | 38                   | 21      | 47 22                                             | 3 00  | 90             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 21  | 134                                    | 09.1 |     | 13.8 | 7                                                                                                                                                                     | 54.8 <sup>82</sup>  |     | 33.4 <sup>134</sup> | 54                                                | 46            | 30                   | 16      | 41 18                                             | 06    | 93             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 22  | 149                                    | 09.0 |     | 13.6 | 22                                                                                                                                                                    | 21.8 <sup>80</sup>  |     | 46.7 <sup>133</sup> | 56                                                | 33            | 21                   | 10      | 33 15                                             | 12    | 97             |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 23  | 164                                    | 08.9 |     | 13.5 | 36                                                                                                                                                                    | 48.7 <sup>79</sup>  | -17 | 59.9 <sup>132</sup> | 58                                                | 19            | 16 11                | 17 03   | 25 10                                             | 19    | 102            |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| 24  | 179                                    | 08.7 | +23 | 13.4 | 51                                                                                                                                                                    | 15.4 <sup>77</sup>  | -18 | 13.0 <sup>131</sup> | 60 S                                              | 15 02         | 15 59                | 16 56   | 12 16 5                                           | 3 28  | 107            |      |                                                   |      |   |   |     |  |  |  |   |  |  |  |
| UT  | ARIES                                  |      |     |      | VENUS                                                                                                                                                                 |                     |     |                     | MARTE                                             |               |                      |         | JÚPITER                                           |       |                |      | SATURNO                                           |      |   |   |     |  |  |  |   |  |  |  |
|     | PMG: 5 <sup>h</sup> 33 <sup>m</sup> 4  |      |     |      | Mag: -4.6<br>PMG: 10 <sup>h</sup> 07 <sup>m</sup>                                                                                                                     |                     |     |                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 54 <sup>m</sup> |               |                      |         | Mag: -1.9<br>PMG: 16 <sup>h</sup> 31 <sup>m</sup> |       |                |      | Mag: +0.1<br>PMG: 12 <sup>h</sup> 39 <sup>m</sup> |      |   |   |     |  |  |  |   |  |  |  |
|     | hG ♈                                   | Dec  |     |      | hG ♀                                                                                                                                                                  | Dec                 |     |                     | hG ♂                                              | Dec           |                      |         | hG ♃                                              | Dec   |                |      | hG ♄                                              | Dec  |   |   |     |  |  |  |   |  |  |  |
| h   | °                                      | '    | °   | '    | °                                                                                                                                                                     | '                   | °   | '                   | °                                                 | '             | °                    | '       | °                                                 | '     | °              | '    | °                                                 | '    | ° | ' |     |  |  |  |   |  |  |  |
| 0   | 276                                    | 25.6 | 207 | 47.0 | +18                                                                                                                                                                   | 06.4                | 151 | 14.9                | +20                                               | 46.1          | 111                  | 42.3    | +7                                                | 47.2  | 169            | 42.0 | +22                                               | 16.0 |   |   |     |  |  |  |   |  |  |  |
| 1   | 291                                    | 28.1 | 222 | 49.6 |                                                                                                                                                                       | 06.1                | 166 | 15.8                |                                                   | 45.7          | 126                  | 44.5    |                                                   | 47.0  | 184            | 44.2 |                                                   | 15.9 |   |   |     |  |  |  |   |  |  |  |
| 2   | 306                                    | 30.5 | 237 | 52.2 |                                                                                                                                                                       | 05.8                | 181 | 16.6                |                                                   | 45.4          | 141                  | 46.6    |                                                   | 46.9  | 199            | 46.3 |                                                   | 15.9 |   |   |     |  |  |  |   |  |  |  |
| 3   | 321                                    | 33.0 | 252 | 54.9 |                                                                                                                                                                       | 05.5                | 196 | 17.4                |                                                   | 45.0          | 156                  | 48.8    |                                                   | 46.8  | 214            | 48.4 |                                                   | 15.9 |   |   |     |  |  |  |   |  |  |  |
| 4   | 336                                    | 35.5 | 267 | 57.5 |                                                                                                                                                                       | 05.2                | 211 | 18.2                |                                                   | 44.6          | 171                  | 50.9    |                                                   | 46.6  | 229            | 50.5 |                                                   | 15.8 |   |   |     |  |  |  |   |  |  |  |
| 5   | 351                                    | 37.9 | 283 | 00.1 | +18                                                                                                                                                                   | 04.9                | 226 | 19.1                | +20                                               | 44.3          | 186                  | 53.1    | +7                                                | 46.5  | 244            | 52.6 | +22                                               | 15.8 |   |   |     |  |  |  |   |  |  |  |
| 6   | 6                                      | 40.4 | 298 | 02.7 | +18                                                                                                                                                                   | 04.7                | 241 | 19.9                | +20                                               | 43.9          | 201                  | 55.2    | +7                                                | 46.3  | 259            | 54.7 | +22                                               | 15.8 |   |   |     |  |  |  |   |  |  |  |
| 7   | 21                                     | 42.9 | 313 | 05.3 |                                                                                                                                                                       | 04.4                | 256 | 20.7                |                                                   | 43.5          | 216                  | 57.3    |                                                   | 46.2  | 274            | 56.9 |                                                   | 15.7 |   |   |     |  |  |  |   |  |  |  |
| 8   | 36                                     | 45.3 | 328 | 07.8 |                                                                                                                                                                       | 04.1                | 271 | 21.6                |                                                   | 43.2          | 231                  | 59.5    |                                                   | 46.1  | 289            | 59.0 |                                                   | 15.7 |   |   |     |  |  |  |   |  |  |  |
| 9   | 51                                     | 47.8 | 343 | 10.4 |                                                                                                                                                                       | 03.8                | 286 | 22.4                |                                                   | 42.8          | 247                  | 01.6    |                                                   | 45.9  | 305            | 01.1 |                                                   | 15.7 |   |   |     |  |  |  |   |  |  |  |
| 10  | 66                                     | 50.3 | 358 | 13.0 |                                                                                                                                                                       | 03.5                | 301 | 23.2                |                                                   | 42.4          | 262                  | 03.8    |                                                   | 45.8  | 320            | 03.2 |                                                   | 15.6 |   |   |     |  |  |  |   |  |  |  |
| 11  | 81                                     | 52.7 | 13  | 15.6 | +18                                                                                                                                                                   | 03.2                | 316 | 24.0                | +20                                               | 42.1          | 277                  | 05.9    | +7                                                | 45.6  | 335            | 05.3 | +22                                               | 15.6 |   |   |     |  |  |  |   |  |  |  |
| 12  | 96                                     | 55.2 | 28  | 18.2 | +18                                                                                                                                                                   | 02.9                | 331 | 24.9                | +20                                               | 41.7          | 292                  | 08.1    | +7                                                | 45.5  | 350            | 07.5 | +22                                               | 15.6 |   |   |     |  |  |  |   |  |  |  |
| 13  | 111                                    | 57.6 | 43  | 20.7 |                                                                                                                                                                       | 02.6                | 346 | 25.7                |                                                   | 41.3          | 307                  | 10.2    |                                                   | 45.4  | 5              | 09.6 |                                                   | 15.5 |   |   |     |  |  |  |   |  |  |  |
| 14  | 127                                    | 00.1 | 58  | 23.3 |                                                                                                                                                                       | 02.3                | 1   | 26.5                |                                                   | 41.0          | 322                  | 12.3    |                                                   | 45.2  | 20             | 11.7 |                                                   | 15.5 |   |   |     |  |  |  |   |  |  |  |
| 15  | 142                                    | 02.6 | 73  | 25.9 |                                                                                                                                                                       | 02.1                | 16  | 27.4                |                                                   | 40.6          | 337                  | 14.5    |                                                   | 45.1  | 35             | 13.8 |                                                   | 15.5 |   |   |     |  |  |  |   |  |  |  |
| 16  | 157                                    | 05.0 | 88  | 28.4 |                                                                                                                                                                       | 01.8                | 31  | 28.2                |                                                   | 40.2          | 352                  | 16.6    |                                                   | 44.9  | 50             | 15.9 |                                                   | 15.4 |   |   |     |  |  |  |   |  |  |  |
| 17  | 172                                    | 07.5 | 103 | 31.0 | +18                                                                                                                                                                   | 01.5                | 46  | 29.0                | +20                                               | 39.9          | 7                    | 18.8    | +7                                                | 44.8  | 65             | 18.0 | +22                                               | 15.4 |   |   |     |  |  |  |   |  |  |  |
| 18  | 187                                    | 10.0 | 118 | 33.5 | +18                                                                                                                                                                   | 01.2                | 61  | 29.8                | +20                                               | 39.5          | 22                   | 20.9    | +7                                                | 44.7  | 80             | 20.2 | +22                                               | 15.4 |   |   |     |  |  |  |   |  |  |  |
| 19  | 202                                    | 12.4 | 133 | 36.1 |                                                                                                                                                                       | 00.9                | 76  | 30.7                |                                                   | 39.1          | 37                   | 23.1    |                                                   | 44.5  | 95             | 22.3 |                                                   | 15.3 |   |   |     |  |  |  |   |  |  |  |
| 20  | 217                                    | 14.9 | 148 | 38.6 |                                                                                                                                                                       | 00.7                | 91  | 31.5                |                                                   | 38.8          | 52                   | 25.2    |                                                   | 44.4  | 110            | 24.4 |                                                   | 15.3 |   |   |     |  |  |  |   |  |  |  |
| 21  | 232                                    | 17.4 | 163 | 41.1 |                                                                                                                                                                       | 00.4                | 106 | 32.3                |                                                   | 38.4          | 67                   | 27.3    |                                                   | 44.2  | 125            | 26.5 |                                                   | 15.3 |   |   |     |  |  |  |   |  |  |  |
| 22  | 247                                    | 19.8 | 178 | 43.7 | +18                                                                                                                                                                   | 00.1                | 121 | 33.2                |                                                   | 38.0          | 82                   | 29.5    |                                                   | 44.1  | 140            | 28.6 |                                                   | 15.2 |   |   |     |  |  |  |   |  |  |  |
| 23  | 262                                    | 22.3 | 193 | 46.2 | +17                                                                                                                                                                   | 59.9                | 136 | 34.0                |                                                   | 37.6          | 97                   | 31.6    |                                                   | 44.0  | 155            | 30.7 |                                                   | 15.2 |   |   |     |  |  |  |   |  |  |  |
| 24  | 277                                    | 24.7 | 208 | 48.7 | +17                                                                                                                                                                   | 59.6                | 151 | 34.8                | +20                                               | 37.3          | 112                  | 33.8    | +7                                                | 43.8  | 170            | 32.9 | +22                                               | 15.2 |   |   |     |  |  |  |   |  |  |  |
| Dif | —                                      |      |     |      | +26                                                                                                                                                                   |                     |     |                     | -3                                                |               |                      |         | +21                                               |       |                |      | -1                                                |      |   |   | +21 |  |  |  | 0 |  |  |  |

| UT | SOL                                                             |      |      | LUNA                    |                                                                                                                                                     |      |     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |      | Puesta de Luna |     |      |      |     |
|----|-----------------------------------------------------------------|------|------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|---------|--------------------------|-------|---------------|----------------|------|----------------|-----|------|------|-----|
|    | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 5 |      |      | Edad: 11 <sup>d</sup> 1 | PHE {<br>4 <sup>h</sup> : 60 <sup>m</sup> /2<br>12 <sup>h</sup> : 60 <sup>m</sup> /4<br>20 <sup>h</sup> : 60 <sup>m</sup> /6<br>R°: 63 <sup>m</sup> | Dec  | Dif |         |                          |       |               |                |      |                |     |      |      |     |
|    | hG ☉                                                            | Dec  | hG ☾ | Dif                     |                                                                                                                                                     |      |     |         | Náutico                  | Civil |               | Hora           | R°   | Hora           | R°  |      |      |     |
| h  | °                                                               | '    | °    | °                       | '                                                                                                                                                   | °    | '   | °       | h                        | m     | h             | m              | h    | m              | h   | m    |      |     |
| 0  | 179                                                             | 08.7 | +23  | 13.4                    | 51                                                                                                                                                  | 15.4 | 76  | -18     | 13.0                     | 60 N  | 0 59          | 2 40           | 18   | 15             | 116 | 0 14 | 7    |     |
| 1  | 194                                                             | 08.6 |      | 13.2                    | 65                                                                                                                                                  | 42.0 | 130 |         | 26.0                     | 58    | 1 46          | 3 00           | 17   | 58             | 106 | 26   | 13   |     |
| 2  | 209                                                             | 08.5 |      | 13.1                    | 80                                                                                                                                                  | 08.5 | 75  |         | 39.0                     | 56    | 2 15          | 17             | 43   | 100            | 37  | 18   |      |     |
| 3  | 224                                                             | 08.4 |      | 13.0                    | 94                                                                                                                                                  | 34.9 | 74  | -18     | 51.8                     | 54    | 0 54          | 37             | 31   | 90             | 96  | 46   | 22   |     |
| 4  | 239                                                             | 08.2 |      | 12.8                    | 109                                                                                                                                                 | 01.1 | 72  | -19     | 04.5                     | 52    | 1 38          | 2 55           | 43   | 19             | 92  | 0 55 | 25   |     |
| 5  | 254                                                             | 08.1 | +23  | 12.7                    | 123                                                                                                                                                 | 27.2 | 71  | -19     | 17.1                     | 50    | 2 05          | 3 10           | 3 54 | 17             | 09  | 89   | 1 02 | 29  |
| 6  | 269                                                             | 08.0 | +23  | 12.5                    | 137                                                                                                                                                 | 53.2 | 70  | -19     | 29.6                     | 45    | 2 49          | 3 39           | 4 16 | 16             | 48  | 84   | 1 19 | 34  |
| 7  | 284                                                             | 07.9 |      | 12.4                    | 152                                                                                                                                                 | 19.0 | 68  |         | 42.0                     | 40    | 3 20          | 4 01           | 34   | 31             | 80  | 32   | 39   |     |
| 8  | 299                                                             | 07.7 |      | 12.3                    | 166                                                                                                                                                 | 44.7 | 67  | -19     | 54.3                     | 35    | 3 43          | 19             | 4 49 | 17             | 77  | 43   | 43   |     |
| 9  | 314                                                             | 07.6 |      | 12.1                    | 181                                                                                                                                                 | 10.2 | 65  | -20     | 06.5                     | 30    | 4 01          | 34             | 5 02 | 16             | 05  | 74   | 1 53 | 46  |
| 10 | 329                                                             | 07.5 |      | 12.0                    | 195                                                                                                                                                 | 35.7 | 65  |         | 18.5                     | 20    | 30            | 4 59           | 24   | 15             | 45  | 69   | 2 11 | 50  |
| 11 | 344                                                             | 07.4 | +23  | 11.8                    | 210                                                                                                                                                 | 00.9 | 62  | -20     | 30.5                     | 10 N  | 4 52          | 5 19           | 5 42 | 15             | 27  | 65   | 2 26 | 55  |
| 12 | 359                                                             | 07.2 | +23  | 11.7                    | 224                                                                                                                                                 | 26.1 | 62  | -20     | 42.3                     | 0     | 5 11          | 5 37           | 6 00 | 15             | 10  | 62   | 2 40 | 59  |
| 13 | 14                                                              | 07.1 |      | 11.5                    | 238                                                                                                                                                 | 51.1 | 60  | -20     | 54.0                     | 10 S  | 28            | 5 54           | 17   | 14             | 54  | 58   | 2 55 | 62  |
| 14 | 29                                                              | 07.0 |      | 11.4                    | 253                                                                                                                                                 | 16.0 | 59  | -21     | 05.6                     | 20    | 5 44          | 6 11           | 35   | 37             | 54  |      | 3 10 | 67  |
| 15 | 44                                                              | 06.9 |      | 11.2                    | 267                                                                                                                                                 | 40.8 | 58  |         | 17.0                     | 30    | 6 00          | 30             | 6 56 | 17             | 50  |      | 28   | 72  |
| 16 | 59                                                              | 06.8 |      | 11.1                    | 282                                                                                                                                                 | 05.4 | 56  |         | 28.3                     | 35    | 09            | 41             | 7 09 | 14             | 05  | 47   | 38   | 75  |
| 17 | 74                                                              | 06.6 | +23  | 11.0                    | 296                                                                                                                                                 | 29.9 | 55  | -21     | 39.5                     | 40    | 6 18          | 6 52           | 7 23 | 13             | 52  | 44   | 3 50 | 79  |
| 18 | 89                                                              | 06.5 | +23  | 10.8                    | 310                                                                                                                                                 | 54.2 | 53  | -21     | 50.5                     | 45    | 6 28          | 7 06           | 7 39 | 13             | 37  | 39   | 4 04 | 84  |
| 19 | 104                                                             | 06.4 |      | 10.7                    | 325                                                                                                                                                 | 18.4 | 52  | -22     | 01.4                     | 50    | 40            | 22             | 8 00 | 18             | 34  |      | 21   | 90  |
| 20 | 119                                                             | 06.3 |      | 10.5                    | 339                                                                                                                                                 | 42.5 | 51  |         | 12.2                     | 52    | 45            | 29             | 10   | 13             | 09  | 31   | 30   | 92  |
| 21 | 134                                                             | 06.1 |      | 10.4                    | 354                                                                                                                                                 | 06.4 | 49  |         | 22.8                     | 54    | 51            | 37             | 21   | 12             | 59  | 28   | 39   | 96  |
| 22 | 149                                                             | 06.0 |      | 10.2                    | 8                                                                                                                                                   | 30.3 | 49  |         | 33.3                     | 56    | 6 57          | 46             | 33   | 48             | 24  | 4 49 | 101  |     |
| 23 | 164                                                             | 05.9 |      | 10.0                    | 22                                                                                                                                                  | 53.9 | 46  |         | 43.7                     | 58    | 7 04          | 7 56           | 8 48 | 35             | 19  | 5 01 | 106  |     |
| 24 | 179                                                             | 05.8 | +23  | 09.9                    | 37                                                                                                                                                  | 17.5 | 46  | -22     | 53.9                     | 60 S  | 7 11          | 8 07           | 9 05 | 12             | 21  | 11   | 5 15 | 113 |

| UT  | ARIES                                 |      | VENUS                                             |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 5 <sup>h</sup> 29 <sup>m</sup> 4 |      | Mag: -4.6<br>PMG: 10 <sup>h</sup> 03 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 53 <sup>m</sup> |      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 27 <sup>m</sup> |      | Mag: +0.1<br>PMG: 12 <sup>h</sup> 36 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 277                                   | 24.7 | 208                                               | 48.7 | +17                                               | 59.6 | 151                                               | 34.8 | +20                                               | 37.3 | 112 | 33.8 | +7 | 43.8 | 170 | 32.9 | +22 | 15.2 |
| 1   | 292                                   | 27.2 | 223                                               | 51.3 |                                                   | 59.3 | 166                                               | 35.6 |                                                   | 36.9 | 127 | 35.9 |    | 43.7 | 185 | 35.0 |     | 15.1 |
| 2   | 307                                   | 29.7 | 238                                               | 53.8 |                                                   | 59.1 | 181                                               | 36.5 |                                                   | 36.5 | 142 | 38.0 |    | 43.5 | 200 | 37.1 |     | 15.1 |
| 3   | 322                                   | 32.1 | 253                                               | 56.3 |                                                   | 58.8 | 196                                               | 37.3 |                                                   | 36.2 | 157 | 40.2 |    | 43.4 | 215 | 39.2 |     | 15.1 |
| 4   | 337                                   | 34.6 | 268                                               | 58.8 |                                                   | 58.5 | 211                                               | 38.1 |                                                   | 35.8 | 172 | 42.3 |    | 43.3 | 230 | 41.3 |     | 15.0 |
| 5   | 352                                   | 37.1 | 284                                               | 01.3 | +17                                               | 58.3 | 226                                               | 39.0 | +20                                               | 35.4 | 187 | 44.5 | +7 | 43.1 | 245 | 43.5 | +22 | 15.0 |
| 6   | 7                                     | 39.5 | 299                                               | 03.8 | +17                                               | 58.0 | 241                                               | 39.8 | +20                                               | 35.0 | 202 | 46.6 | +7 | 43.0 | 260 | 45.6 | +22 | 15.0 |
| 7   | 22                                    | 42.0 | 314                                               | 06.3 |                                                   | 57.7 | 256                                               | 40.6 |                                                   | 34.7 | 217 | 48.7 |    | 42.8 | 275 | 47.7 |     | 14.9 |
| 8   | 37                                    | 44.5 | 329                                               | 08.8 |                                                   | 57.5 | 271                                               | 41.5 |                                                   | 34.3 | 232 | 50.9 |    | 42.7 | 290 | 49.8 |     | 14.9 |
| 9   | 52                                    | 46.9 | 344                                               | 11.3 |                                                   | 57.2 | 286                                               | 42.3 |                                                   | 33.9 | 247 | 53.0 |    | 42.6 | 305 | 51.9 |     | 14.9 |
| 10  | 67                                    | 49.4 | 359                                               | 13.8 |                                                   | 57.0 | 301                                               | 43.1 |                                                   | 33.6 | 262 | 55.1 |    | 42.4 | 320 | 54.0 |     | 14.8 |
| 11  | 82                                    | 51.9 | 14                                                | 16.2 | +17                                               | 56.7 | 316                                               | 43.9 | +20                                               | 33.2 | 277 | 57.3 | +7 | 42.3 | 335 | 56.2 | +22 | 14.8 |
| 12  | 97                                    | 54.3 | 29                                                | 18.7 | +17                                               | 56.5 | 331                                               | 44.8 | +20                                               | 32.8 | 292 | 59.4 | +7 | 42.1 | 350 | 58.3 | +22 | 14.8 |
| 13  | 112                                   | 56.8 | 44                                                | 21.2 |                                                   | 56.2 | 346                                               | 45.6 |                                                   | 32.4 | 308 | 01.6 |    | 42.0 | 6   | 00.4 |     | 14.7 |
| 14  | 127                                   | 59.2 | 59                                                | 23.6 |                                                   | 56.0 | 1                                                 | 46.4 |                                                   | 32.1 | 323 | 03.7 |    | 41.9 | 21  | 02.5 |     | 14.7 |
| 15  | 143                                   | 01.7 | 74                                                | 26.1 |                                                   | 55.7 | 16                                                | 47.3 |                                                   | 31.7 | 338 | 05.8 |    | 41.7 | 36  | 04.6 |     | 14.7 |
| 16  | 158                                   | 04.2 | 89                                                | 28.6 |                                                   | 55.5 | 31                                                | 48.1 |                                                   | 31.3 | 353 | 08.0 |    | 41.6 | 51  | 06.7 |     | 14.6 |
| 17  | 173                                   | 06.6 | 104                                               | 31.0 | +17                                               | 55.2 | 46                                                | 48.9 | +20                                               | 30.9 | 8   | 10.1 | +7 | 41.4 | 66  | 08.9 | +22 | 14.6 |
| 18  | 188                                   | 09.1 | 119                                               | 33.5 | +17                                               | 55.0 | 61                                                | 49.8 | +20                                               | 30.6 | 23  | 12.2 | +7 | 41.3 | 81  | 11.0 | +22 | 14.6 |
| 19  | 203                                   | 11.6 | 134                                               | 35.9 |                                                   | 54.7 | 76                                                | 50.6 |                                                   | 30.2 | 38  | 14.4 |    | 41.2 | 96  | 13.1 |     | 14.5 |
| 20  | 218                                   | 14.0 | 149                                               | 38.4 |                                                   | 54.5 | 91                                                | 51.4 |                                                   | 29.8 | 53  | 16.5 |    | 41.0 | 111 | 15.2 |     | 14.5 |
| 21  | 233                                   | 16.5 | 164                                               | 40.8 |                                                   | 54.3 | 106                                               | 52.3 |                                                   | 29.4 | 68  | 18.7 |    | 40.9 | 126 | 17.3 |     | 14.5 |
| 22  | 248                                   | 19.0 | 179                                               | 43.2 |                                                   | 54.0 | 121                                               | 53.1 |                                                   | 29.1 | 83  | 20.8 |    | 40.7 | 141 | 19.4 |     | 14.4 |
| 23  | 263                                   | 21.4 | 194                                               | 45.7 |                                                   | 53.8 | 136                                               | 53.9 |                                                   | 28.7 | 98  | 22.9 |    | 40.6 | 156 | 21.6 |     | 14.4 |
| 24  | 278                                   | 23.9 | 209                                               | 48.1 | +17                                               | 53.5 | 151                                               | 54.8 | +20                                               | 28.3 | 113 | 25.1 | +7 | 40.4 | 171 | 23.7 | +22 | 14.4 |
| Dif | —                                     |      | +25                                               | -3   |                                                   |      | +8                                                | -4   |                                                   |      | +21 | -1   |    |      | +21 | 0    |     |      |



| UT  | SOL                                    |      |          | ☉ LUNA                                                                                                                                         |      |             | Latitud                                           | Puesta de Sol | Final del crepúsculo |                                                   |         | Salida de Luna |                                                   |          | Puesta de Luna |  |  |
|-----|----------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|---------------------------------------------------|---------------|----------------------|---------------------------------------------------|---------|----------------|---------------------------------------------------|----------|----------------|--|--|
|     | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 12 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 60 <sup>h</sup> 8<br>12 <sup>h</sup> : 61 <sup>h</sup> 0<br>20 <sup>h</sup> : 61 <sup>h</sup> 1 |      |             |                                                   |               |                      |                                                   |         |                |                                                   |          |                |  |  |
|     | PMG: 12 <sup>h</sup> 03 <sup>m</sup> 7 |      |          | SD: 16 <sup>h</sup> 5<br>PMG: 22 <sup>h</sup> 28 <sup>m</sup>                                                                                  |      |             |                                                   |               | R°: 66 <sup>m</sup>  |                                                   |         |                |                                                   |          |                |  |  |
|     | hG ☉                                   | Dec  |          | hG ☾                                                                                                                                           | Dif  |             | Dec                                               | Dif           |                      | Civil                                             | Náutico | Hora           | R°                                                | Hora     | R°             |  |  |
| h   | °                                      | '    | °        | °                                                                                                                                              | '    | °           | '                                                 | °             | h m                  | h m                                               | h m     | h m m          |                                                   | h m m    |                |  |  |
| 0   | 179                                    | 05.8 | +23 09.9 | 37                                                                                                                                             | 17.5 | -22 53.9    |                                                   | 60 N          | 21 25                | 23 04                                             | ** **   | 20 11 99       |                                                   | 0 21 15  |                |  |  |
| 1   | 194                                    | 05.7 | 09.7     | 51                                                                                                                                             | 40.9 | -23 03.9    | 100                                               | 58            | 21 06                | 22 19                                             | ** **   | 19 44 92       |                                                   | 39 24    |                |  |  |
| 2   | 209                                    | 05.5 | 09.6     | 66                                                                                                                                             | 04.2 | 43 13.8     | 99                                                | 56            | 20 49                | 21 51                                             | ** **   | 23 88          |                                                   | 0 55 30  |                |  |  |
| 3   | 224                                    | 05.4 | 09.4     | 80                                                                                                                                             | 27.4 | 42 23.5     | 97                                                | 54            | 35                   | 29                                                | 23 09   | 19 06 85       |                                                   | 1 08 35  |                |  |  |
| 4   | 239                                    | 05.3 | 09.3     | 94                                                                                                                                             | 50.4 | 40 33.1     | 96                                                | 52            | 23                   | 21 12                                             | 22 28   | 18 51 83       |                                                   | 20 38    |                |  |  |
| 5   | 254                                    | 05.2 | +23 09.1 | 109                                                                                                                                            | 13.3 | 39 -23 42.5 | 94                                                | 50            | 20 13                | 20 57                                             | 22 01   | 18 38 81       |                                                   | 1 31 40  |                |  |  |
| 6   | 269                                    | 05.0 | +23 09.0 | 123                                                                                                                                            | 36.1 | 38 -23 51.8 | 93                                                | 45            | 19 51                | 20 28                                             | 21 17   | 18 12 78       |                                                   | 1 53 45  |                |  |  |
| 7   | 284                                    | 04.9 | 08.8     | 137                                                                                                                                            | 58.7 | 36 -24 00.9 | 91                                                | 40            | 33                   | 20 05                                             | 20 47   | 17 51 76       |                                                   | 2 11 49  |                |  |  |
| 8   | 299                                    | 04.8 | 08.6     | 152                                                                                                                                            | 21.3 | 36 09.8     | 89                                                | 35            | 18                   | 19 48                                             | 24      | 34 74          |                                                   | 26 52    |                |  |  |
| 9   | 314                                    | 04.7 | 08.5     | 166                                                                                                                                            | 43.7 | 34 18.6     | 88                                                | 30            | 19 05                | 33                                                | 20 06   | 17 19 72       |                                                   | 2 39 54  |                |  |  |
| 10  | 329                                    | 04.6 | 08.3     | 181                                                                                                                                            | 06.0 | 33 27.2     | 86                                                | 20            | 18 43                | 19 08                                             | 19 37   | 16 54 70       |                                                   | 3 01 58  |                |  |  |
| 11  | 344                                    | 04.4 | +23 08.2 | 195                                                                                                                                            | 28.2 | 32 -24 35.6 | 84                                                | 10 N          | 18 25                | 18 48                                             | 19 15   | 16 32 68       |                                                   | 3 21 61  |                |  |  |
| 12  | 359                                    | 04.3 | +23 08.0 | 209                                                                                                                                            | 50.2 | 30 -24 43.9 | 83                                                | 0             | 18 07                | 18 30                                             | 18 56   | 16 12 66       |                                                   | 3 39 64  |                |  |  |
| 13  | 14                                     | 04.2 | 07.8     | 224                                                                                                                                            | 12.2 | 30 51.9     | 80                                                | 10 S          | 17 50                | 18 13                                             | 39      | 15 52 65       |                                                   | 3 57 67  |                |  |  |
| 14  | 29                                     | 04.1 | 07.7     | 238                                                                                                                                            | 34.0 | 28 -24 59.8 | 79                                                | 20            | 32                   | 17 56                                             | 23      | 31 62          |                                                   | 4 17 70  |                |  |  |
| 15  | 44                                     | 04.0 | 07.5     | 252                                                                                                                                            | 55.7 | 27 -25 07.6 | 78                                                | 30            | 17 11                | 37                                                | 18 07   | 15 07 59       |                                                   | 40 74    |                |  |  |
| 16  | 59                                     | 03.8 | 07.4     | 267                                                                                                                                            | 17.3 | 26 15.1     | 75                                                | 35            | 16 59                | 27                                                | 17 59   | 14 52 58       |                                                   | 4 53 76  |                |  |  |
| 17  | 74                                     | 03.7 | +23 07.2 | 281                                                                                                                                            | 38.8 | 25 -25 22.4 | 73                                                | 40            | 16 45                | 17 15                                             | 17 49   | 14 36 55       |                                                   | 5 09 78  |                |  |  |
| 18  | 89                                     | 03.6 | +23 07.0 | 296                                                                                                                                            | 00.2 | 24 -25 29.6 | 72                                                | 45            | 16 28                | 17 02                                             | 17 39   | 14 16 53       |                                                   | 5 28 81  |                |  |  |
| 19  | 104                                    | 03.5 | 06.9     | 310                                                                                                                                            | 21.5 | 23 36.6     | 70                                                | 50            | 16 08                | 16 46                                             | 28      | 13 52 49       |                                                   | 5 51 86  |                |  |  |
| 20  | 119                                    | 03.4 | 06.7     | 324                                                                                                                                            | 42.6 | 21 43.4     | 68                                                | 52            | 15 58                | 39                                                | 22      | 40 47          |                                                   | 6 02 89  |                |  |  |
| 21  | 134                                    | 03.2 | 06.5     | 339                                                                                                                                            | 03.7 | 21 50.0     | 66                                                | 54            | 47                   | 31                                                | 17      | 27 44          |                                                   | 15 91    |                |  |  |
| 22  | 149                                    | 03.1 | 06.4     | 353                                                                                                                                            | 24.7 | 20 -25 56.4 | 64                                                | 56            | 35                   | 22                                                | 11      | 13 12 40       |                                                   | 30 95    |                |  |  |
| 23  | 164                                    | 03.0 | 06.2     | 7                                                                                                                                              | 45.6 | 19 -26 02.6 | 62                                                | 58            | 20                   | 12                                                | 17 04   | 12 54 35       |                                                   | 6 47 101 |                |  |  |
| 24  | 179                                    | 02.9 | +23 06.0 | 22                                                                                                                                             | 06.4 | 18 -26 08.6 | 60                                                | 60 S          | 15 03                | 16 00                                             | 16 57   | 12 32 27       |                                                   | 7 08 110 |                |  |  |
| UT  | ARIES                                  |      |          | VENUS                                                                                                                                          |      |             | MARTE                                             |               |                      | JÚPITER                                           |         |                | SATURNO                                           |          |                |  |  |
|     | PMG: 5 <sup>h</sup> 25 <sup>m</sup> 5  |      |          | Mag: -4.6<br>PMG: 9 <sup>h</sup> 59 <sup>m</sup>                                                                                               |      |             | Mag: +1.8<br>PMG: 13 <sup>h</sup> 52 <sup>m</sup> |               |                      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 24 <sup>m</sup> |         |                | Mag: +0.1<br>PMG: 12 <sup>h</sup> 33 <sup>m</sup> |          |                |  |  |
|     | hG ♈                                   | Dec  |          | hG ♀                                                                                                                                           | Dec  |             | hG ♂                                              | Dec           |                      | hG ♃                                              | Dec     |                | hG ♄                                              | Dec      |                |  |  |
| h   | °                                      | '    | °        | °                                                                                                                                              | '    | °           | '                                                 | °             | °                    | '                                                 | °       | °              | '                                                 | °        | '              |  |  |
| 0   | 278                                    | 23.9 | 209 48.1 | +17 53.5                                                                                                                                       |      | 151 54.8    | +20 28.3                                          |               | 113 25.1             | +7 40.4                                           |         | 171 23.7       | +22 14.4                                          |          |                |  |  |
| 1   | 293                                    | 26.4 | 224 50.5 | 53.3                                                                                                                                           |      | 166 55.6    | 27.9                                              |               | 128 27.2             | 40.3                                              |         | 186 25.8       | 14.3                                              |          |                |  |  |
| 2   | 308                                    | 28.8 | 239 52.9 | 53.1                                                                                                                                           |      | 181 56.4    | 27.6                                              |               | 143 29.3             | 40.2                                              |         | 201 27.9       | 14.3                                              |          |                |  |  |
| 3   | 323                                    | 31.3 | 254 55.4 | 52.9                                                                                                                                           |      | 196 57.3    | 27.2                                              |               | 158 31.5             | 40.0                                              |         | 216 30.0       | 14.3                                              |          |                |  |  |
| 4   | 338                                    | 33.7 | 269 57.8 | 52.6                                                                                                                                           |      | 211 58.1    | 26.8                                              |               | 173 33.6             | 39.9                                              |         | 231 32.1       | 14.2                                              |          |                |  |  |
| 5   | 353                                    | 36.2 | 285 00.2 | +17 52.4                                                                                                                                       |      | 226 58.9    | +20 26.4                                          |               | 188 35.7             | +7 39.7                                           |         | 246 34.3       | +22 14.2                                          |          |                |  |  |
| 6   | 8                                      | 38.7 | 300 02.6 | +17 52.2                                                                                                                                       |      | 241 59.8    | +20 26.0                                          |               | 203 37.9             | +7 39.6                                           |         | 261 36.4       | +22 14.2                                          |          |                |  |  |
| 7   | 23                                     | 41.1 | 315 05.0 | 51.9                                                                                                                                           |      | 257 00.6    | 25.7                                              |               | 218 40.0             | 39.5                                              |         | 276 38.5       | 14.1                                              |          |                |  |  |
| 8   | 38                                     | 43.6 | 330 07.4 | 51.7                                                                                                                                           |      | 272 01.4    | 25.3                                              |               | 233 42.1             | 39.3                                              |         | 291 40.6       | 14.1                                              |          |                |  |  |
| 9   | 53                                     | 46.1 | 345 09.8 | 51.5                                                                                                                                           |      | 287 02.3    | 24.9                                              |               | 248 44.3             | 39.2                                              |         | 306 42.7       | 14.1                                              |          |                |  |  |
| 10  | 68                                     | 48.5 | 0 12.1   | 51.3                                                                                                                                           |      | 302 03.1    | 24.5                                              |               | 263 46.4             | 39.0                                              |         | 321 44.9       | 14.0                                              |          |                |  |  |
| 11  | 83                                     | 51.0 | 15 14.5  | +17 51.1                                                                                                                                       |      | 317 03.9    | +20 24.2                                          |               | 278 48.6             | +7 38.9                                           |         | 336 47.0       | +22 14.0                                          |          |                |  |  |
| 12  | 98                                     | 53.5 | 30 16.9  | +17 50.8                                                                                                                                       |      | 332 04.8    | +20 23.8                                          |               | 293 50.7             | +7 38.7                                           |         | 351 49.1       | +22 14.0                                          |          |                |  |  |
| 13  | 113                                    | 55.9 | 45 19.3  | 50.6                                                                                                                                           |      | 347 05.6    | 23.4                                              |               | 308 52.8             | 38.6                                              |         | 6 51.2         | 13.9                                              |          |                |  |  |
| 14  | 128                                    | 58.4 | 60 21.7  | 50.4                                                                                                                                           |      | 2 06.4      | 23.0                                              |               | 323 55.0             | 38.5                                              |         | 21 53.3        | 13.9                                              |          |                |  |  |
| 15  | 144                                    | 00.9 | 75 24.0  | 50.2                                                                                                                                           |      | 17 07.3     | 22.6                                              |               | 338 57.1             | 38.3                                              |         | 36 55.4        | 13.8                                              |          |                |  |  |
| 16  | 159                                    | 03.3 | 90 26.4  | 50.0                                                                                                                                           |      | 32 08.1     | 22.3                                              |               | 353 59.2             | 38.2                                              |         | 51 57.6        | 13.8                                              |          |                |  |  |
| 17  | 174                                    | 05.8 | 105 28.7 | +17 49.8                                                                                                                                       |      | 47 08.9     | +20 21.9                                          |               | 9 01.4               | +7 38.0                                           |         | 66 59.7        | +22 13.8                                          |          |                |  |  |
| 18  | 189                                    | 08.2 | 120 31.1 | +17 49.6                                                                                                                                       |      | 62 09.8     | +20 21.5                                          |               | 24 03.5              | +7 37.9                                           |         | 82 01.8        | +22 13.7                                          |          |                |  |  |
| 19  | 204                                    | 10.7 | 135 33.4 | 49.3                                                                                                                                           |      | 77 10.6     | 21.1                                              |               | 39 05.6              | 37.7                                              |         | 97 03.9        | 13.7                                              |          |                |  |  |
| 20  | 219                                    | 13.2 | 150 35.8 | 49.1                                                                                                                                           |      | 92 11.5     | 20.7                                              |               | 54 07.8              | 37.6                                              |         | 112 06.0       | 13.7                                              |          |                |  |  |
| 21  | 234                                    | 15.6 | 165 38.1 | 48.9                                                                                                                                           |      | 107 12.3    | 20.3                                              |               | 69 09.9              | 37.5                                              |         | 127 08.1       | 13.6                                              |          |                |  |  |
| 22  | 249                                    | 18.1 | 180 40.5 | 48.7                                                                                                                                           |      | 122 13.1    | 20.0                                              |               | 84 12.0              | 37.3                                              |         | 142 10.3       | 13.6                                              |          |                |  |  |
| 23  | 264                                    | 20.6 | 195 42.8 | 48.5                                                                                                                                           |      | 137 14.0    | 19.6                                              |               | 99 14.1              | 37.2                                              |         | 157 12.4       | 13.6                                              |          |                |  |  |
| 24  | 279                                    | 23.0 | 210 45.1 | +17 48.3                                                                                                                                       |      | 152 14.8    | +20 19.2                                          |               | 114 16.3             | +7 37.0                                           |         | 172 14.5       | +22 13.5                                          |          |                |  |  |
| Dif | —                                      |      |          | +24                                                                                                                                            | -2   | +8          | -4                                                |               | +21                  | -1                                                |         | +21            | 0                                                 |          |                |  |  |

| UT  | SOL                                    |      |                                                  | LUNA                    |      |                                                                                                                     |                                                   |                                  | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |       |                                                   | Puesta de Luna |         |      |
|-----|----------------------------------------|------|--------------------------------------------------|-------------------------|------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|----------------|---------|------|
|     | SD: 15 <sup>h</sup> 7                  |      |                                                  | Edad: 13 <sup>d</sup> 1 | PHE  | 4 <sup>h</sup> : 61 <sup>m</sup> /2<br>12 <sup>h</sup> : 61 <sup>m</sup> /3<br>20 <sup>h</sup> : 61 <sup>m</sup> /3 |                                                   | R <sup>o</sup> : 68 <sup>m</sup> |         |                          |                                                   |               |                |       |                                                   |                |         |      |
|     | PMG: 12 <sup>h</sup> 03 <sup>m</sup> 9 |      |                                                  |                         |      | PMG: 23 <sup>h</sup> 34 <sup>m</sup>                                                                                |                                                   |                                  |         |                          |                                                   |               |                |       |                                                   |                |         |      |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                    | Dif  | Dec                                                                                                                 | Dif                                               |                                  | Náutico | Civil                    |                                                   | Hora          | R°             | Hora  | R°                                                |                |         |      |
| h   | °                                      | '    | °                                                | °                       | '    | °                                                                                                                   | '                                                 | °                                | h       | m                        | h                                                 | m             | h              | m     | h                                                 | m              |         |      |
| 0   | 179                                    | 02.9 | +23                                              | 06.0                    |      | 22                                                                                                                  | 06.4                                              | -26                              | 08.6    | 58                       | ** **                                             | 1 04          | 2 42           | 21 50 | 56                                                | 0 36 41        |         |      |
| 1   | 194                                    | 02.8 |                                                  | 05.8                    | 17   | 36                                                                                                                  | 27.1                                              |                                  | 14.4    | 58                       | ** **                                             | 1 49          | 3 02           | 21 16 | 59                                                | 1 03 49        |         |      |
| 2   | 209                                    | 02.6 |                                                  | 05.7                    | 16   | 50                                                                                                                  | 47.7                                              |                                  | 20.0    | 56                       | ** **                                             | 2 17          | 19             | 20 51 | 61                                                | 25 52          |         |      |
| 3   | 224                                    | 02.5 |                                                  | 05.5                    | 16   | 65                                                                                                                  | 08.3                                              |                                  | 25.4    | 54                       | 0 59                                              | 39            | 32             | 31 62 |                                                   | 43 54          |         |      |
| 4   | 239                                    | 02.4 |                                                  | 05.3                    | 14   | 79                                                                                                                  | 28.7                                              |                                  | 30.6    | 52                       | 1 40                                              | 2 56          | 44             | 20 14 | 63                                                | 1 58 56        |         |      |
| 5   | 254                                    | 02.3 | +23                                              | 05.2                    | 14   | 93                                                                                                                  | 49.1                                              | -26                              | 35.7    | 51                       | 2 07                                              | 3 11          | 3 55           | 19 59 | 64                                                | 2 11 58        |         |      |
| 6   | 269                                    | 02.2 | +23                                              | 05.0                    | 13   | 108                                                                                                                 | 09.4                                              | -26                              | 40.5    | 48                       | 2 51                                              | 3 40          | 4 17           | 19 30 | 65                                                | 2 38 60        |         |      |
| 7   | 284                                    | 02.0 |                                                  | 04.8                    | 12   | 122                                                                                                                 | 29.6                                              |                                  | 45.1    | 46                       | 3 21                                              | 4 02          | 35             | 19 07 | 66                                                | 3 00 62        |         |      |
| 8   | 299                                    | 01.9 |                                                  | 04.6                    | 12   | 136                                                                                                                 | 49.8                                              |                                  | 49.4    | 43                       | 3 44                                              | 20            | 4 50           | 18 48 | 66                                                | 18 63          |         |      |
| 9   | 314                                    | 01.8 |                                                  | 04.5                    | 11   | 151                                                                                                                 | 09.9                                              |                                  | 53.6    | 42                       | 4 02                                              | 4 35          | 5 03           | 31 67 |                                                   | 33 64          |         |      |
| 10  | 329                                    | 01.7 |                                                  | 04.3                    | 10   | 165                                                                                                                 | 29.9                                              | -26                              | 57.6    | 40                       | 31                                                | 5 00          | 24             | 18 04 | 67                                                | 3 59 66        |         |      |
| 11  | 344                                    | 01.6 | +23                                              | 04.1                    | 10   | 179                                                                                                                 | 49.9                                              | -27                              | 01.4    | 38                       | 4 53                                              | 5 20          | 5 43           | 17 40 | 68                                                | 4 22 67        |         |      |
| 12  | 359                                    | 01.4 | +23                                              | 03.9                    | 9    | 194                                                                                                                 | 09.8                                              | -27                              | 04.9    | 35                       | 5 12                                              | 5 38          | 6 00           | 17 18 | 68                                                | 4 43 68        |         |      |
| 13  | 14                                     | 01.3 |                                                  | 03.7                    | 8    | 208                                                                                                                 | 29.6                                              |                                  | 08.2    | 33                       | 28                                                | 5 55          | 17             | 16 57 | 67                                                | 5 04 69        |         |      |
| 14  | 29                                     | 01.2 |                                                  | 03.6                    | 8    | 222                                                                                                                 | 49.4                                              |                                  | 11.4    | 32                       | 5 44                                              | 6 12          | 36             | 33 68 |                                                   | 27 69          |         |      |
| 15  | 44                                     | 01.1 |                                                  | 03.4                    | 8    | 237                                                                                                                 | 09.2                                              |                                  | 14.3    | 29                       | 6 00                                              | 30            | 6 57           | 16 06 | 68                                                | 5 54 70        |         |      |
| 16  | 59                                     | 01.0 |                                                  | 03.2                    | 7    | 251                                                                                                                 | 28.9                                              |                                  | 16.9    | 26                       | 09                                                | 41            | 7 09           | 15 50 | 68                                                | 6 09 71        |         |      |
| 17  | 74                                     | 00.9 | +23                                              | 03.0                    | 7    | 265                                                                                                                 | 48.6                                              | -27                              | 19.4    | 25                       | 6 18                                              | 6 52          | 7 23           | 15 31 | 68                                                | 6 27 72        |         |      |
| 18  | 89                                     | 00.7 | +23                                              | 02.8                    | 6    | 280                                                                                                                 | 08.2                                              | -27                              | 21.7    | 23                       | 6 28                                              | 7 05          | 7 39           | 15 09 | 68                                                | 6 49 72        |         |      |
| 19  | 104                                    | 00.6 |                                                  | 02.7                    | 6    | 294                                                                                                                 | 27.8                                              |                                  | 23.7    | 20                       | 40                                                | 21            | 7 59           | 14 41 | 67                                                | 7 17 73        |         |      |
| 20  | 119                                    | 00.5 |                                                  | 02.5                    | 6    | 308                                                                                                                 | 47.4                                              |                                  | 25.5    | 18                       | 45                                                | 28            | 8 09           | 27 67 |                                                   | 31 74          |         |      |
| 21  | 134                                    | 00.4 |                                                  | 02.3                    | 6    | 323                                                                                                                 | 07.0                                              |                                  | 27.1    | 16                       | 54                                                | 36            | 20             | 14 11 | 67                                                | 7 46 75        |         |      |
| 22  | 149                                    | 00.3 |                                                  | 02.1                    | 5    | 337                                                                                                                 | 26.5                                              |                                  | 28.5    | 14                       | 56                                                | 45            | 32             | 13 52 | 66                                                | 8 05 75        |         |      |
| 23  | 164                                    | 00.2 |                                                  | 01.9                    | 5    | 351                                                                                                                 | 46.0                                              |                                  | 29.7    | 12                       | 58                                                | 7 03          | 7 55           | 13 29 | 66                                                | 28 76          |         |      |
| 24  | 179                                    | 00.0 | +23                                              | 01.7                    | 5    | 6                                                                                                                   | 05.5                                              | -27                              | 30.6    | 9                        | 60 S                                              | 7 10          | 8 07           | 9 04  | 12 59                                             | 64             | 8 58 78 |      |
| UT  | ARIES                                  |      | VENUS                                            |                         |      |                                                                                                                     | MARTE                                             |                                  |         |                          | JÚPITER                                           |               |                |       | SATURNO                                           |                |         |      |
|     | PMG: 5 <sup>h</sup> 21 <sup>m</sup> 6  |      | Mag: -4.6<br>PMG: 9 <sup>h</sup> 55 <sup>m</sup> |                         |      |                                                                                                                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 50 <sup>m</sup> |                                  |         |                          | Mag: -1.9<br>PMG: 16 <sup>h</sup> 21 <sup>m</sup> |               |                |       | Mag: +0.1<br>PMG: 12 <sup>h</sup> 29 <sup>m</sup> |                |         |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec                     | hG ♂ | Dec                                                                                                                 | hG ♃                                              | Dec                              | hG ♄    | Dec                      | hG ♅                                              | Dec           | hG ♆           | Dec   |                                                   |                |         |      |
| h   | °                                      | '    | °                                                | '                       | °    | '                                                                                                                   | °                                                 | '                                | °       | '                        | °                                                 | '             | °              | '     | °                                                 | '              |         |      |
| 0   | 279                                    | 23.0 | 210                                              | 45.1                    | +17  | 48.3                                                                                                                | 152                                               | 14.8                             | +20     | 19.2                     | 114                                               | 16.3          | +7             | 37.0  | 172                                               | 14.5           | +22     | 13.5 |
| 1   | 294                                    | 25.5 | 225                                              | 47.5                    |      | 48.1                                                                                                                | 167                                               | 15.6                             |         | 18.8                     | 129                                               | 18.4          |                | 36.9  | 187                                               | 16.6           |         | 13.5 |
| 2   | 309                                    | 28.0 | 240                                              | 49.8                    |      | 47.9                                                                                                                | 182                                               | 16.5                             |         | 18.4                     | 144                                               | 20.5          |                | 36.7  | 202                                               | 18.7           |         | 13.5 |
| 3   | 324                                    | 30.4 | 255                                              | 52.1                    |      | 47.7                                                                                                                | 197                                               | 17.3                             |         | 18.1                     | 159                                               | 22.7          |                | 36.6  | 217                                               | 20.8           |         | 13.4 |
| 4   | 339                                    | 32.9 | 270                                              | 54.4                    |      | 47.5                                                                                                                | 212                                               | 18.1                             |         | 17.7                     | 174                                               | 24.8          |                | 36.4  | 232                                               | 23.0           |         | 13.4 |
| 5   | 354                                    | 35.4 | 285                                              | 56.7                    | +17  | 47.3                                                                                                                | 227                                               | 19.0                             | +20     | 17.3                     | 189                                               | 26.9          | +7             | 36.3  | 247                                               | 25.1           | +22     | 13.4 |
| 6   | 9                                      | 37.8 | 300                                              | 59.0                    | +17  | 47.1                                                                                                                | 242                                               | 19.8                             | +20     | 16.9                     | 204                                               | 29.1          | +7             | 36.2  | 262                                               | 27.2           | +22     | 13.3 |
| 7   | 24                                     | 40.3 | 316                                              | 01.3                    |      | 46.9                                                                                                                | 257                                               | 20.7                             |         | 16.5                     | 219                                               | 31.2          |                | 36.0  | 277                                               | 29.3           |         | 13.3 |
| 8   | 39                                     | 42.7 | 331                                              | 03.6                    |      | 46.7                                                                                                                | 272                                               | 21.5                             |         | 16.1                     | 234                                               | 33.3          |                | 35.9  | 292                                               | 31.4           |         | 13.3 |
| 9   | 54                                     | 45.2 | 346                                              | 05.9                    |      | 46.6                                                                                                                | 287                                               | 22.3                             |         | 15.7                     | 249                                               | 35.5          |                | 35.7  | 307                                               | 33.5           |         | 13.2 |
| 10  | 69                                     | 47.7 | 1                                                | 08.2                    |      | 46.4                                                                                                                | 302                                               | 23.2                             |         | 15.4                     | 264                                               | 37.6          |                | 35.6  | 322                                               | 35.7           |         | 13.2 |
| 11  | 84                                     | 50.1 | 16                                               | 10.5                    | +17  | 46.2                                                                                                                | 317                                               | 24.0                             | +20     | 15.0                     | 279                                               | 39.7          | +7             | 35.4  | 337                                               | 37.8           | +22     | 13.2 |
| 12  | 99                                     | 52.6 | 31                                               | 12.8                    | +17  | 46.0                                                                                                                | 332                                               | 24.8                             | +20     | 14.6                     | 294                                               | 41.8          | +7             | 35.3  | 352                                               | 39.9           | +22     | 13.1 |
| 13  | 114                                    | 55.1 | 46                                               | 15.1                    |      | 45.8                                                                                                                | 347                                               | 25.7                             |         | 14.2                     | 309                                               | 44.0          |                | 35.2  | 7                                                 | 42.0           |         | 13.1 |
| 14  | 129                                    | 57.5 | 61                                               | 17.3                    |      | 45.6                                                                                                                | 2                                                 | 26.5                             |         | 13.8                     | 324                                               | 46.1          |                | 35.0  | 22                                                | 44.1           |         | 13.1 |
| 15  | 145                                    | 00.0 | 76                                               | 19.6                    |      | 45.4                                                                                                                | 17                                                | 27.4                             |         | 13.4                     | 339                                               | 48.2          |                | 34.9  | 37                                                | 46.2           |         | 13.0 |
| 16  | 160                                    | 02.5 | 91                                               | 21.9                    |      | 45.3                                                                                                                | 32                                                | 28.2                             |         | 13.1                     | 354                                               | 50.4          |                | 34.7  | 52                                                | 48.4           |         | 13.0 |
| 17  | 175                                    | 04.9 | 106                                              | 24.1                    | +17  | 45.1                                                                                                                | 47                                                | 29.0                             | +20     | 12.7                     | 9                                                 | 52.5          | +7             | 34.6  | 67                                                | 50.5           | +22     | 13.0 |
| 18  | 190                                    | 07.4 | 121                                              | 26.4                    | +17  | 44.9                                                                                                                | 62                                                | 29.9                             | +20     | 12.3                     | 24                                                | 54.6          | +7             | 34.4  | 82                                                | 52.6           | +22     | 12.9 |
| 19  | 205                                    | 09.9 | 136                                              | 28.7                    |      | 44.7                                                                                                                | 77                                                | 30.7                             |         | 11.9                     | 39                                                | 56.8          |                | 34.3  | 97                                                | 54.7           |         | 12.9 |
| 20  | 220                                    | 12.3 | 151                                              | 30.9                    |      | 44.6                                                                                                                | 92                                                | 31.5                             |         | 11.5                     | 54                                                | 58.9          |                | 34.1  | 112                                               | 56.8           |         | 12.9 |
| 21  | 235                                    | 14.8 | 166                                              | 33.2                    |      | 44.4                                                                                                                | 107                                               | 32.4                             |         | 11.1                     | 70                                                | 01.0          |                | 34.0  | 127                                               | 58.9           |         | 12.8 |
| 22  | 250                                    | 17.2 | 181                                              | 35.4                    |      | 44.2                                                                                                                | 122                                               | 33.2                             |         | 10.7                     | 85                                                | 03.1          |                | 33.8  | 143                                               | 01.1           |         | 12.8 |
| 23  | 265                                    | 19.7 | 196                                              | 37.6                    |      | 44.0                                                                                                                | 137                                               | 34.1                             |         | 10.3                     | 100                                               | 05.3          |                | 33.7  | 158                                               | 03.2           |         | 12.8 |
| 24  | 280                                    | 22.2 | 211                                              | 39.9                    | +17  | 43.9                                                                                                                | 152                                               | 34.9                             | +20     | 10.0                     | 115                                               | 07.4          | +7             | 33.6  | 173                                               | 05.3           | +22     | 12.7 |
| Dif | —                                      |      | +23                                              |                         | -2   |                                                                                                                     | +8                                                |                                  | -4      |                          | +21                                               |               | -1             |       | +21                                               |                | 0       |      |

| UT  | SOL                                                |      |                                                  | ☉ LUNA                                                                                                              |                                                   |          |                                                   | Latitud | Puesta de Sol                                     | Final del crepúsculo |         | Salida de Luna |          | Puesta de Luna |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------------------|---------|----------------|----------|----------------|----|
|     | SD: 15'7<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 1 |      |                                                  | Edad: 14 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 61'3<br>12 <sup>h</sup> : 61'3<br>20 <sup>h</sup> : 61'2<br>R°: ***m |                                                   |          |                                                   |         |                                                   |                      |         |                |          |                |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                | Dif                                               | Dec      | Dif                                               |         |                                                   | Civil                | Náutico | Hora           | R°       | Hora           | R° |
| h   | °                                                  | '    | °                                                | '                                                                                                                   | °                                                 | '        | °                                                 | '       | h m                                               | h m                  | h m     | h m m          | h m m    | h m m          |    |
| 0   | 179                                                | 00.0 | +23 01.7                                         | 6                                                                                                                   | 05.5                                              | -27 30.6 | 7                                                 | 60 N    | 21 24                                             | 23 00                | ** **   | 22 46 21       | 1 17 87  |                |    |
| 1   | 193                                                | 59.9 | 01.5                                             | 20                                                                                                                  | 25.0                                              | 31.3     | 5                                                 | 58      | 21 04                                             | 22 17                | ** **   | 22 15 31       | 1 52 82  |                |    |
| 2   | 208                                                | 59.8 | 01.4                                             | 34                                                                                                                  | 44.5                                              | 31.8     | 5                                                 | 56      | 20 48                                             | 21 49                | ** **   | 21 52 36       | 2 17 80  |                |    |
| 3   | 223                                                | 59.7 | 01.2                                             | 49                                                                                                                  | 04.0                                              | 32.1     | 5                                                 | 54      | 35                                                | 28                   | 23 05   | 33 40          | 37 79    |                |    |
| 4   | 238                                                | 59.6 | 01.0                                             | 63                                                                                                                  | 23.5                                              | 32.1     | 5                                                 | 52      | 23                                                | 21 11                | 22 26   | 17 43          | 2 54 77  |                |    |
| 5   | 253                                                | 59.5 | +23 00.8                                         | 77                                                                                                                  | 42.9                                              | -27 32.0 | 4                                                 | 50      | 20 12                                             | 20 56                | 22 00   | 21 03 46       | 3 09 76  |                |    |
| 6   | 268                                                | 59.3 | +23 00.6                                         | 92                                                                                                                  | 02.4                                              | -27 31.6 | 5                                                 | 45      | 19 50                                             | 20 27                | 21 16   | 20 35 50       | 3 38 75  |                |    |
| 7   | 283                                                | 59.2 | 00.4                                             | 106                                                                                                                 | 21.9                                              | 31.0     | 5                                                 | 40      | 33                                                | 20 05                | 20 46   | 20 13 53       | 4 02 72  |                |    |
| 8   | 298                                                | 59.1 | +23 00.2                                         | 120                                                                                                                 | 41.5                                              | 30.2     | 6                                                 | 35      | 18                                                | 19 47                | 24      | 19 54 55       | 21 72    |                |    |
| 9   | 313                                                | 59.0 | +23 00.0                                         | 135                                                                                                                 | 01.0                                              | 29.1     | 5                                                 | 30      | 19 05                                             | 32                   | 20 06   | 38 57          | 4 37 71  |                |    |
| 10  | 328                                                | 58.9 | +22 59.8                                         | 149                                                                                                                 | 20.6                                              | 27.9     | 6                                                 | 20      | 18 44                                             | 19 08                | 19 37   | 19 11 61       | 5 05 69  |                |    |
| 11  | 343                                                | 58.8 | +22 59.6                                         | 163                                                                                                                 | 40.1                                              | -27 26.4 | 5                                                 | 10 N    | 18 25                                             | 18 48                | 19 15   | 18 48 63       | 5 29 68  |                |    |
| 12  | 358                                                | 58.6 | +22 59.4                                         | 177                                                                                                                 | 59.8                                              | -27 24.7 | 7                                                 | 0       | 18 08                                             | 18 30                | 18 56   | 18 26 65       | 5 51 67  |                |    |
| 13  | 13                                                 | 58.5 | 59.2                                             | 192                                                                                                                 | 19.4                                              | 22.7     | 6                                                 | 10 S    | 17 51                                             | 18 13                | 40      | 18 04 68       | 6 13 65  |                |    |
| 14  | 28                                                 | 58.4 | 59.0                                             | 206                                                                                                                 | 39.1                                              | 20.6     | 7                                                 | 20      | 33                                                | 17 56                | 24      | 17 41 70       | 6 36 65  |                |    |
| 15  | 43                                                 | 58.3 | 58.8                                             | 220                                                                                                                 | 58.8                                              | 18.2     | 7                                                 | 30      | 12                                                | 38                   | 18 08   | 17 14 73       | 7 04 62  |                |    |
| 16  | 58                                                 | 58.2 | 58.6                                             | 235                                                                                                                 | 18.6                                              | 15.7     | 8                                                 | 35      | 17 00                                             | 28                   | 17 59   | 16 58 74       | 20 61    |                |    |
| 17  | 73                                                 | 58.1 | +22 58.5                                         | 249                                                                                                                 | 38.4                                              | -27 12.9 | 8                                                 | 40      | 16 46                                             | 17 16                | 17 50   | 16 39 77       | 7 39 59  |                |    |
| 18  | 88                                                 | 58.0 | +22 58.3                                         | 263                                                                                                                 | 58.3                                              | -27 09.9 | 9                                                 | 45      | 16 29                                             | 17 03                | 17 40   | 16 17 79       | 8 01 58  |                |    |
| 19  | 103                                                | 57.8 | 58.1                                             | 278                                                                                                                 | 18.3                                              | 06.7     | 10                                                | 50      | 09                                                | 16 47                | 29      | 15 48 83       | 30 55    |                |    |
| 20  | 118                                                | 57.7 | 57.9                                             | 292                                                                                                                 | 38.2                                              | -27 03.3 | 9                                                 | 52      | 16 00                                             | 40                   | 24      | 34 85          | 8 45 53  |                |    |
| 21  | 133                                                | 57.6 | 57.7                                             | 306                                                                                                                 | 58.3                                              | -26 59.6 | 11                                                | 54      | 15 49                                             | 32                   | 18      | 15 18 87       | 9 01 51  |                |    |
| 22  | 148                                                | 57.5 | 57.4                                             | 321                                                                                                                 | 18.4                                              | 55.8     | 11                                                | 56      | 37                                                | 23                   | 12      | 14 58 90       | 20 49    |                |    |
| 23  | 163                                                | 57.4 | 57.2                                             | 335                                                                                                                 | 38.6                                              | 51.7     | 12                                                | 58      | 22                                                | 13                   | 17 06   | 35 94          | 9 44 45  |                |    |
| 24  | 178                                                | 57.3 | +22 57.0                                         | 349                                                                                                                 | 58.9                                              | -26 47.4 | 13                                                | 60 S    | 15 05                                             | 16 02                | 16 58   | 14 03 102      | 10 16 37 |                |    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                     | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |                      |         |                |          |                |    |
|     | PMG: 5 <sup>h</sup> 17 <sup>m</sup> 7              |      | Mag: -4.6<br>PMG: 9 <sup>h</sup> 52 <sup>m</sup> |                                                                                                                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 49 <sup>m</sup> |          | Mag: -1.9<br>PMG: 16 <sup>h</sup> 17 <sup>m</sup> |         | Mag: +0.1<br>PMG: 12 <sup>h</sup> 26 <sup>m</sup> |                      |         |                |          |                |    |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                 | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec                  |         |                |          |                |    |
| h   | °                                                  | '    | °                                                | '                                                                                                                   | °                                                 | '        | °                                                 | '       | °                                                 | '                    |         |                |          |                |    |
| 0   | 280                                                | 22.2 | 211                                              | 39.9                                                                                                                | 152                                               | 34.9     | 115                                               | 07.4    | 173                                               | 05.3                 |         |                |          |                |    |
| 1   | 295                                                | 24.6 | 226                                              | 42.1                                                                                                                | 167                                               | 35.7     | 130                                               | 09.5    | 188                                               | 07.4                 |         |                |          |                |    |
| 2   | 310                                                | 27.1 | 241                                              | 44.3                                                                                                                | 182                                               | 36.6     | 145                                               | 11.6    | 203                                               | 09.5                 |         |                |          |                |    |
| 3   | 325                                                | 29.6 | 256                                              | 46.6                                                                                                                | 197                                               | 37.4     | 160                                               | 13.8    | 218                                               | 11.6                 |         |                |          |                |    |
| 4   | 340                                                | 32.0 | 271                                              | 48.8                                                                                                                | 212                                               | 38.3     | 175                                               | 15.9    | 233                                               | 13.8                 |         |                |          |                |    |
| 5   | 355                                                | 34.5 | 286                                              | 51.0                                                                                                                | 227                                               | 39.1     | 190                                               | 18.0    | 248                                               | 15.9                 |         |                |          |                |    |
| 6   | 10                                                 | 37.0 | 301                                              | 53.2                                                                                                                | 242                                               | 39.9     | 205                                               | 20.2    | 263                                               | 18.0                 |         |                |          |                |    |
| 7   | 25                                                 | 39.4 | 316                                              | 55.4                                                                                                                | 257                                               | 40.8     | 220                                               | 22.3    | 278                                               | 20.1                 |         |                |          |                |    |
| 8   | 40                                                 | 41.9 | 331                                              | 57.6                                                                                                                | 272                                               | 41.6     | 235                                               | 24.4    | 293                                               | 22.2                 |         |                |          |                |    |
| 9   | 55                                                 | 44.4 | 346                                              | 59.8                                                                                                                | 287                                               | 42.5     | 250                                               | 26.5    | 308                                               | 24.3                 |         |                |          |                |    |
| 10  | 70                                                 | 46.8 | 2                                                | 02.0                                                                                                                | 302                                               | 43.3     | 265                                               | 28.7    | 323                                               | 26.5                 |         |                |          |                |    |
| 11  | 85                                                 | 49.3 | 17                                               | 04.2                                                                                                                | 317                                               | 44.1     | 280                                               | 30.8    | 338                                               | 28.6                 |         |                |          |                |    |
| 12  | 100                                                | 51.7 | 32                                               | 06.4                                                                                                                | 332                                               | 45.0     | 295                                               | 32.9    | 353                                               | 30.7                 |         |                |          |                |    |
| 13  | 115                                                | 54.2 | 47                                               | 08.6                                                                                                                | 347                                               | 45.8     | 310                                               | 35.0    | 8                                                 | 32.8                 |         |                |          |                |    |
| 14  | 130                                                | 56.7 | 62                                               | 10.8                                                                                                                | 41.6                                              | 2 46.7   | 325                                               | 37.2    | 23                                                | 34.9                 |         |                |          |                |    |
| 15  | 145                                                | 59.1 | 77                                               | 13.0                                                                                                                | 41.5                                              | 17 47.5  | 340                                               | 39.3    | 38                                                | 37.0                 |         |                |          |                |    |
| 16  | 161                                                | 01.6 | 92                                               | 15.1                                                                                                                | 41.3                                              | 32 48.3  | 355                                               | 41.4    | 53                                                | 39.2                 |         |                |          |                |    |
| 17  | 176                                                | 04.1 | 107                                              | 17.3                                                                                                                | 41.2                                              | 47 49.2  | 10                                                | 43.5    | 68                                                | 41.3                 |         |                |          |                |    |
| 18  | 191                                                | 06.5 | 122                                              | 19.5                                                                                                                | 41.0                                              | 62 50.0  | 25                                                | 45.7    | 83                                                | 43.4                 |         |                |          |                |    |
| 19  | 206                                                | 09.0 | 137                                              | 21.6                                                                                                                | 40.9                                              | 77 50.9  | 40                                                | 47.8    | 98                                                | 45.5                 |         |                |          |                |    |
| 20  | 221                                                | 11.5 | 152                                              | 23.8                                                                                                                | 40.7                                              | 92 51.7  | 55                                                | 49.9    | 113                                               | 47.6                 |         |                |          |                |    |
| 21  | 236                                                | 13.9 | 167                                              | 25.9                                                                                                                | 40.6                                              | 107 52.6 | 70                                                | 52.0    | 128                                               | 49.7                 |         |                |          |                |    |
| 22  | 251                                                | 16.4 | 182                                              | 28.1                                                                                                                | 40.5                                              | 122 53.4 | 85                                                | 54.2    | 143                                               | 51.9                 |         |                |          |                |    |
| 23  | 266                                                | 18.9 | 197                                              | 30.2                                                                                                                | 40.3                                              | 137 54.2 | 100                                               | 56.3    | 158                                               | 54.0                 |         |                |          |                |    |
| 24  | 281                                                | 21.3 | 212                                              | 32.4                                                                                                                | 40.2                                              | 152 55.1 | 115                                               | 58.4    | 173                                               | 56.1                 |         |                |          |                |    |
| Dif | —                                                  |      | +22                                              | -2                                                                                                                  | +8                                                | -4       | +21                                               | -1      | +21                                               | 0                    |         |                |          |                |    |

| UT | SOL                                    |      |     | LUNA                    |     |                                                                                                                     |     |                                  | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |                | Puesta de Luna |                |  |
|----|----------------------------------------|------|-----|-------------------------|-----|---------------------------------------------------------------------------------------------------------------------|-----|----------------------------------|---------|--------------------------|------|---------------|----------------|----------------|----------------|----------------|--|
|    | SD: 15 <sup>h</sup> 7                  |      |     | Edad: 15 <sup>d</sup> 1 | PHE | 4 <sup>h</sup> : 61 <sup>m</sup> .1<br>12 <sup>h</sup> : 61 <sup>m</sup> .0<br>20 <sup>h</sup> : 60 <sup>m</sup> .8 |     | R <sup>o</sup> : 64 <sup>m</sup> |         | Hora                     |      |               | R <sup>o</sup> | Hora           |                | R <sup>o</sup> |  |
|    | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 3 |      |     |                         |     | PMG: 0 <sup>h</sup> 42 <sup>m</sup>                                                                                 |     |                                  |         |                          |      |               |                |                |                |                |  |
|    | hG ☉                                   | Dec  |     | hG ☾                    | Dif | Dec                                                                                                                 | Dif |                                  | Náutico | Civil                    |      |               | Hora           | R <sup>o</sup> | Hora           | R <sup>o</sup> |  |
| h  | °                                      | '    | °   | °                       | '   | °                                                                                                                   | '   | °                                | h       | m                        | h    | m             | h              | m              | h              | m              |  |
| 0  | 178                                    | 57.3 | +22 | 57.0                    | 349 | 58.9                                                                                                                | -26 | 47.4                             | 60 N    | ** **                    | 1 09 | 2 45          | 23 07          | 8              | 2 44           | 113            |  |
| 1  | 193                                    | 57.2 |     | 56.8                    | 4   | 19.2                                                                                                                | 13  | 43.0                             | 58      | ** **                    | 1 52 | 3 04          | 22 46          | 15             | 3 14           | 103            |  |
| 2  | 208                                    | 57.0 |     | 56.6                    | 18  | 39.6                                                                                                                | 14  | 38.3                             | 56      | ** **                    | 2 20 | 20            | 28 21          |                | 37             | 97             |  |
| 3  | 223                                    | 56.9 |     | 56.4                    | 33  | 00.1                                                                                                                | 15  | 33.4                             | 54      | 1 03                     | 41   | 34            | 13 25          |                | 3 56           | 93             |  |
| 4  | 238                                    | 56.8 |     | 56.2                    | 47  | 20.7                                                                                                                | 16  | 28.3                             | 52      | 1 43                     | 2 58 | 46            | 22 00          | 29             | 4 11           | 90             |  |
| 5  | 253                                    | 56.7 | +22 | 56.0                    | 61  | 41.3                                                                                                                | 16  | -26                              | 50      | 2 09                     | 3 13 | 3 56          | 21 49          | 31             | 4 25           | 87             |  |
| 6  | 268                                    | 56.6 | +22 | 55.8                    | 76  | 02.1                                                                                                                | 18  | -26                              | 45      | 2 52                     | 3 41 | 4 18          | 21 25          | 37             | 4 53           | 82             |  |
| 7  | 283                                    | 56.5 |     | 55.6                    | 90  | 22.9                                                                                                                | 18  | 11.9                             | 40      | 3 22                     | 4 03 | 36            | 21 06          | 41             | 5 14           | 79             |  |
| 8  | 298                                    | 56.4 |     | 55.4                    | 104 | 43.8                                                                                                                | 19  | -26                              | 35      | 3 45                     | 21   | 4 51          | 20 49          | 45             | 33             | 75             |  |
| 9  | 313                                    | 56.3 |     | 55.2                    | 119 | 04.9                                                                                                                | 21  | -26                              | 30      | 4 03                     | 4 36 | 5 03          | 35 48          |                | 5 48           | 73             |  |
| 10 | 328                                    | 56.1 |     | 55.0                    | 133 | 26.0                                                                                                                | 21  | -25                              | 20      | 31                       | 5 00 | 25            | 20 12          | 52             | 6 14           | 70             |  |
| 11 | 343                                    | 56.0 | +22 | 54.8                    | 147 | 47.2                                                                                                                | 22  | -25                              | 10 N    | 4 53                     | 5 20 | 5 43          | 19 51          | 56             | 6 37           | 66             |  |
| 12 | 358                                    | 55.9 | +22 | 54.6                    | 162 | 08.6                                                                                                                | 24  | -25                              | 0       | 5 12                     | 5 38 | 6 01          | 19 31          | 60             | 6 58           | 63             |  |
| 13 | 13                                     | 55.8 |     | 54.3                    | 176 | 30.0                                                                                                                | 24  | 33.8                             | 10 S    | 29                       | 5 55 | 18            | 19 12          | 64             | 7 18           | 60             |  |
| 14 | 28                                     | 55.7 |     | 54.1                    | 190 | 51.6                                                                                                                | 26  | 26.8                             | 20      | 5 44                     | 6 12 | 36            | 18 51          | 68             | 7 41           | 56             |  |
| 15 | 43                                     | 55.6 |     | 53.9                    | 205 | 13.2                                                                                                                | 26  | 19.6                             | 30      | 6 00                     | 30   | 6 56          | 27 72          |                | 8 06           | 53             |  |
| 16 | 58                                     | 55.5 |     | 53.7                    | 219 | 35.0                                                                                                                | 28  | 12.2                             | 35      | 09                       | 41   | 7 09          | 18 12          | 76             | 21             | 50             |  |
| 17 | 73                                     | 55.4 | +22 | 53.5                    | 233 | 56.9                                                                                                                | 29  | -25                              | 40      | 6 18                     | 6 52 | 7 22          | 17 56          | 78             | 8 38           | 48             |  |
| 18 | 88                                     | 55.2 | +22 | 53.3                    | 248 | 18.9                                                                                                                | 30  | -24                              | 45      | 6 28                     | 7 05 | 7 39          | 17 36          | 83             | 8 59           | 44             |  |
| 19 | 103                                    | 55.1 |     | 53.1                    | 262 | 41.0                                                                                                                | 31  | 49.0                             | 50      | 39                       | 21   | 7 59          | 17 11          | 88             | 9 25           | 38             |  |
| 20 | 118                                    | 55.0 |     | 52.8                    | 277 | 03.3                                                                                                                | 33  | 40.9                             | 52      | 44                       | 28   | 8 08          | 16 59          | 91             | 38             | 35             |  |
| 21 | 133                                    | 54.9 |     | 52.6                    | 291 | 25.6                                                                                                                | 33  | 32.6                             | 54      | 50                       | 36   | 19            | 45 95          |                | 9 52           | 32             |  |
| 22 | 148                                    | 54.8 |     | 52.4                    | 305 | 48.1                                                                                                                | 35  | 24.2                             | 56      | 6 56                     | 45   | 31            | 28 100         |                | 10 09          | 28             |  |
| 23 | 163                                    | 54.7 |     | 52.2                    | 320 | 10.7                                                                                                                | 36  | 15.6                             | 58      | 7 02                     | 7 54 | 8 45          | 16 09          | 105            | 29             | 22             |  |
| 24 | 178                                    | 54.6 | +22 | 52.0                    | 334 | 33.5                                                                                                                | 38  | -24                              | 60 S    | 7 10                     | 8 06 | 9 02          | 15 45          | 113            | 10 53          | 15             |  |

| UT  | ARIES                            |      | VENUS                               |      | MARTE                                |      | JÚPITER                              |      | SATURNO                              |      |     |   |
|-----|----------------------------------|------|-------------------------------------|------|--------------------------------------|------|--------------------------------------|------|--------------------------------------|------|-----|---|
|     | PMG                              |      | Mag: -4.6                           |      | Mag: +1.8                            |      | Mag: -1.9                            |      | Mag: +0.1                            |      |     |   |
|     | 5 <sup>h</sup> 13 <sup>m</sup> 7 |      | PMG: 9 <sup>h</sup> 48 <sup>m</sup> |      | PMG: 13 <sup>h</sup> 48 <sup>m</sup> |      | PMG: 16 <sup>h</sup> 14 <sup>m</sup> |      | PMG: 12 <sup>h</sup> 23 <sup>m</sup> |      |     |   |
|     | hG ♈                             |      | hG ♀                                | Dec  | hG ♂                                 | Dec  | hG ♃                                 | Dec  | hG ♄                                 | Dec  |     |   |
| h   | °                                | '    | °                                   | '    | °                                    | '    | °                                    | '    | °                                    | '    |     |   |
| 0   | 281                              | 21.3 | 212                                 | 32.4 | +17                                  | 40.2 | 115                                  | 58.4 | +7                                   | 30.1 |     |   |
| 1   | 296                              | 23.8 | 227                                 | 34.5 |                                      | 40.0 | 131                                  | 00.5 |                                      | 29.9 |     |   |
| 2   | 311                              | 26.2 | 242                                 | 36.7 |                                      | 39.9 | 146                                  | 02.7 |                                      | 29.8 |     |   |
| 3   | 326                              | 28.7 | 257                                 | 38.8 |                                      | 39.8 | 161                                  | 04.8 |                                      | 29.6 |     |   |
| 4   | 341                              | 31.2 | 272                                 | 40.9 |                                      | 39.6 | 176                                  | 06.9 |                                      | 29.5 |     |   |
| 5   | 356                              | 33.6 | 287                                 | 43.0 | +17                                  | 39.5 | 191                                  | 09.0 | +7                                   | 29.3 |     |   |
| 6   | 11                               | 36.1 | 302                                 | 45.2 | +17                                  | 39.4 | 206                                  | 11.1 | +7                                   | 29.2 |     |   |
| 7   | 26                               | 38.6 | 317                                 | 47.3 |                                      | 39.2 | 221                                  | 13.3 |                                      | 29.0 |     |   |
| 8   | 41                               | 41.0 | 332                                 | 49.4 |                                      | 39.1 | 236                                  | 15.4 |                                      | 28.9 |     |   |
| 9   | 56                               | 43.5 | 347                                 | 51.5 |                                      | 39.0 | 251                                  | 17.5 |                                      | 28.7 |     |   |
| 10  | 71                               | 46.0 | 2                                   | 53.6 |                                      | 38.9 | 266                                  | 19.6 |                                      | 28.6 |     |   |
| 11  | 86                               | 48.4 | 17                                  | 55.7 | +17                                  | 38.7 | 281                                  | 21.8 | +7                                   | 28.4 |     |   |
| 12  | 101                              | 50.9 | 32                                  | 57.8 | +17                                  | 38.6 | 296                                  | 23.9 | +7                                   | 28.3 |     |   |
| 13  | 116                              | 53.3 | 47                                  | 59.9 |                                      | 38.5 | 311                                  | 26.0 |                                      | 28.1 |     |   |
| 14  | 131                              | 55.8 | 63                                  | 02.0 |                                      | 38.4 | 326                                  | 28.1 |                                      | 28.0 |     |   |
| 15  | 146                              | 58.3 | 78                                  | 04.1 |                                      | 38.3 | 341                                  | 30.2 |                                      | 27.8 |     |   |
| 16  | 162                              | 00.7 | 93                                  | 06.2 |                                      | 38.1 | 356                                  | 32.4 |                                      | 27.7 |     |   |
| 17  | 177                              | 03.2 | 108                                 | 08.2 | +17                                  | 38.0 | 11                                   | 34.5 | +7                                   | 27.5 |     |   |
| 18  | 192                              | 05.7 | 123                                 | 10.3 | +17                                  | 37.9 | 26                                   | 36.6 | +7                                   | 27.4 |     |   |
| 19  | 207                              | 08.1 | 138                                 | 12.4 |                                      | 37.8 | 41                                   | 38.7 |                                      | 27.2 |     |   |
| 20  | 222                              | 10.6 | 153                                 | 14.4 |                                      | 37.7 | 56                                   | 40.8 |                                      | 27.1 |     |   |
| 21  | 237                              | 13.1 | 168                                 | 16.5 |                                      | 37.6 | 71                                   | 43.0 |                                      | 26.9 |     |   |
| 22  | 252                              | 15.5 | 183                                 | 18.6 |                                      | 37.5 | 86                                   | 45.1 |                                      | 26.8 |     |   |
| 23  | 267                              | 18.0 | 198                                 | 20.6 |                                      | 37.3 | 101                                  | 47.2 |                                      | 26.7 |     |   |
| 24  | 282                              | 20.5 | 213                                 | 22.7 | +17                                  | 37.2 | 116                                  | 49.3 | +7                                   | 26.5 |     |   |
| Dif | —                                |      | +21                                 | -1   |                                      | +8   | -4                                   | +21  | -1                                   |      | +21 | 0 |

| UT | SOL                                    |      |          | ☉ LUNA                                                                                                                                         |      |             | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |      |      | Puesta de Luna |    |   |   |   |
|----|----------------------------------------|------|----------|------------------------------------------------------------------------------------------------------------------------------------------------|------|-------------|---------|---------------|----------------------|-------|---------|----------------|------|------|----------------|----|---|---|---|
|    | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 16 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 60 <sup>h</sup> 6<br>12 <sup>h</sup> : 60 <sup>h</sup> 3<br>20 <sup>h</sup> : 60 <sup>h</sup> 1 |      |             |         |               |                      |       |         |                |      |      |                |    |   |   |   |
|    | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 4 |      |          | SD: 16 <sup>h</sup> 5<br>PMG: 1 <sup>h</sup> 46 <sup>m</sup> R°: 59 <sup>m</sup>                                                               |      |             |         |               |                      |       |         |                |      |      |                |    |   |   |   |
|    | hG ☉                                   |      | Dec      | hG ☾                                                                                                                                           |      | Dif         | Dec     | Dif           |                      | Civil | Náutico | Hora           | R°   | Hora | R°             |    |   |   |   |
| h  | °                                      | '    | °        | °                                                                                                                                              | '    | °           | °       | '             | °                    | h     | m       | h              | m    | h    | m              | m  | h | m | m |
| 0  | 178                                    | 54.6 | +22 52.0 | 334                                                                                                                                            | 33.5 | -24 06.8    | 60 N    | 21 22         | 22 55                | ** ** | 23 15   | 4              | 4 37 | 113  |                |    |   |   |   |
| 1  | 193                                    | 54.5 | 51.7     | 348                                                                                                                                            | 56.3 | 38 -23 57.9 | 58      | 21 03         | 22 14                | ** ** | 23 01   | 9              | 4 57 | 106  |                |    |   |   |   |
| 2  | 208                                    | 54.4 | 51.5     | 3                                                                                                                                              | 19.3 | 40 48.8     | 56      | 20 47         | 21 47                | ** ** | 22 49   | 13             | 5 14 | 100  |                |    |   |   |   |
| 3  | 223                                    | 54.2 | 51.3     | 17                                                                                                                                             | 42.4 | 41 39.6     | 54      | 33            | 26                   | 23 01 | 38      | 17             | 29   | 95   |                |    |   |   |   |
| 4  | 238                                    | 54.1 | 51.1     | 32                                                                                                                                             | 05.7 | 43 30.2     | 52      | 22            | 21 09                | 22 23 | 29      | 20             | 41   | 92   |                |    |   |   |   |
| 5  | 253                                    | 54.0 | +22 50.8 | 46                                                                                                                                             | 29.1 | 44 -23 20.6 | 50      | 20 11         | 20 55                | 21 58 | 22 20   | 23             | 5 52 | 89   |                |    |   |   |   |
| 6  | 268                                    | 53.9 | +22 50.6 | 60                                                                                                                                             | 52.6 | 45 -23 10.9 | 45      | 19 50         | 20 26                | 21 15 | 22 02   | 28             | 6 15 | 83   |                |    |   |   |   |
| 7  | 283                                    | 53.8 | 50.4     | 75                                                                                                                                             | 16.3 | 47 -23 01.1 | 40      | 32            | 20 05                | 20 46 | 21 47   | 33             | 33   | 78   |                |    |   |   |   |
| 8  | 298                                    | 53.7 | 50.2     | 89                                                                                                                                             | 40.0 | 47 -22 51.1 | 35      | 18            | 19 47                | 23    | 34      | 37             | 6 48 | 75   |                |    |   |   |   |
| 9  | 313                                    | 53.6 | 49.9     | 104                                                                                                                                            | 04.0 | 50 40.9     | 30      | 19 05         | 32                   | 20 05 | 23 40   | 7              | 7 01 | 72   |                |    |   |   |   |
| 10 | 328                                    | 53.5 | 49.7     | 118                                                                                                                                            | 28.0 | 50 30.6     | 20      | 18 44         | 19 08                | 19 37 | 21 04   | 45             | 24   | 66   |                |    |   |   |   |
| 11 | 343                                    | 53.4 | +22 49.5 | 132                                                                                                                                            | 52.2 | 52 -22 20.2 | 10 N    | 18 25         | 18 48                | 19 15 | 20 47   | 50             | 7 43 | 61   |                |    |   |   |   |
| 12 | 358                                    | 53.3 | +22 49.3 | 147                                                                                                                                            | 16.5 | 53 -22 09.6 | 0       | 18 08         | 18 31                | 18 57 | 20 31   | 55             | 8 01 | 57   |                |    |   |   |   |
| 13 | 13                                     | 53.2 | 49.0     | 161                                                                                                                                            | 41.0 | 55 -21 58.9 | 10 S    | 17 51         | 18 14                | 40    | 20 16   | 58             | 18   | 54   |                |    |   |   |   |
| 14 | 28                                     | 53.0 | 48.8     | 176                                                                                                                                            | 05.6 | 56 48.1     | 20      | 33            | 17 57                | 24    | 19 59   | 63             | 37   | 49   |                |    |   |   |   |
| 15 | 43                                     | 52.9 | 48.6     | 190                                                                                                                                            | 30.3 | 57 37.1     | 30      | 13            | 39                   | 09    | 39      | 69             | 8    | 59   | 43             |    |   |   |   |
| 16 | 58                                     | 52.8 | 48.3     | 204                                                                                                                                            | 55.2 | 59 26.0     | 35      | 17 01         | 29                   | 18 00 | 28      | 72             | 9    | 11   | 41             |    |   |   |   |
| 17 | 73                                     | 52.7 | +22 48.1 | 219                                                                                                                                            | 20.2 | 60 -21 14.8 | 40      | 16 47         | 17 17                | 17 51 | 19 14   | 77             | 9    | 26   | 36             |    |   |   |   |
| 18 | 88                                     | 52.6 | +22 47.9 | 233                                                                                                                                            | 45.4 | 62 -21 03.4 | 45      | 16 31         | 17 04                | 17 41 | 18 59   | 81             | 9    | 43   | 32             |    |   |   |   |
| 19 | 103                                    | 52.5 | 47.7     | 248                                                                                                                                            | 10.7 | 63 -20 52.0 | 50      | 11            | 16 49                | 30    | 39      | 87             | 10   | 03   | 27             |    |   |   |   |
| 20 | 118                                    | 52.4 | 47.4     | 262                                                                                                                                            | 36.1 | 64 40.4     | 52      | 16 01         | 42                   | 25    | 30      | 90             | 13   | 24   |                |    |   |   |   |
| 21 | 133                                    | 52.3 | 47.2     | 277                                                                                                                                            | 01.7 | 66 28.7     | 54      | 15 50         | 34                   | 20    | 20      | 93             | 24   | 21   |                |    |   |   |   |
| 22 | 148                                    | 52.2 | 46.9     | 291                                                                                                                                            | 27.4 | 67 16.8     | 56      | 38            | 25                   | 14    | 18      | 08             | 97   | 37   | 17             |    |   |   |   |
| 23 | 163                                    | 52.1 | 46.7     | 305                                                                                                                                            | 53.2 | 68 -20 04.9 | 58      | 24            | 15                   | 07    | 17      | 54             | 102  | 10   | 51             | 12 |   |   |   |
| 24 | 178                                    | 52.0 | +22 46.5 | 320                                                                                                                                            | 19.2 | 70 -19 52.8 | 60 S    | 15 08         | 16 04                | 17 00 | 17      | 38             | 108  | 11   | 08             | 7  |   |   |   |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 5 <sup>h</sup> 09 <sup>m</sup> 8 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 45 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 46 <sup>m</sup> |      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 10 <sup>m</sup> |      | Mag: +0.1<br>PMG: 12 <sup>h</sup> 19 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                             |      | hG ♂                                              |      | hG ♃                                              |      | hG ♄                                              |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 282                                   | 20.5 | 213                                              | 22.7 | 153                                               | 15.3 | 116                                               | 49.3 | 174                                               | 46.9 |
| 1   | 297                                   | 22.9 | 228                                              | 24.7 | 168                                               | 16.2 | 131                                               | 51.4 | 189                                               | 49.0 |
| 2   | 312                                   | 25.4 | 243                                              | 26.8 | 183                                               | 17.0 | 146                                               | 53.6 | 204                                               | 51.1 |
| 3   | 327                                   | 27.8 | 258                                              | 28.8 | 198                                               | 17.9 | 161                                               | 55.7 | 219                                               | 53.2 |
| 4   | 342                                   | 30.3 | 273                                              | 30.8 | 213                                               | 18.7 | 176                                               | 57.8 | 234                                               | 55.3 |
| 5   | 357                                   | 32.8 | 288                                              | 32.9 | 228                                               | 19.6 | 191                                               | 59.9 | 249                                               | 57.5 |
| 6   | 12                                    | 35.2 | 303                                              | 34.9 | 243                                               | 20.4 | 207                                               | 02.0 | 264                                               | 59.6 |
| 7   | 27                                    | 37.7 | 318                                              | 36.9 | 258                                               | 21.3 | 222                                               | 04.2 | 280                                               | 01.7 |
| 8   | 42                                    | 40.2 | 333                                              | 39.0 | 273                                               | 22.1 | 237                                               | 06.3 | 295                                               | 03.8 |
| 9   | 57                                    | 42.6 | 348                                              | 41.0 | 288                                               | 23.0 | 252                                               | 08.4 | 310                                               | 05.9 |
| 10  | 72                                    | 45.1 | 3                                                | 43.0 | 303                                               | 23.8 | 267                                               | 10.5 | 325                                               | 08.0 |
| 11  | 87                                    | 47.6 | 18                                               | 45.0 | 318                                               | 24.7 | 282                                               | 12.6 | 340                                               | 10.2 |
| 12  | 102                                   | 50.0 | 33                                               | 47.0 | 333                                               | 25.5 | 297                                               | 14.7 | 355                                               | 12.3 |
| 13  | 117                                   | 52.5 | 48                                               | 49.0 | 348                                               | 26.3 | 312                                               | 16.9 | 10                                                | 14.4 |
| 14  | 132                                   | 55.0 | 63                                               | 51.0 | 3                                                 | 27.2 | 327                                               | 19.0 | 25                                                | 16.5 |
| 15  | 147                                   | 57.4 | 78                                               | 53.0 | 18                                                | 28.0 | 342                                               | 21.1 | 40                                                | 18.6 |
| 16  | 162                                   | 59.9 | 93                                               | 55.0 | 33                                                | 28.9 | 357                                               | 23.2 | 55                                                | 20.7 |
| 17  | 178                                   | 02.3 | 108                                              | 57.0 | 48                                                | 29.7 | 12                                                | 25.3 | 70                                                | 22.9 |
| 18  | 193                                   | 04.8 | 123                                              | 59.0 | 63                                                | 30.6 | 27                                                | 27.4 | 85                                                | 25.0 |
| 19  | 208                                   | 07.3 | 139                                              | 01.0 | 78                                                | 31.4 | 42                                                | 29.6 | 100                                               | 27.1 |
| 20  | 223                                   | 09.7 | 154                                              | 02.9 | 93                                                | 32.3 | 57                                                | 31.7 | 115                                               | 29.2 |
| 21  | 238                                   | 12.2 | 169                                              | 04.9 | 108                                               | 33.1 | 72                                                | 33.8 | 130                                               | 31.3 |
| 22  | 253                                   | 14.7 | 184                                              | 06.9 | 123                                               | 34.0 | 87                                                | 35.9 | 145                                               | 33.4 |
| 23  | 268                                   | 17.1 | 199                                              | 08.9 | 138                                               | 34.8 | 102                                               | 38.0 | 160                                               | 35.5 |
| 24  | 283                                   | 19.6 | 214                                              | 10.8 | 153                                               | 35.7 | 117                                               | 40.1 | 175                                               | 37.7 |
| Dif | —                                     |      | +20                                              |      | -1                                                |      | +21                                               |      | -1                                                |      |
|     |                                       |      |                                                  |      | +8                                                |      | -4                                                |      | +21                                               |      |
|     |                                       |      |                                                  |      |                                                   |      |                                                   |      | 0                                                 |      |

| UT | SOL                                                             |      |     | LUNA                                                                                                                                                                                                         |     |                     |     |                         | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |     | Puesta de Luna |     |   |   |
|----|-----------------------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-----|-------------------------|---------|--------------------------|-------|---------------|----------------|-----|----------------|-----|---|---|
|    | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 6 |      |     | Edad: 17 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 59 <sup>m</sup> 8<br>12 <sup>h</sup> : 59 <sup>m</sup> 5<br>20 <sup>h</sup> : 59 <sup>m</sup> 2<br>PMG: 2 <sup>h</sup> 45 <sup>m</sup> R°: 53 <sup>m</sup> |     |                     |     |                         |         |                          |       |               |                |     |                |     |   |   |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                                                         | Dif | Dec                 |     | Dif                     |         | Náutico                  | Civil |               | Hora           | R°  | Hora           | R°  |   |   |
| h  | °                                                               | '    | °   | '                                                                                                                                                                                                            | °   | '                   | °   | '                       | °       | '                        | h     | m             | h              | m   | h              | m   | h | m |
| 0  | 178                                                             | 52.0 | +22 | 46.5                                                                                                                                                                                                         | 320 | 19.2                | -19 | 52.8                    | 60 N    | ** **                    | 1 15  | 2 47          | 23 19          | 2   | 6 30           | 105 |   |   |
| 1  | 193                                                             | 51.9 |     | 46.2                                                                                                                                                                                                         | 334 | 45.3                | 71  | 40.7 <sup>121</sup>     | 58      | ** **                    | 1 55  | 3 06          | 10             | 6   | 43             | 99  |   |   |
| 2  | 208                                                             | 51.8 |     | 46.0                                                                                                                                                                                                         | 349 | 11.6                | 73  | 28.4 <sup>123</sup>     | 56      | ** **                    | 2 22  | 22            | 23 02          | 9   | 6 54           | 95  |   |   |
| 3  | 223                                                             | 51.6 |     | 45.8                                                                                                                                                                                                         | 3   | 38.0                | 74  | 16.0 <sup>124</sup>     | 54      | 1 08                     | 2 43  | 36            | 22 55          | 12  | 7 04           | 91  |   |   |
| 4  | 238                                                             | 51.5 |     | 45.5                                                                                                                                                                                                         | 18  | 04.5                | 75  | -19 03.6 <sup>124</sup> | 52      | 1 46                     | 3 00  | 48            | 49             | 15  | 13             | 88  |   |   |
| 5  | 253                                                             | 51.4 | +22 | 45.3                                                                                                                                                                                                         | 32  | 31.2                | 77  | -18 51.0 <sup>126</sup> | 50      | 2 11                     | 3 14  | 3 58          | 22 43          | 17  | 7 21           | 85  |   |   |
| 6  | 268                                                             | 51.3 | +22 | 45.0                                                                                                                                                                                                         | 46  | 58.0                | 78  | -18 38.3 <sup>127</sup> | 45      | 2 54                     | 3 43  | 4 20          | 22 30          | 23  | 7 38           | 79  |   |   |
| 7  | 283                                                             | 51.2 |     | 44.8                                                                                                                                                                                                         | 61  | 24.9                | 79  | 25.6 <sup>127</sup>     | 40      | 3 23                     | 4 05  | 37            | 20             | 27  | 7 51           | 74  |   |   |
| 8  | 298                                                             | 51.1 |     | 44.6                                                                                                                                                                                                         | 75  | 52.0                | 81  | -18 12.7 <sup>129</sup> | 35      | 3 46                     | 22    | 4 52          | 11             | 31  | 8 03           | 70  |   |   |
| 9  | 313                                                             | 51.0 |     | 44.3                                                                                                                                                                                                         | 90  | 19.2                | 82  | -17 59.7 <sup>130</sup> | 30      | 4 04                     | 4 37  | 5 04          | 22 03          | 34  | 13             | 67  |   |   |
| 10 | 328                                                             | 50.9 |     | 44.1                                                                                                                                                                                                         | 104 | 46.5                | 83  | 46.7 <sup>130</sup>     | 20      | 32                       | 5 01  | 26            | 21 49          | 40  | 30             | 61  |   |   |
| 11 | 343                                                             | 50.8 | +22 | 43.8                                                                                                                                                                                                         | 119 | 14.0                | 85  | -17 33.6 <sup>131</sup> | 10 N    | 4 54                     | 5 21  | 5 44          | 21 37          | 45  | 8 44           | 57  |   |   |
| 12 | 358                                                             | 50.7 | +22 | 43.6                                                                                                                                                                                                         | 133 | 41.6                | 86  | -17 20.3 <sup>133</sup> | 0       | 5 12                     | 5 39  | 6 01          | 21 26          | 49  | 8 58           | 52  |   |   |
| 13 | 13                                                              | 50.6 |     | 43.3                                                                                                                                                                                                         | 148 | 09.3                | 87  | -17 07.0 <sup>133</sup> | 10 S    | 29                       | 5 55  | 18            | 14             | 54  | 9 12           | 47  |   |   |
| 14 | 28                                                              | 50.5 |     | 43.1                                                                                                                                                                                                         | 162 | 37.2                | 89  | -16 53.7 <sup>133</sup> | 20      | 5 45                     | 6 12  | 36            | 21 02          | 59  | 26             | 42  |   |   |
| 15 | 43                                                              | 50.4 |     | 42.9                                                                                                                                                                                                         | 177 | 05.1                | 89  | 40.2 <sup>135</sup>     | 30      | 6 00                     | 30    | 6 56          | 20 48          | 65  | 42             | 37  |   |   |
| 16 | 58                                                              | 50.3 |     | 42.6                                                                                                                                                                                                         | 191 | 33.3                | 92  | 26.7 <sup>135</sup>     | 35      | 09                       | 40    | 7 08          | 40             | 68  | 9 52           | 33  |   |   |
| 17 | 73                                                              | 50.2 | +22 | 42.4                                                                                                                                                                                                         | 206 | 01.5                | 92  | -16 13.1 <sup>136</sup> | 40      | 6 18                     | 6 52  | 7 22          | 20 31          | 72  | 10 02          | 30  |   |   |
| 18 | 88                                                              | 50.1 | +22 | 42.1                                                                                                                                                                                                         | 220 | 29.9                | 94  | -15 59.4 <sup>137</sup> | 45      | 6 28                     | 7 05  | 7 38          | 20 20          | 76  | 10 15          | 25  |   |   |
| 19 | 103                                                             | 50.0 |     | 41.9                                                                                                                                                                                                         | 234 | 58.3                | 94  | 45.6 <sup>138</sup>     | 50      | 39                       | 20    | 7 58          | 06             | 83  | 30             | 20  |   |   |
| 20 | 118                                                             | 49.9 |     | 41.6                                                                                                                                                                                                         | 249 | 26.9                | 96  | 31.8 <sup>138</sup>     | 52      | 44                       | 27    | 8 07          | 20 00          | 85  | 37             | 18  |   |   |
| 21 | 133                                                             | 49.7 |     | 41.4                                                                                                                                                                                                         | 263 | 55.7                | 98  | 17.9 <sup>139</sup>     | 54      | 49                       | 35    | 18            | 19 53          | 88  | 45             | 14  |   |   |
| 22 | 148                                                             | 49.6 |     | 41.1                                                                                                                                                                                                         | 278 | 24.5                | 98  | -15 04.0 <sup>139</sup> | 56      | 6 55                     | 44    | 30            | 45             | 92  | 10 54          | 11  |   |   |
| 23 | 163                                                             | 49.5 |     | 40.9                                                                                                                                                                                                         | 292 | 53.5 <sup>100</sup> |     | -14 50.0 <sup>140</sup> | 58      | 7 01                     | 7 53  | 8 44          | 36             | 96  | 11 03          | 8   |   |   |
| 24 | 178                                                             | 49.4 | +22 | 40.6                                                                                                                                                                                                         | 307 | 22.6 <sup>101</sup> |     | -14 35.9 <sup>141</sup> | 60 S    | 7 09                     | 8 04  | 9 01          | 19 26          | 100 | 11 15          | 3   |   |   |

| UT  | ARIES                                   |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|-----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG<br>5 <sup>h</sup> 05 <sup>m</sup> 9 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 42 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 45 <sup>m</sup> |      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 07 <sup>m</sup> |      | Mag: +0.1<br>PMG: 12 <sup>h</sup> 16 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                    | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                       | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 283                                     | 19.6 | 214                                              | 10.8 | +17                                               | 35.0 | 153                                               | 35.7 | +19                                               | 41.4 | 117 | 40.1 | +7 | 22.9 | 175 | 37.7 | +22 | 10.2 |
| 1   | 298                                     | 22.1 | 229                                              | 12.8 |                                                   | 34.9 | 168                                               | 36.5 |                                                   | 41.0 | 132 | 42.3 |    | 22.8 | 190 | 39.8 |     | 10.2 |
| 2   | 313                                     | 24.5 | 244                                              | 14.7 |                                                   | 34.8 | 183                                               | 37.4 |                                                   | 40.6 | 147 | 44.4 |    | 22.6 | 205 | 41.9 |     | 10.1 |
| 3   | 328                                     | 27.0 | 259                                              | 16.7 |                                                   | 34.8 | 198                                               | 38.2 |                                                   | 40.2 | 162 | 46.5 |    | 22.5 | 220 | 44.0 |     | 10.1 |
| 4   | 343                                     | 29.5 | 274                                              | 18.6 |                                                   | 34.7 | 213                                               | 39.1 |                                                   | 39.8 | 177 | 48.6 |    | 22.3 | 235 | 46.1 |     | 10.1 |
| 5   | 358                                     | 31.9 | 289                                              | 20.6 | +17                                               | 34.6 | 228                                               | 39.9 | +19                                               | 39.4 | 192 | 50.7 | +7 | 22.2 | 250 | 48.2 | +22 | 10.0 |
| 6   | 13                                      | 34.4 | 304                                              | 22.5 | +17                                               | 34.5 | 243                                               | 40.8 | +19                                               | 39.0 | 207 | 52.8 | +7 | 22.0 | 265 | 50.4 | +22 | 10.0 |
| 7   | 28                                      | 36.8 | 319                                              | 24.5 |                                                   | 34.5 | 258                                               | 41.6 |                                                   | 38.6 | 222 | 55.0 |    | 21.9 | 280 | 52.5 |     | 09.9 |
| 8   | 43                                      | 39.3 | 334                                              | 26.4 |                                                   | 34.4 | 273                                               | 42.5 |                                                   | 38.2 | 237 | 57.1 |    | 21.7 | 295 | 54.6 |     | 09.9 |
| 9   | 58                                      | 41.8 | 349                                              | 28.3 |                                                   | 34.3 | 288                                               | 43.3 |                                                   | 37.8 | 252 | 59.2 |    | 21.6 | 310 | 56.7 |     | 09.9 |
| 10  | 73                                      | 44.2 | 4                                                | 30.3 |                                                   | 34.3 | 303                                               | 44.2 |                                                   | 37.3 | 268 | 01.3 |    | 21.4 | 325 | 58.8 |     | 09.8 |
| 11  | 88                                      | 46.7 | 19                                               | 32.2 | +17                                               | 34.2 | 318                                               | 45.0 | +19                                               | 36.9 | 283 | 03.4 | +7 | 21.3 | 341 | 00.9 | +22 | 09.8 |
| 12  | 103                                     | 49.2 | 34                                               | 34.1 | +17                                               | 34.1 | 333                                               | 45.9 | +19                                               | 36.5 | 298 | 05.5 | +7 | 21.1 | 356 | 03.1 | +22 | 09.8 |
| 13  | 118                                     | 51.6 | 49                                               | 36.0 |                                                   | 34.1 | 348                                               | 46.7 |                                                   | 36.1 | 313 | 07.6 |    | 21.0 | 11  | 05.2 |     | 09.7 |
| 14  | 133                                     | 54.1 | 64                                               | 37.9 |                                                   | 34.0 | 3                                                 | 47.6 |                                                   | 35.7 | 328 | 09.7 |    | 20.8 | 26  | 07.3 |     | 09.7 |
| 15  | 148                                     | 56.6 | 79                                               | 39.9 |                                                   | 33.9 | 18                                                | 48.4 |                                                   | 35.3 | 343 | 11.9 |    | 20.7 | 41  | 09.4 |     | 09.7 |
| 16  | 163                                     | 59.0 | 94                                               | 41.8 |                                                   | 33.9 | 33                                                | 49.3 |                                                   | 34.9 | 358 | 14.0 |    | 20.5 | 56  | 11.5 |     | 09.6 |
| 17  | 179                                     | 01.5 | 109                                              | 43.7 | +17                                               | 33.8 | 48                                                | 50.1 | +19                                               | 34.5 | 13  | 16.1 | +7 | 20.3 | 71  | 13.6 | +22 | 09.6 |
| 18  | 194                                     | 04.0 | 124                                              | 45.6 | +17                                               | 33.8 | 63                                                | 51.0 | +19                                               | 34.1 | 28  | 18.2 | +7 | 20.2 | 86  | 15.8 | +22 | 09.6 |
| 19  | 209                                     | 06.4 | 139                                              | 47.5 |                                                   | 33.7 | 78                                                | 51.8 |                                                   | 33.7 | 43  | 20.3 |    | 20.0 | 101 | 17.9 |     | 09.5 |
| 20  | 224                                     | 08.9 | 154                                              | 49.3 |                                                   | 33.6 | 93                                                | 52.7 |                                                   | 33.3 | 58  | 22.4 |    | 19.9 | 116 | 20.0 |     | 09.5 |
| 21  | 239                                     | 11.3 | 169                                              | 51.2 |                                                   | 33.6 | 108                                               | 53.5 |                                                   | 32.9 | 73  | 24.5 |    | 19.7 | 131 | 22.1 |     | 09.4 |
| 22  | 254                                     | 13.8 | 184                                              | 53.1 |                                                   | 33.5 | 123                                               | 54.4 |                                                   | 32.4 | 88  | 26.6 |    | 19.6 | 146 | 24.2 |     | 09.4 |
| 23  | 269                                     | 16.3 | 199                                              | 55.0 |                                                   | 33.5 | 138                                               | 55.2 |                                                   | 32.0 | 103 | 28.8 |    | 19.4 | 161 | 26.3 |     | 09.4 |
| 24  | 284                                     | 18.7 | 214                                              | 56.9 | +17                                               | 33.4 | 153                                               | 56.1 | +19                                               | 31.6 | 118 | 30.9 | +7 | 19.3 | 176 | 28.4 | +22 | 09.3 |
| Dif | —                                       |      | +19                                              |      | -1                                                |      | +9                                                |      | -4                                                |      | +21 |      | -2 |      | +21 |      | 0   |      |

| UT  | SOL                                    |      |                                                  | LUNA                                                                                                       |                                                         |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                   | Puesta de Luna |          |     |   |     |
|-----|----------------------------------------|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|----------|-----|---|-----|
|     | SD: 15 <sup>h</sup> 7                  |      |                                                  | Edad: 18 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 58/9<br>12 <sup>h</sup> : 58/6<br>20 <sup>h</sup> : 58/3 | SD: 16 <sup>h</sup> 1                                   |                                                   |         |               | Civil                                             |       | Náutico        |                                                   | Hora           |          | R°  |   |     |
|     | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 8 |      |                                                  |                                                                                                            | PMG: 3 <sup>h</sup> 38 <sup>m</sup> R°: 48 <sup>m</sup> |                                                   |         |               |                                                   |       |                |                                                   |                |          |     |   |     |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                       | Dif                                                     | Dec                                               | Dif     |               |                                                   |       |                |                                                   |                |          |     |   |     |
| h   | °                                      | '    | °                                                | °                                                                                                          | '                                                       | °                                                 | '       | °             | h m                                               | h m   | h m            | h m                                               | h m            | m        | h m | m | h m |
| 0   | 178                                    | 49.4 | +22 40.6                                         | 307                                                                                                        | 22.6                                                    | -14 35.9                                          |         | 60 N          | 21 20                                             | 22 50 | ** **          | 23 21                                             | 0              | 8 15     | 96  |   |     |
| 1   | 193                                    | 49.3 |                                                  | 321                                                                                                        | 51.8 <sup>102</sup>                                     | 21.7 <sup>142</sup>                               |         | 58            | 21 01                                             | 22 11 | ** **          | 16                                                | 4              | 22       | 93  |   |     |
| 2   | 208                                    | 49.2 |                                                  | 336                                                                                                        | 21.1 <sup>103</sup>                                     | -14 07.5 <sup>142</sup>                           |         | 56            | 20 45                                             | 21 45 | ** **          | 11                                                | 7              | 29       | 89  |   |     |
| 3   | 223                                    | 49.1 |                                                  | 350                                                                                                        | 50.6 <sup>105</sup>                                     | -13 53.3 <sup>142</sup>                           |         | 54            | 32                                                | 25    | 22 56          | 07                                                | 10             | 35       | 86  |   |     |
| 4   | 238                                    | 49.0 |                                                  | 5                                                                                                          | 20.1 <sup>105</sup>                                     | 39.0 <sup>143</sup>                               |         | 52            | 21                                                | 21 08 | 22 20          | 04                                                | 12             | 41       | 83  |   |     |
| 5   | 253                                    | 48.9 | +22 39.3                                         | 19                                                                                                         | 49.8 <sup>107</sup>                                     | -13 24.6 <sup>144</sup>                           |         | 50            | 20 10                                             | 20 54 | 21 56          | 23 00                                             | 15             | 8 46     | 80  |   |     |
| 6   | 268                                    | 48.8 | +22 39.1                                         | 34                                                                                                         | 19.6 <sup>108</sup>                                     | -13 10.2 <sup>144</sup>                           |         | 45            | 19 49                                             | 20 26 | 21 14          | 22 53                                             | 20             | 8 57     | 74  |   |     |
| 7   | 283                                    | 48.7 |                                                  | 48                                                                                                         | 49.5 <sup>109</sup>                                     | -12 55.8 <sup>144</sup>                           |         | 40            | 32                                                | 20 04 | 20 45          | 47                                                | 24             | 9 05     | 70  |   |     |
| 8   | 298                                    | 48.6 |                                                  | 63                                                                                                         | 19.5 <sup>110</sup>                                     | 41.3 <sup>145</sup>                               |         | 35            | 17                                                | 19 47 | 23             | 42                                                | 27             | 13       | 66  |   |     |
| 9   | 313                                    | 48.5 |                                                  | 77                                                                                                         | 49.6 <sup>111</sup>                                     | 26.7 <sup>146</sup>                               |         | 30            | 19 05                                             | 32    | 20 05          | 37                                                | 30             | 20       | 62  |   |     |
| 10  | 328                                    | 48.4 |                                                  | 92                                                                                                         | 19.8 <sup>112</sup>                                     | -12 12.1 <sup>146</sup>                           |         | 20            | 18 44                                             | 19 08 | 19 37          | 29                                                | 36             | 31       | 57  |   |     |
| 11  | 343                                    | 48.3 | +22 37.8                                         | 106                                                                                                        | 50.1 <sup>113</sup>                                     | -11 57.5 <sup>146</sup>                           |         | 10 N          | 18 25                                             | 18 48 | 19 15          | 22 22                                             | 41             | 9 41     | 52  |   |     |
| 12  | 358                                    | 48.2 | +22 37.5                                         | 121                                                                                                        | 20.5 <sup>114</sup>                                     | -11 42.8 <sup>147</sup>                           |         | 0             | 18 08                                             | 18 31 | 18 57          | 22 15                                             | 46             | 9 50     | 47  |   |     |
| 13  | 13                                     | 48.1 |                                                  | 135                                                                                                        | 51.1 <sup>116</sup>                                     | 28.1 <sup>147</sup>                               |         | 10 S          | 17 52                                             | 18 14 | 41             | 08                                                | 50             | 9 59     | 42  |   |     |
| 14  | 28                                     | 48.0 |                                                  | 150                                                                                                        | 21.7 <sup>116</sup>                                     | -11 13.4 <sup>147</sup>                           |         | 20            | 34                                                | 17 58 | 25             | 22 01                                             | 55             | 10 08    | 38  |   |     |
| 15  | 43                                     | 47.9 |                                                  | 164                                                                                                        | 52.4 <sup>117</sup>                                     | -10 58.6 <sup>148</sup>                           |         | 30            | 13                                                | 40    | 09             | 21 53                                             | 61             | 19       | 32  |   |     |
| 16  | 58                                     | 47.8 |                                                  | 179                                                                                                        | 23.3 <sup>119</sup>                                     | 43.8 <sup>148</sup>                               |         | 35            | 17 02                                             | 30    | 18 01          | 48                                                | 64             | 25       | 29  |   |     |
| 17  | 73                                     | 47.7 | +22 36.2                                         | 193                                                                                                        | 54.2 <sup>119</sup>                                     | -10 28.9 <sup>149</sup>                           |         | 40            | 16 48                                             | 17 18 | 17 52          | 21 43                                             | 67             | 10 32    | 26  |   |     |
| 18  | 88                                     | 47.6 | +22 35.9                                         | 208                                                                                                        | 25.2 <sup>120</sup>                                     | -10 14.1 <sup>148</sup>                           |         | 45            | 16 32                                             | 17 05 | 17 42          | 21 36                                             | 72             | 10 40    | 22  |   |     |
| 19  | 103                                    | 47.5 |                                                  | 222                                                                                                        | 56.3 <sup>121</sup>                                     | -9 59.2 <sup>149</sup>                            |         | 50            | 12                                                | 16 50 | 31             | 29                                                | 77             | 50       | 16  |   |     |
| 20  | 118                                    | 47.4 |                                                  | 237                                                                                                        | 27.5 <sup>122</sup>                                     | 44.2 <sup>150</sup>                               |         | 52            | 16 03                                             | 43    | 26             | 25                                                | 80             | 55       | 13  |   |     |
| 21  | 133                                    | 47.3 |                                                  | 251                                                                                                        | 58.8 <sup>123</sup>                                     | 29.3 <sup>149</sup>                               |         | 54            | 15 52                                             | 35    | 21             | 21                                                | 83             | 10 59    | 12  |   |     |
| 22  | 148                                    | 47.2 |                                                  | 266                                                                                                        | 30.2 <sup>124</sup>                                     | -9 14.3 <sup>150</sup>                            |         | 56            | 40                                                | 27    | 15             | 17                                                | 86             | 11 05    | 8   |   |     |
| 23  | 163                                    | 47.1 |                                                  | 281                                                                                                        | 01.7 <sup>125</sup>                                     | -8 59.3 <sup>150</sup>                            |         | 58            | 27                                                | 17    | 09             | 12                                                | 89             | 11       | 5   |   |     |
| 24  | 178                                    | 47.0 | +22 34.3                                         | 295                                                                                                        | 33.3 <sup>126</sup>                                     | -8 44.2 <sup>151</sup>                            |         | 60 S          | 15 10                                             | 16 06 | 17 02          | 21 06                                             | 93             | 11 18    | 1   |   |     |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                            |                                                         | MARTE                                             |         |               | JÚPITER                                           |       |                | SATURNO                                           |                |          |     |   |     |
|     | PMG: 5 <sup>h</sup> 01 <sup>m</sup> 9  |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup> |                                                                                                            |                                                         | Mag: +1.8<br>PMG: 13 <sup>h</sup> 43 <sup>m</sup> |         |               | Mag: -1.9<br>PMG: 16 <sup>h</sup> 04 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> |                |          |     |   |     |
|     | hG ♈                                   |      | hG ♀                                             | Dec                                                                                                        |                                                         | hG ♂                                              | Dec     |               | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |          |     |   |     |
| h   | °                                      | '    | °                                                | '                                                                                                          | °                                                       | °                                                 | '       | °             | °                                                 | '     | °              | '                                                 | °              | '        | °   | ' | °   |
| 0   | 284                                    | 18.7 | 214                                              | 56.9                                                                                                       | +17 33.4                                                | 153                                               | 56.1    | +19 31.6      | 118                                               | 30.9  | +7 19.3        | 176                                               | 28.4           | +22 09.3 |     |   |     |
| 1   | 299                                    | 21.2 | 229                                              | 58.8                                                                                                       | 33.4                                                    | 168                                               | 56.9    | 31.2          | 133                                               | 33.0  | 19.1           | 191                                               | 30.6           | 09.3     |     |   |     |
| 2   | 314                                    | 23.7 | 245                                              | 00.6                                                                                                       | 33.3                                                    | 183                                               | 57.8    | 30.8          | 148                                               | 35.1  | 19.0           | 206                                               | 32.7           | 09.3     |     |   |     |
| 3   | 329                                    | 26.1 | 260                                              | 02.5                                                                                                       | 33.3                                                    | 198                                               | 58.6    | 30.4          | 163                                               | 37.2  | 18.8           | 221                                               | 34.8           | 09.2     |     |   |     |
| 4   | 344                                    | 28.6 | 275                                              | 04.4                                                                                                       | 33.2                                                    | 213                                               | 59.5    | 30.0          | 178                                               | 39.3  | 18.7           | 236                                               | 36.9           | 09.2     |     |   |     |
| 5   | 359                                    | 31.1 | 290                                              | 06.2                                                                                                       | +17 33.2                                                | 229                                               | 00.3    | +19 29.6      | 193                                               | 41.4  | +7 18.5        | 251                                               | 39.0           | +22 09.2 |     |   |     |
| 6   | 14                                     | 33.5 | 305                                              | 08.1                                                                                                       | +17 33.1                                                | 244                                               | 01.2    | +19 29.2      | 208                                               | 43.5  | +7 18.4        | 266                                               | 41.1           | +22 09.1 |     |   |     |
| 7   | 29                                     | 36.0 | 320                                              | 09.9                                                                                                       | 33.1                                                    | 259                                               | 02.1    | 28.7          | 223                                               | 45.7  | 18.2           | 281                                               | 43.3           | 09.1     |     |   |     |
| 8   | 44                                     | 38.4 | 335                                              | 11.8                                                                                                       | 33.1                                                    | 274                                               | 02.9    | 28.3          | 238                                               | 47.8  | 18.1           | 296                                               | 45.4           | 09.0     |     |   |     |
| 9   | 59                                     | 40.9 | 350                                              | 13.6                                                                                                       | 33.0                                                    | 289                                               | 03.8    | 27.9          | 253                                               | 49.9  | 17.9           | 311                                               | 47.5           | 09.0     |     |   |     |
| 10  | 74                                     | 43.4 | 5                                                | 15.5                                                                                                       | 33.0                                                    | 304                                               | 04.6    | 27.5          | 268                                               | 52.0  | 17.8           | 326                                               | 49.6           | 09.0     |     |   |     |
| 11  | 89                                     | 45.8 | 20                                               | 17.3                                                                                                       | +17 32.9                                                | 319                                               | 05.5    | +19 27.1      | 283                                               | 54.1  | +7 17.6        | 341                                               | 51.7           | +22 08.9 |     |   |     |
| 12  | 104                                    | 48.3 | 35                                               | 19.1                                                                                                       | +17 32.9                                                | 334                                               | 06.3    | +19 26.7      | 298                                               | 56.2  | +7 17.5        | 356                                               | 53.8           | +22 08.9 |     |   |     |
| 13  | 119                                    | 50.8 | 50                                               | 21.0                                                                                                       | 32.9                                                    | 349                                               | 07.2    | 26.3          | 313                                               | 58.3  | 17.3           | 11                                                | 56.0           | 08.9     |     |   |     |
| 14  | 134                                    | 53.2 | 65                                               | 22.8                                                                                                       | 32.8                                                    | 4                                                 | 08.0    | 25.9          | 329                                               | 00.4  | 17.2           | 26                                                | 58.1           | 08.8     |     |   |     |
| 15  | 149                                    | 55.7 | 80                                               | 24.6                                                                                                       | 32.8                                                    | 19                                                | 08.9    | 25.4          | 344                                               | 02.5  | 17.0           | 42                                                | 00.2           | 08.8     |     |   |     |
| 16  | 164                                    | 58.2 | 95                                               | 26.4                                                                                                       | 32.8                                                    | 34                                                | 09.7    | 25.0          | 359                                               | 04.6  | 16.8           | 57                                                | 02.3           | 08.8     |     |   |     |
| 17  | 180                                    | 00.6 | 110                                              | 28.3                                                                                                       | +17 32.7                                                | 49                                                | 10.6    | +19 24.6      | 14                                                | 06.7  | +7 16.7        | 72                                                | 04.4           | +22 08.7 |     |   |     |
| 18  | 195                                    | 03.1 | 125                                              | 30.1                                                                                                       | +17 32.7                                                | 64                                                | 11.4    | +19 24.2      | 29                                                | 08.9  | +7 16.5        | 87                                                | 06.5           | +22 08.7 |     |   |     |
| 19  | 210                                    | 05.6 | 140                                              | 31.9                                                                                                       | 32.7                                                    | 79                                                | 12.3    | 23.8          | 44                                                | 11.0  | 16.4           | 102                                               | 08.7           | 08.7     |     |   |     |
| 20  | 225                                    | 08.0 | 155                                              | 33.7                                                                                                       | 32.6                                                    | 94                                                | 13.1    | 23.4          | 59                                                | 13.1  | 16.2           | 117                                               | 10.8           | 08.6     |     |   |     |
| 21  | 240                                    | 10.5 | 170                                              | 35.5                                                                                                       | 32.6                                                    | 109                                               | 14.0    | 23.0          | 74                                                | 15.2  | 16.1           | 132                                               | 12.9           | 08.6     |     |   |     |
| 22  | 255                                    | 12.9 | 185                                              | 37.3                                                                                                       | 32.6                                                    | 124                                               | 14.9    | 22.5          | 89                                                | 17.3  | 15.9           | 147                                               | 15.0           | 08.5     |     |   |     |
| 23  | 270                                    | 15.4 | 200                                              | 39.1                                                                                                       | 32.5                                                    | 139                                               | 15.7    | 22.1          | 104                                               | 19.4  | 15.8           | 162                                               | 17.1           | 08.5     |     |   |     |
| 24  | 285                                    | 17.9 | 215                                              | 40.9                                                                                                       | +17 32.5                                                | 154                                               | 16.6    | +19 21.7      | 119                                               | 21.5  | +7 15.6        | 177                                               | 19.2           | +22 08.5 |     |   |     |
| Dif | —                                      |      | +18                                              | 0                                                                                                          |                                                         | +9                                                | -4      |               | +21                                               | -2    |                | +21                                               | 0              |          |     |   |     |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                              |     |                     |     |                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |    |   |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-----|---------------------|---------|--------------------------|------|---------------|----------------|------|----------------|----|---|
|    | SD: 15'7<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 9 |      |     | Edad: 19 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 57'9<br>12 <sup>h</sup> : 57'6<br>20 <sup>h</sup> : 57'3<br>SD: 15'8<br>PMG: 4 <sup>h</sup> 26 <sup>m</sup> R°: 45 <sup>m</sup> |     |                     |     |                     |         |                          |      |               |                |      |                |    |   |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec                 | Dif | Náutico             |         | Civil                    | Hora |               | R°             | Hora | R°             |    |   |
| h  | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °   | '                   | °       | h                        | m    | h             | m              | h    | m              | h  | m |
| 0  | 178                                                | 47.0 | +22 | 34.3                                                                                                                                                                              | 295 | 33.3                | -8  | 44.2                | 60 N    | ** **                    | 1 20 | 2 50          | 23 21          | 1    | 9 51           | 91 |   |
| 1  | 193                                                | 46.9 |     | 34.1                                                                                                                                                                              | 310 | 04.9 <sup>126</sup> |     | 29.2 <sup>150</sup> | 58      | ** **                    | 1 59 | 3 09          | 20 3           |      | 55             | 87 |   |
| 2  | 208                                                | 46.8 |     | 33.8                                                                                                                                                                              | 324 | 36.7 <sup>128</sup> | -8  | 14.1 <sup>151</sup> | 56      | ** **                    | 2 25 | 25            | 18 7           |      | 9 58           | 84 |   |
| 3  | 223                                                | 46.7 |     | 33.5                                                                                                                                                                              | 339 | 08.5 <sup>128</sup> | -7  | 59.0 <sup>151</sup> | 54      | 1 14                     | 2 45 | 38            | 17 9           |      | 10 01          | 81 |   |
| 4  | 238                                                | 46.6 |     | 33.2                                                                                                                                                                              | 353 | 40.4 <sup>129</sup> |     | 43.9 <sup>151</sup> | 52      | 1 50                     | 3 02 | 3 49          | 16 11          |      | 04             | 78 |   |
| 5  | 253                                                | 46.5 | +22 | 33.0                                                                                                                                                                              | 8   | 12.4 <sup>130</sup> | -7  | 28.8 <sup>151</sup> | 50      | 2 14                     | 3 16 | 4 00          | 23 15          | 13   | 10 06          | 76 |   |
| 6  | 268                                                | 46.4 | +22 | 32.7                                                                                                                                                                              | 22  | 44.4 <sup>130</sup> | -7  | 13.7 <sup>151</sup> | 45      | 2 56                     | 3 44 | 4 21          | 23 13          | 18   | 10 11          | 71 |   |
| 7  | 283                                                | 46.3 |     | 32.4                                                                                                                                                                              | 37  | 16.6 <sup>132</sup> | -6  | 58.6 <sup>151</sup> | 40      | 3 25                     | 4 06 | 38            | 11 22          |      | 15             | 67 |   |
| 8  | 298                                                | 46.2 |     | 32.2                                                                                                                                                                              | 51  | 48.8 <sup>132</sup> |     | 43.4 <sup>152</sup> | 35      | 3 47                     | 23   | 4 53          | 09 26          |      | 19             | 63 |   |
| 9  | 313                                                | 46.1 |     | 31.9                                                                                                                                                                              | 66  | 21.1 <sup>133</sup> |     | 28.2 <sup>152</sup> | 30      | 4 05                     | 4 38 | 5 05          | 07 29          |      | 22             | 60 |   |
| 10 | 328                                                | 46.0 |     | 31.6                                                                                                                                                                              | 80  | 53.4 <sup>133</sup> | -6  | 13.1 <sup>151</sup> | 20      | 33                       | 5 02 | 26            | 05 34          |      | 28             | 54 |   |
| 11 | 343                                                | 45.9 | +22 | 31.3                                                                                                                                                                              | 95  | 25.9 <sup>135</sup> | -5  | 57.9 <sup>152</sup> | 10 N    | 4 55                     | 5 22 | 5 44          | 23 03          | 38   | 10 33          | 48 |   |
| 12 | 358                                                | 45.8 | +22 | 31.1                                                                                                                                                                              | 109 | 58.4 <sup>135</sup> | -5  | 42.7 <sup>152</sup> | 0       | 5 13                     | 5 39 | 6 01          | 23 01          | 43   | 10 37          | 44 |   |
| 13 | 13                                                 | 45.7 |     | 30.8                                                                                                                                                                              | 124 | 30.9 <sup>135</sup> |     | 27.5 <sup>152</sup> | 10 S    | 29                       | 5 55 | 18            | 22 58          | 48   | 41             | 40 |   |
| 14 | 28                                                 | 45.6 |     | 30.5                                                                                                                                                                              | 139 | 03.6 <sup>137</sup> | -5  | 12.4 <sup>151</sup> | 20      | 5 45                     | 6 12 | 36            | 56 53          |      | 46             | 35 |   |
| 15 | 43                                                 | 45.5 |     | 30.2                                                                                                                                                                              | 153 | 36.3 <sup>137</sup> | -4  | 57.2 <sup>152</sup> | 30      | 6 00                     | 30   | 6 56          | 54 58          |      | 51             | 30 |   |
| 16 | 58                                                 | 45.4 |     | 29.9                                                                                                                                                                              | 168 | 09.1 <sup>138</sup> |     | 42.0 <sup>152</sup> | 35      | 09                       | 40   | 7 08          | 52 61          |      | 54             | 27 |   |
| 17 | 73                                                 | 45.3 | +22 | 29.7                                                                                                                                                                              | 182 | 41.9 <sup>138</sup> | -4  | 26.8 <sup>152</sup> | 40      | 6 17                     | 6 51 | 7 21          | 22 50          | 65   | 10 58          | 23 |   |
| 18 | 88                                                 | 45.2 | +22 | 29.4                                                                                                                                                                              | 197 | 14.8 <sup>139</sup> | -4  | 11.6 <sup>152</sup> | 45      | 6 27                     | 7 04 | 7 37          | 22 48          | 70   | 11 02          | 18 |   |
| 19 | 103                                                | 45.1 |     | 29.1                                                                                                                                                                              | 211 | 47.7 <sup>139</sup> | -3  | 56.4 <sup>152</sup> | 50      | 38                       | 19   | 7 57          | 46 74          |      | 06             | 14 |   |
| 20 | 118                                                | 45.0 |     | 28.8                                                                                                                                                                              | 226 | 20.8 <sup>141</sup> |     | 41.2 <sup>152</sup> | 52      | 43                       | 26   | 8 06          | 45 77          |      | 08             | 12 |   |
| 21 | 133                                                | 44.9 |     | 28.5                                                                                                                                                                              | 240 | 53.8 <sup>140</sup> |     | 26.0 <sup>152</sup> | 54      | 48                       | 34   | 17            | 44 79          |      | 11             | 9  |   |
| 22 | 148                                                | 44.8 |     | 28.2                                                                                                                                                                              | 255 | 27.0 <sup>142</sup> | -3  | 10.9 <sup>151</sup> | 56      | 6 54                     | 42   | 29            | 43 81          |      | 13             | 7  |   |
| 23 | 163                                                | 44.7 |     | 28.0                                                                                                                                                                              | 270 | 00.1 <sup>141</sup> | -2  | 55.7 <sup>152</sup> | 58      | 7 00                     | 7 52 | 42            | 41 85          |      | 16             | 4  |   |
| 24 | 178                                                | 44.6 | +22 | 27.7                                                                                                                                                                              | 284 | 33.4 <sup>143</sup> | -2  | 40.6 <sup>151</sup> | 60 S    | 7 07                     | 8 03 | 8 59          | 22 39          | 89   | 11 19          | 1  |   |

| UT  | ARIES                                |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |     |      |     |      |     |      |
|-----|--------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|-----|------|-----|------|-----|------|
|     | PMG 4 <sup>h</sup> 58 <sup>m</sup> 0 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 36 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 42 <sup>m</sup> |     |      | Mag: -1.9<br>PMG: 16 <sup>h</sup> 00 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> |     |      |     |      |     |      |
|     | hG ♈                                 |      | hG ♀                                             | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                              | Dec  |     | hG ♄                                              | Dec |      |     |      |     |      |
| h   | °                                    | '    | °                                                | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                 | °   | '    |     |      |     |      |
| 0   | 285                                  | 17.9 | 215                                              | 40.9 | +17 | 32.5                                              | 154 | 16.6 | +19                                               | 21.7 | 119 | 21.5                                              | +7  | 15.6 | 177 | 19.2 | +22 | 08.5 |
| 1   | 300                                  | 20.3 | 230                                              | 42.7 |     | 32.5                                              | 169 | 17.4 |                                                   | 21.3 | 134 | 23.6                                              |     | 15.5 | 192 | 21.3 |     | 08.4 |
| 2   | 315                                  | 22.8 | 245                                              | 44.5 |     | 32.5                                              | 184 | 18.3 |                                                   | 20.9 | 149 | 25.7                                              |     | 15.3 | 207 | 23.5 |     | 08.4 |
| 3   | 330                                  | 25.3 | 260                                              | 46.3 |     | 32.4                                              | 199 | 19.1 |                                                   | 20.5 | 164 | 27.8                                              |     | 15.2 | 222 | 25.6 |     | 08.4 |
| 4   | 345                                  | 27.7 | 275                                              | 48.0 |     | 32.4                                              | 214 | 20.0 |                                                   | 20.0 | 179 | 29.9                                              |     | 15.0 | 237 | 27.7 |     | 08.3 |
| 5   | 0                                    | 30.2 | 290                                              | 49.8 | +17 | 32.4                                              | 229 | 20.8 | +19                                               | 19.6 | 194 | 32.0                                              | +7  | 14.9 | 252 | 29.8 | +22 | 08.3 |
| 6   | 15                                   | 32.7 | 305                                              | 51.6 | +17 | 32.4                                              | 244 | 21.7 | +19                                               | 19.2 | 209 | 34.2                                              | +7  | 14.7 | 267 | 31.9 | +22 | 08.3 |
| 7   | 30                                   | 35.1 | 320                                              | 53.4 |     | 32.4                                              | 259 | 22.6 |                                                   | 18.8 | 224 | 36.3                                              |     | 14.5 | 282 | 34.0 |     | 08.2 |
| 8   | 45                                   | 37.6 | 335                                              | 55.1 |     | 32.4                                              | 274 | 23.4 |                                                   | 18.4 | 239 | 38.4                                              |     | 14.4 | 297 | 36.2 |     | 08.2 |
| 9   | 60                                   | 40.1 | 350                                              | 56.9 |     | 32.3                                              | 289 | 24.3 |                                                   | 18.0 | 254 | 40.5                                              |     | 14.2 | 312 | 38.3 |     | 08.1 |
| 10  | 75                                   | 42.5 | 5                                                | 58.6 |     | 32.3                                              | 304 | 25.1 |                                                   | 17.5 | 269 | 42.6                                              |     | 14.1 | 327 | 40.4 |     | 08.1 |
| 11  | 90                                   | 45.0 | 21                                               | 00.4 | +17 | 32.3                                              | 319 | 26.0 | +19                                               | 17.1 | 284 | 44.7                                              | +7  | 13.9 | 342 | 42.5 | +22 | 08.1 |
| 12  | 105                                  | 47.4 | 36                                               | 02.2 | +17 | 32.3                                              | 334 | 26.8 | +19                                               | 16.7 | 299 | 46.8                                              | +7  | 13.8 | 357 | 44.6 | +22 | 08.0 |
| 13  | 120                                  | 49.9 | 51                                               | 03.9 |     | 32.3                                              | 349 | 27.7 |                                                   | 16.3 | 314 | 48.9                                              |     | 13.6 | 12  | 46.7 |     | 08.0 |
| 14  | 135                                  | 52.4 | 66                                               | 05.7 |     | 32.3                                              | 4   | 28.5 |                                                   | 15.9 | 329 | 51.0                                              |     | 13.5 | 27  | 48.9 |     | 08.0 |
| 15  | 150                                  | 54.8 | 81                                               | 07.4 |     | 32.3                                              | 19  | 29.4 |                                                   | 15.4 | 344 | 53.1                                              |     | 13.3 | 42  | 51.0 |     | 07.9 |
| 16  | 165                                  | 57.3 | 96                                               | 09.1 |     | 32.3                                              | 34  | 30.3 |                                                   | 15.0 | 359 | 55.2                                              |     | 13.2 | 57  | 53.1 |     | 07.9 |
| 17  | 180                                  | 59.8 | 111                                              | 10.9 | +17 | 32.2                                              | 49  | 31.1 | +19                                               | 14.6 | 14  | 57.3                                              | +7  | 13.0 | 72  | 55.2 | +22 | 07.9 |
| 18  | 196                                  | 02.2 | 126                                              | 12.6 | +17 | 32.2                                              | 64  | 32.0 | +19                                               | 14.2 | 29  | 59.4                                              | +7  | 12.8 | 87  | 57.3 | +22 | 07.8 |
| 19  | 211                                  | 04.7 | 141                                              | 14.3 |     | 32.2                                              | 79  | 32.8 |                                                   | 13.8 | 45  | 01.5                                              |     | 12.7 | 102 | 59.4 |     | 07.8 |
| 20  | 226                                  | 07.2 | 156                                              | 16.1 |     | 32.2                                              | 94  | 33.7 |                                                   | 13.3 | 60  | 03.6                                              |     | 12.5 | 118 | 01.5 |     | 07.7 |
| 21  | 241                                  | 09.6 | 171                                              | 17.8 |     | 32.2                                              | 109 | 34.6 |                                                   | 12.9 | 75  | 05.7                                              |     | 12.4 | 133 | 03.7 |     | 07.7 |
| 22  | 256                                  | 12.1 | 186                                              | 19.5 |     | 32.2                                              | 124 | 35.4 |                                                   | 12.5 | 90  | 07.8                                              |     | 12.2 | 148 | 05.8 |     | 07.7 |
| 23  | 271                                  | 14.5 | 201                                              | 21.2 |     | 32.2                                              | 139 | 36.3 |                                                   | 12.1 | 105 | 09.9                                              |     | 12.1 | 163 | 07.9 |     | 07.6 |
| 24  | 286                                  | 17.0 | 216                                              | 22.9 | +17 | 32.2                                              | 154 | 37.1 | +19                                               | 11.7 | 120 | 12.1                                              | +7  | 11.9 | 178 | 10.0 | +22 | 07.6 |
| Dif | —                                    |      | +18                                              |      | 0   |                                                   | +9  |      | -4                                                |      | +21 |                                                   | -2  |      | +21 |      | 0   |      |



| UT  | SOL                                    |      |                                                  | LUNA                    |                                                   |                       | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |         | Salida de Luna |         | Puesta de Luna |          |                     |
|-----|----------------------------------------|------|--------------------------------------------------|-------------------------|---------------------------------------------------|-----------------------|---------------------------------------------------|---------------|---------------------------------------------------|---------|----------------|---------|----------------|----------|---------------------|
|     | SD: 15 <sup>h</sup> 7                  |      |                                                  | Edad: 20 <sup>d</sup> 1 | PHE                                               | SD: 15 <sup>h</sup> 6 |                                                   |               |                                                   |         |                |         |                |          | R°: 43 <sup>m</sup> |
|     | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 1 |      |                                                  |                         |                                                   |                       |                                                   |               |                                                   |         |                |         |                |          |                     |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                    | Dif                                               | Dec                   | Dif                                               |               | Civil                                             | Náutico | Hora           | R°      | Hora           | R°       |                     |
| h   | °                                      | '    | °                                                | °                       | '                                                 | °                     | '                                                 | °             | h m                                               | h m     | h m            | h m     | h m            | m        |                     |
| 0   | 178                                    | 44.6 | +22 27.7                                         | 284                     | 33.4                                              | -2 40.6               | 152                                               | 60 N          | 21 17                                             | 22 44   | ** **          | 23 22   | 0              | 11 22 88 |                     |
| 1   | 193                                    | 44.5 | 27.4                                             | 299                     | 06.7 <sup>143</sup>                               | 25.4                  | 152                                               | 58            | 20 59                                             | 22 08   | ** **          | 23 4    |                | 22 84    |                     |
| 2   | 208                                    | 44.4 | 27.1                                             | 313                     | 40.0 <sup>143</sup>                               | -2 10.3               | 151                                               | 56            | 44                                                | 21 42   | ** **          | 25 6    |                | 22 81    |                     |
| 3   | 223                                    | 44.4 | 26.8                                             | 328                     | 13.4 <sup>144</sup>                               | -1 55.1               | 152                                               | 54            | 31                                                | 22      | 22 51          | 26 9    |                | 22 78    |                     |
| 4   | 238                                    | 44.3 | 26.5                                             | 342                     | 46.8 <sup>144</sup>                               | 40.0                  | 151                                               | 52            | 19                                                | 21 06   | 22 17          | 27 12   |                | 22 75    |                     |
| 5   | 253                                    | 44.2 | +22 26.2                                         | 357                     | 20.3 <sup>145</sup>                               | -1 24.9               | 151                                               | 50            | 20 09                                             | 20 52   | 21 54          | 23 28   | 14             | 11 22 73 |                     |
| 6   | 268                                    | 44.1 | +22 25.9                                         | 11                      | 53.9 <sup>146</sup>                               | -1 09.8               | 151                                               | 45            | 19 48                                             | 20 24   | 21 12          | 23 31   | 18             | 11 22 68 |                     |
| 7   | 283                                    | 44.0 | 25.7                                             | 26                      | 27.4 <sup>145</sup>                               | -0 54.8               | 150                                               | 40            | 31                                                | 20 03   | 20 44          | 33 22   |                | 22 64    |                     |
| 8   | 298                                    | 43.9 | 25.4                                             | 41                      | 01.0 <sup>146</sup>                               | 39.7                  | 151                                               | 35            | 17                                                | 19 46   | 22             | 35 25   |                | 22 60    |                     |
| 9   | 313                                    | 43.8 | 25.1                                             | 55                      | 34.7 <sup>147</sup>                               | 24.7                  | 150                                               | 30            | 19 04                                             | 32      | 20 04          | 36 29   |                | 22 57    |                     |
| 10  | 328                                    | 43.7 | 24.8                                             | 70                      | 08.4 <sup>147</sup>                               | -0 09.6               | 151                                               | 20            | 18 43                                             | 19 08   | 19 37          | 39 34   |                | 22 51    |                     |
| 11  | 343                                    | 43.6 | +22 24.5                                         | 84                      | 42.1 <sup>147</sup>                               | +0 05.4               | 150                                               | 10 N          | 18 25                                             | 18 48   | 19 15          | 23 41   | 39             | 11 21 48 |                     |
| 12  | 358                                    | 43.5 | +22 24.2                                         | 99                      | 15.9 <sup>148</sup>                               | +0 20.3               | 149                                               | 0             | 18 09                                             | 18 31   | 18 57          | 23 44   | 42             | 11 21 43 |                     |
| 13  | 13                                     | 43.4 | 23.9                                             | 113                     | 49.7 <sup>148</sup>                               | 35.3                  | 150                                               | 10 S          | 17 52                                             | 18 15   | 41             | 46 47   |                | 21 39    |                     |
| 14  | 28                                     | 43.3 | 23.6                                             | 128                     | 23.6 <sup>149</sup>                               | +0 50.2               | 149                                               | 20            | 35                                                | 17 58   | 26             | 49 51   |                | 21 34    |                     |
| 15  | 43                                     | 43.2 | 23.3                                             | 142                     | 57.4 <sup>148</sup>                               | +1 05.2               | 150                                               | 30            | 14                                                | 41      | 10             | 52 56   |                | 21 28    |                     |
| 16  | 58                                     | 43.1 | 23.0                                             | 157                     | 31.3 <sup>149</sup>                               | 20.1                  | 149                                               | 35            | 17 03                                             | 31      | 18 02          | 53 60   |                | 21 25    |                     |
| 17  | 73                                     | 43.0 | +22 22.7                                         | 172                     | 05.3 <sup>150</sup>                               | +1 34.9               | 148                                               | 40            | 16 49                                             | 17 19   | 17 53          | 23 55   | 63             | 11 21 22 |                     |
| 18  | 88                                     | 42.9 | +22 22.4                                         | 186                     | 39.2 <sup>149</sup>                               | +1 49.8               | 149                                               | 45            | 16 33                                             | 17 07   | 17 44          | 23 58   | 67             | 11 20 19 |                     |
| 19  | 103                                    | 42.8 | 22.1                                             | 201                     | 13.2 <sup>150</sup>                               | +2 04.6               | 148                                               | 50            | 14                                                | 16 52   | 33             | ** ** * | **             | 20 14    |                     |
| 20  | 118                                    | 42.7 | 21.8                                             | 215                     | 47.3 <sup>151</sup>                               | 19.4                  | 148                                               | 52            | 16 05                                             | 45      | 28             | ** ** * | **             | 20 11    |                     |
| 21  | 133                                    | 42.7 | 21.5                                             | 230                     | 21.3 <sup>150</sup>                               | 34.1                  | 147                                               | 54            | 15 54                                             | 37      | 23             | ** ** * | **             | 20 9     |                     |
| 22  | 148                                    | 42.6 | 21.2                                             | 244                     | 55.4 <sup>151</sup>                               | +2 48.9               | 148                                               | 56            | 43                                                | 29      | 17             | ** ** * | **             | 20 6     |                     |
| 23  | 163                                    | 42.5 | 20.9                                             | 259                     | 29.5 <sup>151</sup>                               | +3 03.6               | 147                                               | 58            | 29                                                | 19      | 11             | ** ** * | **             | 20 3     |                     |
| 24  | 178                                    | 42.4 | +22 20.6                                         | 274                     | 03.6 <sup>151</sup>                               | +3 18.3               | 147                                               | 60 S          | 15 13                                             | 16 08   | 17 04          | ** ** * | **             | 11 20 0  |                     |
| UT  | ARIES                                  |      | VENUS                                            |                         | MARTE                                             |                       | JÚPITER                                           |               | SATURNO                                           |         |                |         |                |          |                     |
|     | PMG: 4 <sup>h</sup> 54 <sup>m</sup> 1  |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 33 <sup>m</sup> |                         | Mag: +1.8<br>PMG: 13 <sup>h</sup> 41 <sup>m</sup> |                       | Mag: -1.9<br>PMG: 15 <sup>h</sup> 57 <sup>m</sup> |               | Mag: +0.1<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> |         |                |         |                |          |                     |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec                     | hG ♂                                              | Dec                   | hG ♃                                              | Dec           | hG ♄                                              | Dec     |                |         |                |          |                     |
| h   | °                                      | '    | °                                                | '                       | °                                                 | '                     | °                                                 | '             | °                                                 | '       |                |         |                |          |                     |
| 0   | 286                                    | 17.0 | 216                                              | 22.9                    | 154                                               | 37.1                  | 120                                               | 12.1          | 178                                               | 10.0    |                |         |                |          |                     |
| 1   | 301                                    | 19.5 | 231                                              | 24.6                    | 169                                               | 38.0                  | 135                                               | 14.2          | 193                                               | 12.1    |                |         |                |          |                     |
| 2   | 316                                    | 21.9 | 246                                              | 26.3                    | 184                                               | 38.8                  | 150                                               | 16.3          | 208                                               | 14.2    |                |         |                |          |                     |
| 3   | 331                                    | 24.4 | 261                                              | 28.1                    | 199                                               | 39.7                  | 165                                               | 18.4          | 223                                               | 16.4    |                |         |                |          |                     |
| 4   | 346                                    | 26.9 | 276                                              | 29.8                    | 214                                               | 40.6                  | 180                                               | 20.5          | 238                                               | 18.5    |                |         |                |          |                     |
| 5   | 1                                      | 29.3 | 291                                              | 31.4                    | 229                                               | 41.4                  | 195                                               | 22.6          | 253                                               | 20.6    |                |         |                |          |                     |
| 6   | 16                                     | 31.8 | 306                                              | 33.1                    | 244                                               | 42.3                  | 210                                               | 24.7          | 268                                               | 22.7    |                |         |                |          |                     |
| 7   | 31                                     | 34.3 | 321                                              | 34.8                    | 259                                               | 43.1                  | 225                                               | 26.8          | 283                                               | 24.8    |                |         |                |          |                     |
| 8   | 46                                     | 36.7 | 336                                              | 36.5                    | 274                                               | 44.0                  | 240                                               | 28.9          | 298                                               | 26.9    |                |         |                |          |                     |
| 9   | 61                                     | 39.2 | 351                                              | 38.2                    | 289                                               | 44.9                  | 255                                               | 31.0          | 313                                               | 29.0    |                |         |                |          |                     |
| 10  | 76                                     | 41.7 | 6                                                | 39.9                    | 304                                               | 45.7                  | 270                                               | 33.1          | 328                                               | 31.2    |                |         |                |          |                     |
| 11  | 91                                     | 44.1 | 21                                               | 41.6                    | 319                                               | 46.6                  | 285                                               | 35.2          | 343                                               | 33.3    |                |         |                |          |                     |
| 12  | 106                                    | 46.6 | 36                                               | 43.2                    | 334                                               | 47.4                  | 300                                               | 37.3          | 358                                               | 35.4    |                |         |                |          |                     |
| 13  | 121                                    | 49.0 | 51                                               | 44.9                    | 349                                               | 48.3                  | 315                                               | 39.4          | 13                                                | 37.5    |                |         |                |          |                     |
| 14  | 136                                    | 51.5 | 66                                               | 46.6                    | 4                                                 | 49.1                  | 330                                               | 41.5          | 28                                                | 39.6    |                |         |                |          |                     |
| 15  | 151                                    | 54.0 | 81                                               | 48.2                    | 19                                                | 50.0                  | 345                                               | 43.6          | 43                                                | 41.8    |                |         |                |          |                     |
| 16  | 166                                    | 56.4 | 96                                               | 49.9                    | 34                                                | 50.9                  | 0                                                 | 45.7          | 58                                                | 43.9    |                |         |                |          |                     |
| 17  | 181                                    | 58.9 | 111                                              | 51.5                    | 49                                                | 51.7                  | 15                                                | 47.8          | 73                                                | 46.0    |                |         |                |          |                     |
| 18  | 197                                    | 01.4 | 126                                              | 53.2                    | 64                                                | 52.6                  | 30                                                | 49.9          | 88                                                | 48.1    |                |         |                |          |                     |
| 19  | 212                                    | 03.8 | 141                                              | 54.8                    | 79                                                | 53.5                  | 45                                                | 52.0          | 103                                               | 50.2    |                |         |                |          |                     |
| 20  | 227                                    | 06.3 | 156                                              | 56.5                    | 94                                                | 54.3                  | 60                                                | 54.1          | 118                                               | 52.4    |                |         |                |          |                     |
| 21  | 242                                    | 08.8 | 171                                              | 58.1                    | 109                                               | 55.2                  | 75                                                | 56.2          | 133                                               | 54.5    |                |         |                |          |                     |
| 22  | 257                                    | 11.2 | 186                                              | 59.8                    | 124                                               | 56.0                  | 90                                                | 58.3          | 148                                               | 56.6    |                |         |                |          |                     |
| 23  | 272                                    | 13.7 | 202                                              | 01.4                    | 139                                               | 56.9                  | 106                                               | 00.4          | 163                                               | 58.7    |                |         |                |          |                     |
| 24  | 287                                    | 16.1 | 217                                              | 03.0                    | 154                                               | 57.8                  | 121                                               | 02.5          | 179                                               | 00.8    |                |         |                |          |                     |
| Dif | —                                      |      | +17                                              | 0                       | +9                                                | -4                    | +21                                               | -2            | +21                                               | 0       |                |         |                |          |                     |

| UT  | SOL                                                             |      |                                                  | ☾ LUNA                                                                                                                                                                                                       |      |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |       |       |      |     |      |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|-------|-------|------|-----|------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 2 |      |                                                  | Edad: 21 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 56 <sup>m</sup> 2<br>12 <sup>h</sup> : 55 <sup>m</sup> 9<br>20 <sup>h</sup> : 55 <sup>m</sup> 7<br>PMG: 5 <sup>h</sup> 54 <sup>m</sup> R°: 42 <sup>m</sup> |      |                                                   |         |                          |                                                   |               |                |                                                   |                |       |       |      |     |      |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                                                                                                                                         | Dif  | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                              | R°             | Hora  | R°    |      |     |      |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                            | °    | '                                                 | °       | '                        | h                                                 | m             | h              | m                                                 | h              | m     | h     | m    | m   |      |
| 0   | 178                                                             | 42.4 | +22                                              | 20.6                                                                                                                                                                                                         | 274  | 03.6                                              | +3      | 18.3                     | 60 N                                              | ** **         | 1 27           | 2 53                                              | 23 22          | 1     | 12 50 | 86   |     |      |
| 1   | 193                                                             | 42.3 |                                                  | 20.3                                                                                                                                                                                                         | 288  | 37.7 <sup>151</sup>                               |         | 32.9 <sup>146</sup>      | 58                                                | ** **         | 2 03           | 3 12                                              | 27 5           |       | 46 83 |      |     |      |
| 2   | 208                                                             | 42.2 |                                                  | 20.0                                                                                                                                                                                                         | 303  | 11.9 <sup>152</sup>                               | +3      | 47.5 <sup>146</sup>      | 56                                                | ** **         | 28             | 27                                                | 31 8           |       | 43 80 |      |     |      |
| 3   | 223                                                             | 42.1 |                                                  | 19.7                                                                                                                                                                                                         | 317  | 46.0 <sup>151</sup>                               | +4      | 02.1 <sup>146</sup>      | 54                                                | 1 19          | 2 48           | 40                                                | 35 11          |       | 40 77 |      |     |      |
| 4   | 238                                                             | 42.0 |                                                  | 19.4                                                                                                                                                                                                         | 332  | 20.2 <sup>152</sup>                               |         | 16.6 <sup>145</sup>      | 52                                                | 1 53          | 3 05           | 3 51                                              | 39 12          |       | 37 75 |      |     |      |
| 5   | 253                                                             | 41.9 | +22                                              | 19.1                                                                                                                                                                                                         | 346  | 54.4 <sup>152</sup>                               | +4      | 31.2 <sup>146</sup>      | 50                                                | 2 17          | 3 18           | 4 02                                              | 23 42          | 15    | 12 35 | 72   |     |      |
| 6   | 268                                                             | 41.8 | +22                                              | 18.8                                                                                                                                                                                                         | 1    | 28.7 <sup>153</sup>                               | +4      | 45.6 <sup>144</sup>      | 45                                                | 2 58          | 3 46           | 4 23                                              | 23 49          | 20    | 12 30 | 67   |     |      |
| 7   | 283                                                             | 41.7 |                                                  | 18.5                                                                                                                                                                                                         | 16   | 02.9 <sup>152</sup>                               | +5      | 00.1 <sup>145</sup>      | 40                                                | 3 27          | 4 07           | 40                                                | 23 55          | 23    | 26 63 |      |     |      |
| 8   | 298                                                             | 41.6 |                                                  | 18.2                                                                                                                                                                                                         | 30   | 37.1 <sup>152</sup>                               |         | 14.5 <sup>144</sup>      | 35                                                | 3 48          | 24             | 4 54                                              | ** **          | ** ** | 22 60 |      |     |      |
| 9   | 313                                                             | 41.6 |                                                  | 17.9                                                                                                                                                                                                         | 45   | 11.4 <sup>153</sup>                               |         | 28.8 <sup>143</sup>      | 30                                                | 4 06          | 4 39           | 5 06                                              | ** **          | ** ** | 19 56 |      |     |      |
| 10  | 328                                                             | 41.5 |                                                  | 17.6                                                                                                                                                                                                         | 59   | 45.6 <sup>152</sup>                               |         | 43.2 <sup>144</sup>      | 20                                                | 34            | 5 03           | 27                                                | ** **          | ** ** | 13 52 |      |     |      |
| 11  | 343                                                             | 41.4 | +22                                              | 17.3                                                                                                                                                                                                         | 74   | 19.9 <sup>153</sup>                               | +5      | 57.5 <sup>143</sup>      | 10 N                                              | 4 55          | 5 22           | 5 45                                              | ** **          | ** ** | 12 09 | 46   |     |      |
| 12  | 358                                                             | 41.3 | +22                                              | 17.0                                                                                                                                                                                                         | 88   | 54.2 <sup>153</sup>                               | +6      | 11.7 <sup>142</sup>      | 0                                                 | 5 13          | 5 39           | 6 02                                              | ** **          | ** ** | 12 04 | 43   |     |      |
| 13  | 13                                                              | 41.2 |                                                  | 16.6                                                                                                                                                                                                         | 103  | 28.5 <sup>153</sup>                               |         | 25.9 <sup>142</sup>      | 10 S                                              | 29            | 5 55           | 18                                                | ** **          | ** ** | 12 00 | 38   |     |      |
| 14  | 28                                                              | 41.1 |                                                  | 16.3                                                                                                                                                                                                         | 118  | 02.8 <sup>153</sup>                               |         | 40.1 <sup>142</sup>      | 20                                                | 5 45          | 6 12           | 36                                                | ** **          | ** ** | 11 55 | 34   |     |      |
| 15  | 43                                                              | 41.0 |                                                  | 16.0                                                                                                                                                                                                         | 132  | 37.0 <sup>152</sup>                               | +6      | 54.2 <sup>141</sup>      | 30                                                | 6 00          | 30             | 6 56                                              | ** **          | ** ** | 49 29 |      |     |      |
| 16  | 58                                                              | 40.9 |                                                  | 15.7                                                                                                                                                                                                         | 147  | 11.3 <sup>153</sup>                               | +7      | 08.3 <sup>141</sup>      | 35                                                | 08            | 40             | 7 07                                              | ** **          | ** ** | 46 26 |      |     |      |
| 17  | 73                                                              | 40.8 | +22                                              | 15.4                                                                                                                                                                                                         | 161  | 45.6 <sup>153</sup>                               | +7      | 22.3 <sup>140</sup>      | 40                                                | 6 17          | 6 51           | 7 21                                              | ** **          | ** ** | 11 43 | 22   |     |      |
| 18  | 88                                                              | 40.7 | +22                                              | 15.1                                                                                                                                                                                                         | 176  | 19.9 <sup>153</sup>                               | +7      | 36.3 <sup>140</sup>      | 45                                                | 6 26          | 7 03           | 7 37                                              | ** **          | ** ** | 11 39 | 18   |     |      |
| 19  | 103                                                             | 40.7 |                                                  | 14.8                                                                                                                                                                                                         | 190  | 54.2 <sup>153</sup>                               | +7      | 50.3 <sup>140</sup>      | 50                                                | 37            | 18             | 7 56                                              | 0 00           | 73    | 34 14 |      |     |      |
| 20  | 118                                                             | 40.6 |                                                  | 14.5                                                                                                                                                                                                         | 205  | 28.5 <sup>153</sup>                               | +8      | 04.2 <sup>139</sup>      | 52                                                | 42            | 25             | 8 05                                              | 02 74          |       | 31 12 |      |     |      |
| 21  | 133                                                             | 40.5 |                                                  | 14.1                                                                                                                                                                                                         | 220  | 02.8 <sup>153</sup>                               |         | 18.1 <sup>139</sup>      | 54                                                | 47            | 33             | 15                                                | 03 77          |       | 29 10 |      |     |      |
| 22  | 148                                                             | 40.4 |                                                  | 13.8                                                                                                                                                                                                         | 234  | 37.1 <sup>153</sup>                               |         | 31.9 <sup>138</sup>      | 56                                                | 53            | 41             | 27                                                | 04 80          |       | 26 7  |      |     |      |
| 23  | 163                                                             | 40.3 |                                                  | 13.5                                                                                                                                                                                                         | 249  | 11.4 <sup>153</sup>                               |         | 45.6 <sup>137</sup>      | 58                                                | 6 59          | 7 50           | 40                                                | 06 83          |       | 23 4  |      |     |      |
| 24  | 178                                                             | 40.2 | +22                                              | 13.2                                                                                                                                                                                                         | 263  | 45.6 <sup>152</sup>                               | +8      | 59.3 <sup>137</sup>      | 60 S                                              | 7 06          | 8 01           | 8 56                                              | 0 08           | 87    | 11 20 | 1    |     |      |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                                                                                                                                              |      | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                           |                |       |       |      |     |      |
|     | PMG<br>4 <sup>h</sup> 50 <sup>m</sup> 1                         |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 31 <sup>m</sup> |                                                                                                                                                                                                              |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 39 <sup>m</sup> |         |                          | Mag: -1.9<br>PMG: 15 <sup>h</sup> 54 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> |                |       |       |      |     |      |
|     | hG ♈                                                            | Dec  | hG ♀                                             | Dec                                                                                                                                                                                                          | hG ♂ | Dec                                               | hG ♃    | Dec                      | hG ♄                                              | Dec           | hG ♅           | Dec                                               |                |       |       |      |     |      |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                            | °    | '                                                 | °       | '                        | °                                                 | '             | °              | '                                                 | °              | '     | °     | '    | °   | '    |
| 0   | 287                                                             | 16.1 | 217                                              | 03.0                                                                                                                                                                                                         | +17  | 32.5                                              | 154     | 57.8                     | +19                                               | 01.5          | 121            | 02.5                                              | +7             | 08.2  | 179   | 00.8 | +22 | 06.7 |
| 1   | 302                                                             | 18.6 | 232                                              | 04.7                                                                                                                                                                                                         |      | 32.5                                              | 169     | 58.6                     |                                                   | 01.1          | 136            | 04.6                                              |                | 08.0  | 194   | 02.9 |     | 06.7 |
| 2   | 317                                                             | 21.1 | 247                                              | 06.3                                                                                                                                                                                                         |      | 32.5                                              | 184     | 59.5                     |                                                   | 00.6          | 151            | 06.7                                              |                | 07.9  | 209   | 05.1 |     | 06.6 |
| 3   | 332                                                             | 23.5 | 262                                              | 07.9                                                                                                                                                                                                         |      | 32.6                                              | 200     | 00.3                     | +19                                               | 00.2          | 166            | 08.8                                              |                | 07.7  | 224   | 07.2 |     | 06.6 |
| 4   | 347                                                             | 26.0 | 277                                              | 09.5                                                                                                                                                                                                         |      | 32.6                                              | 215     | 01.2                     | +18                                               | 59.8          | 181            | 10.9                                              |                | 07.5  | 239   | 09.3 |     | 06.6 |
| 5   | 2                                                               | 28.5 | 292                                              | 11.2                                                                                                                                                                                                         | +17  | 32.6                                              | 230     | 02.1                     | +18                                               | 59.3          | 196            | 13.0                                              | +7             | 07.4  | 254   | 11.4 | +22 | 06.5 |
| 6   | 17                                                              | 30.9 | 307                                              | 12.8                                                                                                                                                                                                         | +17  | 32.7                                              | 245     | 02.9                     | +18                                               | 58.9          | 211            | 15.1                                              | +7             | 07.2  | 269   | 13.5 | +22 | 06.5 |
| 7   | 32                                                              | 33.4 | 322                                              | 14.4                                                                                                                                                                                                         |      | 32.7                                              | 260     | 03.8                     |                                                   | 58.5          | 226            | 17.2                                              |                | 07.1  | 284   | 15.6 |     | 06.5 |
| 8   | 47                                                              | 35.9 | 337                                              | 16.0                                                                                                                                                                                                         |      | 32.7                                              | 275     | 04.6                     |                                                   | 58.1          | 241            | 19.3                                              |                | 06.9  | 299   | 17.7 |     | 06.4 |
| 9   | 62                                                              | 38.3 | 352                                              | 17.6                                                                                                                                                                                                         |      | 32.7                                              | 290     | 05.5                     |                                                   | 57.6          | 256            | 21.4                                              |                | 06.8  | 314   | 19.9 |     | 06.4 |
| 10  | 77                                                              | 40.8 | 7                                                | 19.2                                                                                                                                                                                                         |      | 32.8                                              | 305     | 06.4                     |                                                   | 57.2          | 271            | 23.5                                              |                | 06.6  | 329   | 22.0 |     | 06.3 |
| 11  | 92                                                              | 43.3 | 22                                               | 20.8                                                                                                                                                                                                         | +17  | 32.8                                              | 320     | 07.2                     | +18                                               | 56.8          | 286            | 25.6                                              | +7             | 06.4  | 344   | 24.1 | +22 | 06.3 |
| 12  | 107                                                             | 45.7 | 37                                               | 22.4                                                                                                                                                                                                         | +17  | 32.8                                              | 335     | 08.1                     | +18                                               | 56.3          | 301            | 27.7                                              | +7             | 06.3  | 359   | 26.2 | +22 | 06.3 |
| 13  | 122                                                             | 48.2 | 52                                               | 24.0                                                                                                                                                                                                         |      | 32.9                                              | 350     | 09.0                     |                                                   | 55.9          | 316            | 29.8                                              |                | 06.1  | 14    | 28.3 |     | 06.2 |
| 14  | 137                                                             | 50.6 | 67                                               | 25.6                                                                                                                                                                                                         |      | 32.9                                              | 5       | 09.8                     |                                                   | 55.5          | 331            | 31.9                                              |                | 06.0  | 29    | 30.4 |     | 06.2 |
| 15  | 152                                                             | 53.1 | 82                                               | 27.2                                                                                                                                                                                                         |      | 33.0                                              | 20      | 10.7                     |                                                   | 55.1          | 346            | 34.0                                              |                | 05.8  | 44    | 32.6 |     | 06.2 |
| 16  | 167                                                             | 55.6 | 97                                               | 28.8                                                                                                                                                                                                         |      | 33.0                                              | 35      | 11.5                     |                                                   | 54.6          | 1              | 36.1                                              |                | 05.7  | 59    | 34.7 |     | 06.1 |
| 17  | 182                                                             | 58.0 | 112                                              | 30.3                                                                                                                                                                                                         | +17  | 33.0                                              | 50      | 12.4                     | +18                                               | 54.2          | 16             | 38.2                                              | +7             | 05.5  | 74    | 36.8 | +22 | 06.1 |
| 18  | 198                                                             | 00.5 | 127                                              | 31.9                                                                                                                                                                                                         | +17  | 33.1                                              | 65      | 13.3                     | +18                                               | 53.8          | 31             | 40.3                                              | +7             | 05.3  | 89    | 38.9 | +22 | 06.1 |
| 19  | 213                                                             | 03.0 | 142                                              | 33.5                                                                                                                                                                                                         |      | 33.1                                              | 80      | 14.1                     |                                                   | 53.3          | 46             | 42.4                                              |                | 05.2  | 104   | 41.0 |     | 06.0 |
| 20  | 228                                                             | 05.4 | 157                                              | 35.0                                                                                                                                                                                                         |      | 33.2                                              | 95      | 15.0                     |                                                   | 52.9          | 61             | 44.5                                              |                | 05.0  | 119   | 43.1 |     | 06.0 |
| 21  | 243                                                             | 07.9 | 172                                              | 36.6                                                                                                                                                                                                         |      | 33.2                                              | 110     | 15.9                     |                                                   | 52.5          | 76             | 46.6                                              |                | 04.9  | 134   | 45.2 |     | 05.9 |
| 22  | 258                                                             | 10.4 | 187                                              | 38.2                                                                                                                                                                                                         |      | 33.2                                              | 125     | 16.7                     |                                                   | 52.0          | 91             | 48.7                                              |                | 04.7  | 149   | 47.4 |     | 05.9 |
| 23  | 273                                                             | 12.8 | 202                                              | 39.7                                                                                                                                                                                                         |      | 33.3                                              | 140     | 17.6                     |                                                   | 51.6          | 106            | 50.8                                              |                | 04.5  | 164   | 49.5 |     | 05.9 |
| 24  | 288                                                             | 15.3 | 217                                              | 41.3                                                                                                                                                                                                         | +17  | 33.3                                              | 155     | 18.5                     | +18                                               | 51.2          | 121            | 52.9                                              | +7             | 04.4  | 179   | 51.6 | +22 | 05.8 |
| Dif | —                                                               |      | +16                                              |                                                                                                                                                                                                              | 0    |                                                   | +9      |                          | -4                                                |               | +21            |                                                   | -2             |       | +21   |      |     |      |

| UT  | SOL                                                             |      |                                                  | ☾ LUNA                                                                                                                                                                                              |                                                   |                     | Latitud                                           | Puesta de Sol       | Final del crepúsculo                              |       | Salida de Luna |       | Puesta de Luna |             |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------------------------------------------|-------|----------------|-------|----------------|-------------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 4 |      |                                                  | Edad: 22 <sup>d</sup> 1 PHE {<br>SD: 15 <sup>h</sup> 1<br>PMG: 6 <sup>h</sup> 36 <sup>m</sup> {<br>4 <sup>h</sup> : 55/4<br>12 <sup>h</sup> : 55/2<br>20 <sup>h</sup> : 55/0<br>R°: 43 <sup>m</sup> |                                                   |                     |                                                   |                     |                                                   |       |                |       |                |             |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                                                                                                                                | Dif                                               | Dec                 |                                                   |                     | Dif                                               | Civil | Náutico        | Hora  | R°             | Hora        |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                   | °                                                 | '                   | °                                                 | h m                 | h m                                               | h m   | h m m          | h m m | h m m          | h m m       |
| 0   | 178                                                             | 40.2 | +22                                              | 13.2                                                                                                                                                                                                | 263                                               | 45.6                | +8                                                | 59.3                | 60 N                                              | 21 15 | 22 38          | ** ** | 23 23          | 3 14 16 88  |
| 1   | 193                                                             | 40.1 |                                                  | 12.9                                                                                                                                                                                                | 278                                               | 19.9 <sup>153</sup> | +9                                                | 13.0 <sup>137</sup> | 58                                                | 20 57 | 22 04          | ** ** | 32 6           | 09 83       |
| 2   | 208                                                             | 40.0 |                                                  | 12.6                                                                                                                                                                                                | 292                                               | 54.1 <sup>152</sup> |                                                   | 26.6 <sup>136</sup> | 56                                                | 42    | 21 39          | ** ** | 39 10          | 14 03 79    |
| 3   | 223                                                             | 40.0 |                                                  | 12.2                                                                                                                                                                                                | 307                                               | 28.4 <sup>153</sup> |                                                   | 40.2 <sup>136</sup> | 54                                                | 29    | 20             | 22 46 | 46 12          | 13 57 76    |
| 4   | 238                                                             | 39.9 |                                                  | 11.9                                                                                                                                                                                                | 322                                               | 02.6 <sup>152</sup> | +9                                                | 53.7 <sup>135</sup> | 52                                                | 18    | 21 04          | 22 14 | 51 16          | 52 73       |
| 5   | 253                                                             | 39.8 | +22                                              | 11.6                                                                                                                                                                                                | 336                                               | 36.8 <sup>152</sup> | +10                                               | 07.2 <sup>135</sup> | 50                                                | 20 08 | 20 51          | 21 51 | 23 57          | 17 13 47 71 |
| 6   | 268                                                             | 39.7 | +22                                              | 11.3                                                                                                                                                                                                | 351                                               | 11.1 <sup>153</sup> | +10                                               | 20.6 <sup>134</sup> | 45                                                | 19 47 | 20 23          | 21 11 | ** **          | ** 13 37 66 |
| 7   | 283                                                             | 39.6 |                                                  | 10.9                                                                                                                                                                                                | 5                                                 | 45.2 <sup>151</sup> |                                                   | 33.9 <sup>133</sup> | 40                                                | 30    | 20 02          | 20 43 | ** **          | ** 29 62    |
| 8   | 298                                                             | 39.5 |                                                  | 10.6                                                                                                                                                                                                | 20                                                | 19.4 <sup>152</sup> | +10                                               | 47.2 <sup>133</sup> | 35                                                | 16    | 19 45          | 21    | 0 00           | 27 22 59    |
| 9   | 313                                                             | 39.4 |                                                  | 10.3                                                                                                                                                                                                | 34                                                | 53.6 <sup>152</sup> | +11                                               | 00.5 <sup>133</sup> | 30                                                | 19 04 | 31             | 20 04 | 05 29          | 15 57       |
| 10  | 328                                                             | 39.3 |                                                  | 10.0                                                                                                                                                                                                | 49                                                | 27.7 <sup>151</sup> |                                                   | 13.7 <sup>132</sup> | 20                                                | 18 43 | 19 08          | 19 36 | 13 34          | 13 05 51    |
| 11  | 343                                                             | 39.3 | +22                                              | 09.7                                                                                                                                                                                                | 64                                                | 01.9 <sup>152</sup> | +11                                               | 26.8 <sup>131</sup> | 10 N                                              | 18 26 | 18 48          | 19 15 | 0 20           | 38 12 55 47 |
| 12  | 358                                                             | 39.2 | +22                                              | 09.3                                                                                                                                                                                                | 78                                                | 36.0 <sup>151</sup> | +11                                               | 39.9 <sup>131</sup> | 0                                                 | 18 09 | 18 31          | 18 57 | 0 26           | 43 12 47 43 |
| 13  | 13                                                              | 39.1 |                                                  | 09.0                                                                                                                                                                                                | 93                                                | 10.1 <sup>151</sup> | +11                                               | 52.9 <sup>130</sup> | 10 S                                              | 17 53 | 18 15          | 41    | 33 47          | 38 39       |
| 14  | 28                                                              | 39.0 |                                                  | 08.7                                                                                                                                                                                                | 107                                               | 44.1 <sup>150</sup> | +12                                               | 05.9 <sup>130</sup> | 20                                                | 35    | 17 59          | 26    | 40 51          | 29 35       |
| 15  | 43                                                              | 38.9 |                                                  | 08.3                                                                                                                                                                                                | 122                                               | 18.2 <sup>151</sup> |                                                   | 18.8 <sup>129</sup> | 30                                                | 15    | 41             | 11    | 48 56          | 18 31       |
| 16  | 58                                                              | 38.8 |                                                  | 08.0                                                                                                                                                                                                | 136                                               | 52.2 <sup>150</sup> |                                                   | 31.6 <sup>128</sup> | 35                                                | 17 04 | 32             | 18 03 | 53 59          | 12 28       |
| 17  | 73                                                              | 38.7 | +22                                              | 07.7                                                                                                                                                                                                | 151                                               | 26.2 <sup>150</sup> | +12                                               | 44.4 <sup>128</sup> | 40                                                | 16 51 | 17 21          | 17 54 | 0 58           | 63 12 05 25 |
| 18  | 88                                                              | 38.7 | +22                                              | 07.4                                                                                                                                                                                                | 166                                               | 00.2 <sup>150</sup> | +12                                               | 57.1 <sup>127</sup> | 45                                                | 16 35 | 17 08          | 17 45 | 1 05           | 66 11 57 21 |
| 19  | 103                                                             | 38.6 |                                                  | 07.0                                                                                                                                                                                                | 180                                               | 34.1 <sup>149</sup> | +13                                               | 09.8 <sup>127</sup> | 50                                                | 16    | 16 53          | 34    | 13 71          | 48 16       |
| 20  | 118                                                             | 38.5 |                                                  | 06.7                                                                                                                                                                                                | 195                                               | 08.1 <sup>150</sup> |                                                   | 22.4 <sup>126</sup> | 52                                                | 16 07 | 47             | 30    | 16 74          | 43 14       |
| 21  | 133                                                             | 38.4 |                                                  | 06.4                                                                                                                                                                                                | 209                                               | 42.0 <sup>149</sup> |                                                   | 34.9 <sup>125</sup> | 54                                                | 15 57 | 39             | 24    | 20 77          | 39 11       |
| 22  | 148                                                             | 38.3 |                                                  | 06.0                                                                                                                                                                                                | 224                                               | 15.8 <sup>148</sup> |                                                   | 47.4 <sup>125</sup> | 56                                                | 45    | 31             | 19    | 24 80          | 33 9        |
| 23  | 163                                                             | 38.2 |                                                  | 05.7                                                                                                                                                                                                | 238                                               | 49.7 <sup>149</sup> | +13                                               | 59.8 <sup>124</sup> | 58                                                | 32    | 22             | 13    | 29 83          | 27 6        |
| 24  | 178                                                             | 38.2 | +22                                              | 05.4                                                                                                                                                                                                | 253                                               | 23.5 <sup>148</sup> | +14                                               | 12.1 <sup>123</sup> | 60 S                                              | 15 16 | 16 11          | 17 06 | 1 35           | 87 11 21 1  |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                                                                                                                                     | MARTE                                             |                     | JÚPITER                                           |                     | SATURNO                                           |       |                |       |                |             |
|     | PMG: 4 <sup>h</sup> 46 <sup>m</sup> 2                           |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 28 <sup>m</sup> |                                                                                                                                                                                                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 38 <sup>m</sup> |                     | Mag: -1.9<br>PMG: 15 <sup>h</sup> 50 <sup>m</sup> |                     | Mag: +0.1<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> |       |                |       |                |             |
|     | hG ♈                                                            |      | hG ♀                                             | Dec                                                                                                                                                                                                 | hG ♂                                              | Dec                 | hG ♃                                              | Dec                 | hG ♄                                              | Dec   |                |       |                |             |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                   | °                                                 | '                   | °                                                 | '                   | °                                                 | '     |                |       |                |             |
| 0   | 288                                                             | 15.3 | 217                                              | 41.3                                                                                                                                                                                                | 155                                               | 18.5                | 121                                               | 52.9                | 179                                               | 51.6  |                |       |                |             |
| 1   | 303                                                             | 17.8 | 232                                              | 42.9                                                                                                                                                                                                | 170                                               | 19.3                | 136                                               | 55.0                | 194                                               | 53.7  |                |       |                |             |
| 2   | 318                                                             | 20.2 | 247                                              | 44.4                                                                                                                                                                                                | 185                                               | 20.2                | 151                                               | 57.1                | 209                                               | 55.8  |                |       |                |             |
| 3   | 333                                                             | 22.7 | 262                                              | 46.0                                                                                                                                                                                                | 200                                               | 21.1                | 166                                               | 59.2                | 224                                               | 57.9  |                |       |                |             |
| 4   | 348                                                             | 25.1 | 277                                              | 47.5                                                                                                                                                                                                | 215                                               | 21.9                | 182                                               | 01.3                | 240                                               | 00.1  |                |       |                |             |
| 5   | 3                                                               | 27.6 | 292                                              | 49.0                                                                                                                                                                                                | 230                                               | 22.8                | 197                                               | 03.4                | 255                                               | 02.2  |                |       |                |             |
| 6   | 18                                                              | 30.1 | 307                                              | 50.6                                                                                                                                                                                                | 245                                               | 23.6                | 212                                               | 05.4                | 270                                               | 04.3  |                |       |                |             |
| 7   | 33                                                              | 32.5 | 322                                              | 52.1                                                                                                                                                                                                | 260                                               | 24.5                | 227                                               | 07.5                | 285                                               | 06.4  |                |       |                |             |
| 8   | 48                                                              | 35.0 | 337                                              | 53.6                                                                                                                                                                                                | 275                                               | 25.4                | 242                                               | 09.6                | 300                                               | 08.5  |                |       |                |             |
| 9   | 63                                                              | 37.5 | 352                                              | 55.2                                                                                                                                                                                                | 290                                               | 26.2                | 257                                               | 11.7                | 315                                               | 10.6  |                |       |                |             |
| 10  | 78                                                              | 39.9 | 7                                                | 56.7                                                                                                                                                                                                | 305                                               | 27.1                | 272                                               | 13.8                | 330                                               | 12.8  |                |       |                |             |
| 11  | 93                                                              | 42.4 | 22                                               | 58.2                                                                                                                                                                                                | 320                                               | 28.0                | 287                                               | 15.9                | 345                                               | 14.9  |                |       |                |             |
| 12  | 108                                                             | 44.9 | 37                                               | 59.7                                                                                                                                                                                                | 335                                               | 28.8                | 302                                               | 18.0                | 0                                                 | 17.0  |                |       |                |             |
| 13  | 123                                                             | 47.3 | 53                                               | 01.3                                                                                                                                                                                                | 350                                               | 29.7                | 317                                               | 20.1                | 15                                                | 19.1  |                |       |                |             |
| 14  | 138                                                             | 49.8 | 68                                               | 02.8                                                                                                                                                                                                | 5                                                 | 30.6                | 332                                               | 22.2                | 30                                                | 21.2  |                |       |                |             |
| 15  | 153                                                             | 52.2 | 83                                               | 04.3                                                                                                                                                                                                | 20                                                | 31.4                | 347                                               | 24.3                | 45                                                | 23.3  |                |       |                |             |
| 16  | 168                                                             | 54.7 | 98                                               | 05.8                                                                                                                                                                                                | 35                                                | 32.3                | 2                                                 | 26.4                | 60                                                | 25.5  |                |       |                |             |
| 17  | 183                                                             | 57.2 | 113                                              | 07.3                                                                                                                                                                                                | 50                                                | 33.2                | 17                                                | 28.5                | 75                                                | 27.6  |                |       |                |             |
| 18  | 198                                                             | 59.6 | 128                                              | 08.8                                                                                                                                                                                                | 65                                                | 34.0                | 32                                                | 30.6                | 90                                                | 29.7  |                |       |                |             |
| 19  | 214                                                             | 02.1 | 143                                              | 10.3                                                                                                                                                                                                | 80                                                | 34.9                | 47                                                | 32.7                | 105                                               | 31.8  |                |       |                |             |
| 20  | 229                                                             | 04.6 | 158                                              | 11.8                                                                                                                                                                                                | 95                                                | 35.8                | 62                                                | 34.8                | 120                                               | 33.9  |                |       |                |             |
| 21  | 244                                                             | 07.0 | 173                                              | 13.3                                                                                                                                                                                                | 110                                               | 36.6                | 77                                                | 36.9                | 135                                               | 36.0  |                |       |                |             |
| 22  | 259                                                             | 09.5 | 188                                              | 14.8                                                                                                                                                                                                | 125                                               | 37.5                | 92                                                | 39.0                | 150                                               | 38.1  |                |       |                |             |
| 23  | 274                                                             | 12.0 | 203                                              | 16.3                                                                                                                                                                                                | 140                                               | 38.4                | 107                                               | 41.1                | 165                                               | 40.3  |                |       |                |             |
| 24  | 289                                                             | 14.4 | 218                                              | 17.7                                                                                                                                                                                                | 155                                               | 39.2                | 122                                               | 43.1                | 180                                               | 42.4  |                |       |                |             |
| Dif | —                                                               |      | +15                                              | +1                                                                                                                                                                                                  | +9                                                | -4                  | +21                                               | -2                  | +21                                               | 0     |                |       |                |             |

| UT  | SOL                                                |      |                                                  |      | ☾ LUNA                                                                                                                                                                            |                     |                                                   |                     | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |       | Puesta de Luna                                    |       |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|-------|---------------------------------------------------|-------|-----|------|
|     | SD: 15'7<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 5 |      |                                                  |      | Edad: 23 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 54'9<br>12 <sup>h</sup> : 54'7<br>20 <sup>h</sup> : 54'6<br>SD: 15'0<br>PMG: 7 <sup>h</sup> 19 <sup>m</sup> R°: 45 <sup>m</sup> |                     |                                                   |                     |         |                          |                                                   |               |                |       |                                                   |       |     |      |
|     | hG ☉                                               |      | Dec                                              |      | hG ☾ Dif                                                                                                                                                                          |                     | Dec Dif                                           |                     |         | Náutico                  | Civil                                             |               | Hora           | R°    | Hora                                              | R°    |     |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                                 | '                   | °                                                 | '                   | °       | h m                      | h m                                               | h m           | h m m          | h m m | h m m                                             | h m m |     |      |
| 0   | 178                                                | 38.2 | +22                                              | 05.4 | 253                                                                                                                                                                               | 23.5                | +14                                               | 12.1                | 60 N    | ** **                    | 1 33                                              | 2 57          | 23 26          | 4     | 15 44                                             | 89    |     |      |
| 1   | 193                                                | 38.1 |                                                  | 05.0 | 267                                                                                                                                                                               | 57.3 <sup>148</sup> |                                                   | 24.4 <sup>123</sup> | 58      | ** **                    | 2 07                                              | 3 15          | 38 10          |       | 32 84                                             |       |     |      |
| 2   | 208                                                | 38.0 |                                                  | 04.7 | 282                                                                                                                                                                               | 31.0 <sup>147</sup> |                                                   | 36.6 <sup>122</sup> | 56      | ** **                    | 32                                                | 30            | 49 13          |       | 22 80                                             |       |     |      |
| 3   | 223                                                | 37.9 |                                                  | 04.4 | 297                                                                                                                                                                               | 04.7 <sup>147</sup> | +14                                               | 48.7 <sup>121</sup> | 54      | 1 25                     | 2 51                                              | 42            | 23 58          | 17    | 13 77                                             |       |     |      |
| 4   | 238                                                | 37.8 |                                                  | 04.0 | 311                                                                                                                                                                               | 38.4 <sup>147</sup> | +15                                               | 00.8 <sup>121</sup> | 52      | 1 57                     | 3 07                                              | 3 54          | ** **          | ** *  | 15 05                                             | 74    |     |      |
| 5   | 253                                                | 37.7 | +22                                              | 03.7 | 326                                                                                                                                                                               | 12.1 <sup>147</sup> | +15                                               | 12.8 <sup>120</sup> | 50      | 2 20                     | 3 21                                              | 4 03          | ** **          | ** *  | 14 58                                             | 72    |     |      |
| 6   | 268                                                | 37.7 | +22                                              | 03.4 | 340                                                                                                                                                                               | 45.7 <sup>146</sup> | +15                                               | 24.7 <sup>119</sup> | 45      | 3 00                     | 3 48                                              | 4 24          | 0 09           | 22    | 14 43                                             | 67    |     |      |
| 7   | 283                                                | 37.6 |                                                  | 03.0 | 355                                                                                                                                                                               | 19.3 <sup>146</sup> |                                                   | 36.6 <sup>119</sup> | 40      | 28                       | 4 09                                              | 41            | 18 26          |       | 31 63                                             |       |     |      |
| 8   | 298                                                | 37.5 |                                                  | 02.7 | 9                                                                                                                                                                                 | 52.8 <sup>145</sup> | +15                                               | 48.4 <sup>118</sup> | 35      | 3 50                     | 26                                                | 4 55          | 27 29          |       | 21 59                                             |       |     |      |
| 9   | 313                                                | 37.4 |                                                  | 02.3 | 24                                                                                                                                                                                | 26.3 <sup>145</sup> | +16                                               | 00.1 <sup>117</sup> | 30      | 4 07                     | 4 40                                              | 5 07          | 34 32          |       | 14 12                                             | 56    |     |      |
| 10  | 328                                                | 37.3 |                                                  | 02.0 | 38                                                                                                                                                                                | 59.8 <sup>145</sup> |                                                   | 11.7 <sup>116</sup> | 20      | 35                       | 5 03                                              | 28            | 47 36          |       | 13 56                                             | 52    |     |      |
| 11  | 343                                                | 37.3 | +22                                              | 01.7 | 53                                                                                                                                                                                | 33.2 <sup>144</sup> | +16                                               | 23.3 <sup>116</sup> | 10 N    | 4 56                     | 5 23                                              | 5 45          | 0 58           | 40    | 13 42                                             | 49    |     |      |
| 12  | 358                                                | 37.2 | +22                                              | 01.3 | 68                                                                                                                                                                                | 06.6 <sup>144</sup> | +16                                               | 34.8 <sup>115</sup> | 0       | 5 14                     | 5 40                                              | 6 02          | 1 09           | 44    | 13 30                                             | 45    |     |      |
| 13  | 13                                                 | 37.1 |                                                  | 01.0 | 82                                                                                                                                                                                | 40.0 <sup>144</sup> |                                                   | 46.2 <sup>114</sup> | 10 S    | 30                       | 5 56                                              | 18            | 20 47          |       | 17 42                                             |       |     |      |
| 14  | 28                                                 | 37.0 |                                                  | 00.6 | 97                                                                                                                                                                                | 13.3 <sup>143</sup> | +16                                               | 57.6 <sup>114</sup> | 20      | 5 45                     | 6 12                                              | 36            | 31 52          |       | 13 04                                             | 38    |     |      |
| 15  | 43                                                 | 36.9 | +22                                              | 00.3 | 111                                                                                                                                                                               | 46.6 <sup>143</sup> | +17                                               | 08.8 <sup>112</sup> | 30      | 6 00                     | 29                                                | 6 55          | 44 57          |       | 12 49                                             | 33    |     |      |
| 16  | 58                                                 | 36.8 | +21                                              | 59.9 | 126                                                                                                                                                                               | 19.8 <sup>142</sup> |                                                   | 20.0 <sup>112</sup> | 35      | 08                       | 39                                                | 7 07          | 1 52           | 59    | 40 30                                             |       |     |      |
| 17  | 73                                                 | 36.8 | +21                                              | 59.6 | 140                                                                                                                                                                               | 53.0 <sup>142</sup> | +17                                               | 31.1 <sup>111</sup> | 40      | 6 16                     | 6 50                                              | 7 20          | 2 01           | 63    | 12 30                                             | 27    |     |      |
| 18  | 88                                                 | 36.7 | +21                                              | 59.3 | 155                                                                                                                                                                               | 26.1 <sup>141</sup> | +17                                               | 42.2 <sup>111</sup> | 45      | 6 26                     | 7 02                                              | 7 36          | 2 11           | 67    | 12 18                                             | 24    |     |      |
| 19  | 103                                                | 36.6 |                                                  | 58.9 | 169                                                                                                                                                                               | 59.2 <sup>141</sup> | +17                                               | 53.1 <sup>109</sup> | 50      | 36                       | 17                                                | 7 55          | 24 72          |       | 12 04                                             | 19    |     |      |
| 20  | 118                                                | 36.5 |                                                  | 58.6 | 184                                                                                                                                                                               | 32.3 <sup>141</sup> | +18                                               | 04.0 <sup>109</sup> | 52      | 41                       | 24                                                | 8 04          | 30 74          |       | 11 57                                             | 17    |     |      |
| 21  | 133                                                | 36.4 |                                                  | 58.2 | 199                                                                                                                                                                               | 05.3 <sup>140</sup> |                                                   | 14.8 <sup>108</sup> | 54      | 46                       | 31                                                | 14            | 37 76          |       | 50 14                                             |       |     |      |
| 22  | 148                                                | 36.4 |                                                  | 57.9 | 213                                                                                                                                                                               | 38.3 <sup>140</sup> |                                                   | 25.5 <sup>107</sup> | 56      | 51                       | 39                                                | 25            | 44 80          |       | 42 11                                             |       |     |      |
| 23  | 163                                                | 36.3 |                                                  | 57.5 | 228                                                                                                                                                                               | 11.2 <sup>139</sup> |                                                   | 36.2 <sup>107</sup> | 58      | 6 57                     | 49                                                | 38            | 2 52           | 84    | 33 7                                              |       |     |      |
| 24  | 178                                                | 36.2 | +21                                              | 57.2 | 242                                                                                                                                                                               | 44.0 <sup>138</sup> | +18                                               | 46.7 <sup>105</sup> | 60 S    | 7 04                     | 7 59                                              | 8 54          | 3 02           | 88    | 11 22                                             | 4     |     |      |
| UT  | ARIES                                              |      | VENUS                                            |      |                                                                                                                                                                                   |                     | MARTE                                             |                     |         |                          | JÚPITER                                           |               |                |       | SATURNO                                           |       |     |      |
|     | PMG: 4 <sup>h</sup> 42 <sup>m</sup> 3              |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 26 <sup>m</sup> |      |                                                                                                                                                                                   |                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 37 <sup>m</sup> |                     |         |                          | Mag: -1.8<br>PMG: 15 <sup>h</sup> 47 <sup>m</sup> |               |                |       | Mag: +0.1<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> |       |     |      |
| h   | hG ♈                                               |      | hG ♀                                             |      | Dec                                                                                                                                                                               |                     | hG ♂                                              |                     | Dec     |                          | hG ♃                                              |               | Dec            |       | hG ♄                                              |       | Dec |      |
| 0   | 289                                                | 14.4 | 218                                              | 17.7 | +17                                                                                                                                                                               | 34.7                | 155                                               | 39.2                | +18     | 40.8                     | 122                                               | 43.1          | +7             | 00.6  | 180                                               | 42.4  | +22 | 04.9 |
| 1   | 304                                                | 16.9 | 233                                              | 19.2 |                                                                                                                                                                                   | 34.7                | 170                                               | 40.1                |         | 40.3                     | 137                                               | 45.2          |                | 00.4  | 195                                               | 44.5  |     | 04.9 |
| 2   | 319                                                | 19.4 | 248                                              | 20.7 |                                                                                                                                                                                   | 34.8                | 185                                               | 41.0                |         | 39.9                     | 152                                               | 47.3          |                | 00.2  | 210                                               | 46.6  |     | 04.9 |
| 3   | 334                                                | 21.8 | 263                                              | 22.2 |                                                                                                                                                                                   | 34.9                | 200                                               | 41.8                |         | 39.4                     | 167                                               | 49.4          | +7             | 00.1  | 225                                               | 48.7  |     | 04.8 |
| 4   | 349                                                | 24.3 | 278                                              | 23.6 |                                                                                                                                                                                   | 34.9                | 215                                               | 42.7                |         | 39.0                     | 182                                               | 51.5          | +6             | 59.9  | 240                                               | 50.8  |     | 04.8 |
| 5   | 4                                                  | 26.7 | 293                                              | 25.1 | +17                                                                                                                                                                               | 35.0                | 230                                               | 43.6                | +18     | 38.6                     | 197                                               | 53.6          | +6             | 59.8  | 255                                               | 53.0  | +22 | 04.7 |
| 6   | 19                                                 | 29.2 | 308                                              | 26.6 | +17                                                                                                                                                                               | 35.1                | 245                                               | 44.4                | +18     | 38.1                     | 212                                               | 55.7          | +6             | 59.6  | 270                                               | 55.1  | +22 | 04.7 |
| 7   | 34                                                 | 31.7 | 323                                              | 28.0 |                                                                                                                                                                                   | 35.1                | 260                                               | 45.3                |         | 37.7                     | 227                                               | 57.8          |                | 59.4  | 285                                               | 57.2  |     | 04.7 |
| 8   | 49                                                 | 34.1 | 338                                              | 29.5 |                                                                                                                                                                                   | 35.2                | 275                                               | 46.2                |         | 37.2                     | 242                                               | 59.9          |                | 59.3  | 300                                               | 59.3  |     | 04.6 |
| 9   | 64                                                 | 36.6 | 353                                              | 31.0 |                                                                                                                                                                                   | 35.3                | 290                                               | 47.0                |         | 36.8                     | 258                                               | 02.0          |                | 59.1  | 316                                               | 01.4  |     | 04.6 |
| 10  | 79                                                 | 39.1 | 8                                                | 32.4 |                                                                                                                                                                                   | 35.4                | 305                                               | 47.9                |         | 36.4                     | 273                                               | 04.1          |                | 59.0  | 331                                               | 03.5  |     | 04.6 |
| 11  | 94                                                 | 41.5 | 23                                               | 33.9 | +17                                                                                                                                                                               | 35.4                | 320                                               | 48.8                | +18     | 35.9                     | 288                                               | 06.2          | +6             | 58.8  | 346                                               | 05.7  | +22 | 04.5 |
| 12  | 109                                                | 44.0 | 38                                               | 35.3 | +17                                                                                                                                                                               | 35.5                | 335                                               | 49.6                | +18     | 35.5                     | 303                                               | 08.3          | +6             | 58.6  | 1                                                 | 07.8  | +22 | 04.5 |
| 13  | 124                                                | 46.5 | 53                                               | 36.8 |                                                                                                                                                                                   | 35.6                | 350                                               | 50.5                |         | 35.0                     | 318                                               | 10.3          |                | 58.5  | 16                                                | 09.9  |     | 04.4 |
| 14  | 139                                                | 48.9 | 68                                               | 38.2 |                                                                                                                                                                                   | 35.7                | 5                                                 | 51.4                |         | 34.6                     | 333                                               | 12.4          |                | 58.3  | 31                                                | 12.0  |     | 04.4 |
| 15  | 154                                                | 51.4 | 83                                               | 39.6 |                                                                                                                                                                                   | 35.7                | 20                                                | 52.3                |         | 34.2                     | 348                                               | 14.5          |                | 58.2  | 46                                                | 14.1  |     | 04.4 |
| 16  | 169                                                | 53.9 | 98                                               | 41.1 |                                                                                                                                                                                   | 35.8                | 35                                                | 53.1                |         | 33.7                     | 3                                                 | 16.6          |                | 58.0  | 61                                                | 16.2  |     | 04.3 |
| 17  | 184                                                | 56.3 | 113                                              | 42.5 | +17                                                                                                                                                                               | 35.9                | 50                                                | 54.0                | +18     | 33.3                     | 18                                                | 18.7          | +6             | 57.8  | 76                                                | 18.4  | +22 | 04.3 |
| 18  | 199                                                | 58.8 | 128                                              | 43.9 | +17                                                                                                                                                                               | 36.0                | 65                                                | 54.9                | +18     | 32.8                     | 33                                                | 20.8          | +6             | 57.7  | 91                                                | 20.5  | +22 | 04.3 |
| 19  | 215                                                | 01.2 | 143                                              | 45.4 |                                                                                                                                                                                   | 36.1                | 80                                                | 55.7                |         | 32.4                     | 48                                                | 22.9          |                | 57.5  | 106                                               | 22.6  |     | 04.2 |
| 20  | 230                                                | 03.7 | 158                                              | 46.8 |                                                                                                                                                                                   | 36.1                | 95                                                | 56.6                |         | 32.0                     | 63                                                | 25.0          |                | 57.4  | 121                                               | 24.7  |     | 04.2 |
| 21  | 245                                                | 06.2 | 173                                              | 48.2 |                                                                                                                                                                                   | 36.2                | 110                                               | 57.5                |         | 31.5                     | 78                                                | 27.1          |                | 57.2  | 136                                               | 26.8  |     | 04.1 |
| 22  | 260                                                | 08.6 | 188                                              | 49.6 |                                                                                                                                                                                   | 36.3                | 125                                               | 58.3                |         | 31.1                     | 93                                                | 29.2          |                | 57.0  | 151                                               | 28.9  |     | 04.1 |
| 23  | 275                                                | 11.1 | 203                                              | 51.0 |                                                                                                                                                                                   | 36.4                | 140                                               | 59.2                |         | 30.6                     | 108                                               | 31.2          |                | 56.9  | 166                                               | 31.1  |     | 04.1 |
| 24  | 290                                                | 13.6 | 218                                              | 52.4 | +17                                                                                                                                                                               | 36.5                | 156                                               | 00.1                | +18     | 30.2                     | 123                                               | 33.3          | +6             | 56.7  | 181                                               | 33.2  | +22 | 04.0 |
| Dif | —                                                  |      | +14                                              |      | +1                                                                                                                                                                                |                     | +9                                                |                     | -4      |                          | +21                                               |               | -2             |       | +21                                               |       |     |      |

| UT   | SOL                                    |      |          | ☾ LUNA                                                                                                                                            |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |     | Puesta de Luna |     |
|------|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|---------|----------------|-----|----------------|-----|
|      | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 24 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54 <sup>h</sup> /4<br>12 <sup>h</sup> : 54 <sup>h</sup> /3<br>20 <sup>h</sup> : 54 <sup>h</sup> /2 |                     |                         |         |               |                      |         |                |     |                |     |
|      | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 6 |      |          | SD: 14 <sup>h</sup> 8<br>PMG: 8 <sup>h</sup> 04 <sup>m</sup> R°: 46 <sup>m</sup>                                                                  |                     |                         |         |               | Civil                | Náutico | Hora           | R°  | Hora           | R°  |
| hG ☉ | Dec                                    |      | hG ☾     | Dif                                                                                                                                               |                     | Dec                     | Dif     |               |                      |         |                |     |                |     |
| h    | °                                      | '    | °        | '                                                                                                                                                 | °                   | '                       | °       | h m           | h m                  | h m     | h m            | h m | h m            | h m |
| 0    | 178                                    | 36.2 | +21 57.2 | 242                                                                                                                                               | 44.0                | +18 46.7                | 60 N    | 21 12         | 22 33                | ** **   | 23 30          | 10  | 17 13          | 88  |
| 1    | 193                                    | 36.1 | 56.8     | 257                                                                                                                                               | 16.9 <sup>139</sup> | +18 57.2 <sup>105</sup> | 58      | 20 54         | 22 00                | ** **   | 23 48          | 16  | 16 56          | 82  |
| 2    | 208                                    | 36.1 | 56.5     | 271                                                                                                                                               | 49.7 <sup>138</sup> | +19 07.6 <sup>104</sup> | 56      | 40            | 21 36                | ** **   | ** **          | **  | 42             | 78  |
| 3    | 223                                    | 36.0 | 56.1     | 286                                                                                                                                               | 22.4 <sup>137</sup> | 17.9 <sup>103</sup>     | 54      | 27            | 18                   | 22 41   | ** **          | **  | 30             | 74  |
| 4    | 238                                    | 35.9 | 55.8     | 300                                                                                                                                               | 55.1 <sup>137</sup> | 28.1 <sup>102</sup>     | 52      | 16            | 21 02                | 22 10   | 0 07           | 19  | 19             | 72  |
| 5    | 253                                    | 35.8 | +21 55.4 | 315                                                                                                                                               | 27.7 <sup>136</sup> | +19 38.2 <sup>101</sup> | 50      | 20 06         | 20 49                | 21 48   | 0 14           | 22  | 16 10          | 69  |
| 6    | 268                                    | 35.7 | +21 55.1 | 330                                                                                                                                               | 00.3 <sup>136</sup> | +19 48.3 <sup>101</sup> | 45      | 19 46         | 20 22                | 21 09   | 0 31           | 26  | 15 50          | 65  |
| 7    | 283                                    | 35.7 | 54.7     | 344                                                                                                                                               | 32.8 <sup>135</sup> | +19 58.2 <sup>99</sup>  | 40      | 29            | 20 01                | 20 41   | 44             | 30  | 34             | 61  |
| 8    | 298                                    | 35.6 | 54.4     | 359                                                                                                                                               | 05.3 <sup>135</sup> | +20 08.1 <sup>99</sup>  | 35      | 15            | 19 45                | 20      | 0 56           | 32  | 20             | 59  |
| 9    | 313                                    | 35.5 | 54.0     | 13                                                                                                                                                | 37.8 <sup>135</sup> | 17.9 <sup>98</sup>      | 30      | 19 03         | 30                   | 20 03   | 1 06           | 35  | 15 08          | 57  |
| 10   | 328                                    | 35.4 | 53.6     | 28                                                                                                                                                | 10.1 <sup>133</sup> | 27.6 <sup>97</sup>      | 20      | 18 43         | 19 07                | 19 36   | 23             | 39  | 14 48          | 53  |
| 11   | 343                                    | 35.4 | +21 53.3 | 42                                                                                                                                                | 42.5 <sup>134</sup> | +20 37.2 <sup>96</sup>  | 10 N    | 18 26         | 18 48                | 19 15   | 1 38           | 43  | 14 31          | 50  |
| 12   | 358                                    | 35.3 | +21 52.9 | 57                                                                                                                                                | 14.8 <sup>133</sup> | +20 46.7 <sup>95</sup>  | 0       | 18 09         | 18 32                | 18 57   | 1 53           | 46  | 14 15          | 47  |
| 13   | 13                                     | 35.2 | 52.6     | 71                                                                                                                                                | 47.0 <sup>132</sup> | +20 56.1 <sup>94</sup>  | 10 S    | 17 53         | 16                   | 42      | 2 07           | 50  | 13 59          | 44  |
| 14   | 28                                     | 35.1 | 52.2     | 86                                                                                                                                                | 19.2 <sup>132</sup> | +21 05.4 <sup>93</sup>  | 20      | 36            | 18 00                | 27      | 23             | 53  | 42             | 41  |
| 15   | 43                                     | 35.0 | 51.9     | 100                                                                                                                                               | 51.3 <sup>131</sup> | 14.7 <sup>93</sup>      | 30      | 16            | 17 42                | 12      | 41             | 57  | 22             | 37  |
| 16   | 58                                     | 35.0 | 51.5     | 115                                                                                                                                               | 23.4 <sup>131</sup> | 23.8 <sup>91</sup>      | 35      | 17 05         | 33                   | 18 04   | 2 51           | 60  | 13 10          | 36  |
| 17   | 73                                     | 34.9 | +21 51.1 | 129                                                                                                                                               | 55.4 <sup>130</sup> | +21 32.8 <sup>90</sup>  | 40      | 16 52         | 17 22                | 17 56   | 3 04           | 62  | 12 57          | 33  |
| 18   | 88                                     | 34.8 | +21 50.8 | 144                                                                                                                                               | 27.4 <sup>130</sup> | +21 41.8 <sup>90</sup>  | 45      | 16 37         | 17 10                | 17 46   | 3 18           | 66  | 12 42          | 29  |
| 19   | 103                                    | 34.7 | 50.4     | 158                                                                                                                                               | 59.3 <sup>129</sup> | 50.6 <sup>88</sup>      | 50      | 18            | 16 55                | 36      | 36             | 70  | 23             | 25  |
| 20   | 118                                    | 34.7 | 50.1     | 173                                                                                                                                               | 31.2 <sup>129</sup> | +21 59.4 <sup>88</sup>  | 52      | 16 09         | 48                   | 31      | 44             | 73  | 14             | 23  |
| 21   | 133                                    | 34.6 | 49.7     | 188                                                                                                                                               | 03.0 <sup>128</sup> | +22 08.0 <sup>86</sup>  | 54      | 15 59         | 41                   | 26      | 3 53           | 76  | 12 04          | 20  |
| 22   | 148                                    | 34.5 | 49.3     | 202                                                                                                                                               | 34.7 <sup>127</sup> | 16.6 <sup>86</sup>      | 56      | 48            | 33                   | 21      | 4 04           | 79  | 11 53          | 16  |
| 23   | 163                                    | 34.4 | 49.0     | 217                                                                                                                                               | 06.4 <sup>127</sup> | 25.1 <sup>85</sup>      | 58      | 35            | 24                   | 15      | 16             | 84  | 40             | 12  |
| 24   | 178                                    | 34.4 | +21 48.6 | 231                                                                                                                                               | 38.1 <sup>127</sup> | +22 33.4 <sup>83</sup>  | 60 S    | 15 19         | 16 14                | 17 09   | 4 30           | 90  | 11 26          | 6   |

| UT  | ARIES                                 |          | VENUS                                            |          | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                           |          |
|-----|---------------------------------------|----------|--------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|----------|
|     | PMG: 4 <sup>h</sup> 38 <sup>m</sup> 3 |          | Mag: -4.7<br>PMG: 9 <sup>h</sup> 24 <sup>m</sup> |          | Mag: +1.8<br>PMG: 13 <sup>h</sup> 35 <sup>m</sup> |          | Mag: -1.8<br>PMG: 15 <sup>h</sup> 44 <sup>m</sup> |          | Mag: +0.1<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup> |          |
|     | hG ♈                                  | Dec      | hG ♀                                             | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                              | Dec      |
| h   | °                                     | '        | °                                                | '        | °                                                 | '        | °                                                 | '        | °                                                 | '        |
| 0   | 290                                   | 13.6     | 218 52.4                                         | +17 36.5 | 156 00.1                                          | +18 30.2 | 123 33.3                                          | +6 56.7  | 181 33.2                                          | +22 04.0 |
| 1   | 305                                   | 16.0     | 233 53.9                                         | 36.6     | 171 01.0                                          | 29.8     | 138 35.4                                          | 56.5     | 196 35.3                                          | 04.0     |
| 2   | 320                                   | 18.5     | 248 55.3                                         | 36.6     | 186 01.8                                          | 29.3     | 153 37.5                                          | 56.4     | 211 37.4                                          | 04.0     |
| 3   | 335                                   | 21.0     | 263 56.7                                         | 36.7     | 201 02.7                                          | 28.9     | 168 39.6                                          | 56.2     | 226 39.5                                          | 03.9     |
| 4   | 350                                   | 23.4     | 278 58.1                                         | 36.8     | 216 03.6                                          | 28.4     | 183 41.7                                          | 56.1     | 241 41.6                                          | 03.9     |
| 5   | 5 25.9                                | 293 59.5 | +17 36.9                                         | 231 04.4 | +18 28.0                                          | 198 43.8 | +6 55.9                                           | 256 43.8 | +22 03.8                                          |          |
| 6   | 20 28.4                               | 309 00.9 | +17 37.0                                         | 246 05.3 | +18 27.5                                          | 213 45.9 | +6 55.7                                           | 271 45.9 | +22 03.8                                          |          |
| 7   | 35 30.8                               | 324 02.2 | 37.1                                             | 261 06.2 | 27.1                                              | 228 48.0 | 55.6                                              | 286 48.0 | 03.8                                              |          |
| 8   | 50 33.3                               | 339 03.6 | 37.2                                             | 276 07.0 | 26.6                                              | 243 50.0 | 55.4                                              | 301 50.1 | 03.7                                              |          |
| 9   | 65 35.7                               | 354 05.0 | 37.3                                             | 291 07.9 | 26.2                                              | 258 52.1 | 55.2                                              | 316 52.2 | 03.7                                              |          |
| 10  | 80 38.2                               | 9 06.4   | 37.4                                             | 306 08.8 | 25.8                                              | 273 54.2 | 55.1                                              | 331 54.3 | 03.7                                              |          |
| 11  | 95 40.7                               | 24 07.8  | +17 37.5                                         | 321 09.7 | +18 25.3                                          | 288 56.3 | +6 54.9                                           | 346 56.5 | +22 03.6                                          |          |
| 12  | 110 43.1                              | 39 09.2  | +17 37.5                                         | 336 10.5 | +18 24.9                                          | 303 58.4 | +6 54.8                                           | 1 58.6   | +22 03.6                                          |          |
| 13  | 125 45.6                              | 54 10.5  | 37.6                                             | 351 11.4 | 24.4                                              | 319 00.5 | 54.6                                              | 17 00.7  | 03.5                                              |          |
| 14  | 140 48.1                              | 69 11.9  | 37.7                                             | 6 12.3   | 24.0                                              | 334 02.6 | 54.4                                              | 32 02.8  | 03.5                                              |          |
| 15  | 155 50.5                              | 84 13.3  | 37.8                                             | 21 13.1  | 23.5                                              | 349 04.7 | 54.3                                              | 47 04.9  | 03.5                                              |          |
| 16  | 170 53.0                              | 99 14.6  | 37.9                                             | 36 14.0  | 23.1                                              | 4 06.7   | 54.1                                              | 62 07.0  | 03.4                                              |          |
| 17  | 185 55.5                              | 114 16.0 | +17 38.0                                         | 51 14.9  | +18 22.6                                          | 19 08.8  | +6 54.0                                           | 77 09.2  | +22 03.4                                          |          |
| 18  | 200 57.9                              | 129 17.4 | +17 38.1                                         | 66 15.8  | +18 22.2                                          | 34 10.9  | +6 53.8                                           | 92 11.3  | +22 03.3                                          |          |
| 19  | 216 00.4                              | 144 18.7 | 38.2                                             | 81 16.6  | 21.8                                              | 49 13.0  | 53.6                                              | 107 13.4 | 03.3                                              |          |
| 20  | 231 02.8                              | 159 20.1 | 38.3                                             | 96 17.5  | 21.3                                              | 64 15.1  | 53.5                                              | 122 15.5 | 03.3                                              |          |
| 21  | 246 05.3                              | 174 21.4 | 38.4                                             | 111 18.4 | 20.9                                              | 79 17.2  | 53.3                                              | 137 17.6 | 03.2                                              |          |
| 22  | 261 07.8                              | 189 22.8 | 38.5                                             | 126 19.3 | 20.4                                              | 94 19.3  | 53.1                                              | 152 19.7 | 03.2                                              |          |
| 23  | 276 10.2                              | 204 24.1 | 38.6                                             | 141 20.1 | 20.0                                              | 109 21.4 | 53.0                                              | 167 21.9 | 03.2                                              |          |
| 24  | 291 12.7                              | 219 25.5 | +17 38.7                                         | 156 21.0 | +18 19.5                                          | 124 23.4 | +6 52.8                                           | 182 24.0 | +22 03.1                                          |          |
| Dif | —                                     | +14      | +1                                               | +9       | -4                                                | +21      | -2                                                | +21      | 0                                                 |          |

| UT | SOL                                    |      |          |  LUNA |                                                                                                                           |                       | Latitud | Principio del crepúsculo            |       | Salida de Sol | Salida de Luna      |       | Puesta de Luna |       |    |
|----|----------------------------------------|------|----------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|---------|-------------------------------------|-------|---------------|---------------------|-------|----------------|-------|----|
|    | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 25 <sup>d</sup> 1                                                                | PHE {<br>4 <sup>h</sup> : 54 <sup>m</sup> 2<br>12 <sup>h</sup> : 54 <sup>m</sup> 1<br>20 <sup>h</sup> : 54 <sup>m</sup> 0 |                       |         |                                     |       |               |                     |       |                |       |    |
|    | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 8 |      |          |                                                                                        |                                                                                                                           | SD: 14 <sup>h</sup> 8 |         | PMG: 8 <sup>h</sup> 50 <sup>m</sup> |       |               | R°: 49 <sup>m</sup> |       |                |       |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                   | Dif                                                                                                                       | Dec                   | Dif     | Náutico                             | Civil |               | Hora                | R°    | Hora           | R°    |    |
| h  | °                                      | '    | °        | °                                                                                      | '                                                                                                                         | °                     | '       | h                                   | m     | h             | m                   | h     | m              | h     | m  |
| 0  | 178                                    | 34.4 | +21 48.6 | 231                                                                                    | 38.1                                                                                                                      | +22 33.4              | 83      | 60 N                                | ** *  | 1 39          | 3 00                | 23 40 | 21             | 18 41 | 83 |
| 1  | 193                                    | 34.3 | 48.2     | 246                                                                                    | 09.7 <sup>126</sup>                                                                                                       | 41.7                  | 81      | 58                                  | ** *  | 2 12          | 18                  | ** *  | **             | 18 76 | 76 |
| 2  | 208                                    | 34.2 | 47.9     | 260                                                                                    | 41.2 <sup>125</sup>                                                                                                       | 49.8                  | 81      | 56                                  | 0 32  | 35            | 32                  | 0 02  | 21             | 18 00 | 76 |
| 3  | 223                                    | 34.1 | 47.5     | 275                                                                                    | 12.7 <sup>125</sup>                                                                                                       | +22 57.9              | 81      | 54                                  | 1 31  | 2 54          | 45                  | 15    | 23             | 17 44 | 69 |
| 4  | 238                                    | 34.1 | 47.1     | 289                                                                                    | 44.2 <sup>125</sup>                                                                                                       | +23 05.8              | 79      | 52                                  | 2 01  | 3 10          | 3 56                | 26    | 26             | 31    | 66 |
| 5  | 253                                    | 34.0 | +21 46.8 | 304                                                                                    | 15.5 <sup>123</sup>                                                                                                       | +23 13.7              | 79      | 50                                  | 2 23  | 3 23          | 4 06                | 0 36  | 28             | 17 19 | 65 |
| 6  | 268                                    | 33.9 | +21 46.4 | 318                                                                                    | 46.9 <sup>124</sup>                                                                                                       | +23 21.4              | 77      | 45                                  | 3 03  | 3 50          | 4 26                | 0 57  | 32             | 16 55 | 61 |
| 7  | 283                                    | 33.9 | 46.0     | 333                                                                                    | 18.2 <sup>123</sup>                                                                                                       | 29.1                  | 77      | 40                                  | 30    | 4 10          | 42                  | 1 14  | 35             | 35    | 59 |
| 8  | 298                                    | 33.8 | 45.7     | 347                                                                                    | 49.4 <sup>122</sup>                                                                                                       | 36.6                  | 75      | 35                                  | 3 51  | 27            | 4 56                | 28    | 38             | 19    | 57 |
| 9  | 313                                    | 33.7 | 45.3     | 2                                                                                      | 20.5 <sup>121</sup>                                                                                                       | 44.0                  | 74      | 30                                  | 4 09  | 4 41          | 5 08                | 1 41  | 40             | 16 05 | 56 |
| 10 | 328                                    | 33.6 | 44.9     | 16                                                                                     | 51.7 <sup>122</sup>                                                                                                       | 51.3                  | 73      | 20                                  | 35    | 5 04          | 28                  | 2 02  | 44             | 15 41 | 54 |
| 11 | 343                                    | 33.6 | +21 44.5 | 31                                                                                     | 22.7 <sup>120</sup>                                                                                                       | +23 58.6              | 73      | 10 N                                | 4 56  | 5 23          | 5 46                | 2 21  | 46             | 15 21 | 51 |
| 12 | 358                                    | 33.5 | +21 44.2 | 45                                                                                     | 53.7 <sup>120</sup>                                                                                                       | +24 05.7              | 71      | 0                                   | 5 14  | 5 40          | 6 02                | 2 39  | 48             | 15 02 | 49 |
| 13 | 13                                     | 33.4 | 43.8     | 60                                                                                     | 24.7 <sup>120</sup>                                                                                                       | 12.7                  | 70      | 10 S                                | 30    | 5 56          | 18                  | 2 57  | 50             | 14 43 | 47 |
| 14 | 28                                     | 33.3 | 43.4     | 74                                                                                     | 55.6 <sup>119</sup>                                                                                                       | 19.5                  | 68      | 20                                  | 44    | 6 12          | 35                  | 3 16  | 53             | 14 23 | 45 |
| 15 | 43                                     | 33.3 | 43.0     | 89                                                                                     | 26.5 <sup>119</sup>                                                                                                       | 26.3                  | 68      | 30                                  | 5 59  | 29            | 6 55                | 38    | 56             | 13 59 | 43 |
| 16 | 58                                     | 33.2 | 42.7     | 103                                                                                    | 57.3 <sup>118</sup>                                                                                                       | 33.0                  | 67      | 35                                  | 6 07  | 38            | 7 06                | 3 51  | 58             | 46    | 40 |
| 17 | 73                                     | 33.1 | +21 42.3 | 118                                                                                    | 28.0 <sup>117</sup>                                                                                                       | +24 39.5              | 65      | 40                                  | 6 16  | 6 49          | 7 19                | 4 06  | 60             | 13 30 | 39 |
| 18 | 88                                     | 33.1 | +21 41.9 | 132                                                                                    | 58.7 <sup>117</sup>                                                                                                       | +24 46.0              | 65      | 45                                  | 6 25  | 7 01          | 7 34                | 4 24  | 63             | 13 11 | 36 |
| 19 | 103                                    | 33.0 | 41.5     | 147                                                                                    | 29.4 <sup>117</sup>                                                                                                       | 52.3                  | 63      | 50                                  | 35    | 16            | 7 53                | 46    | 68             | 12 48 | 32 |
| 20 | 118                                    | 32.9 | 41.2     | 162                                                                                    | 00.0 <sup>116</sup>                                                                                                       | +24 58.5              | 62      | 52                                  | 40    | 22            | 8 02                | 4 57  | 70             | 37    | 30 |
| 21 | 133                                    | 32.9 | 40.8     | 176                                                                                    | 30.5 <sup>115</sup>                                                                                                       | +25 04.6              | 61      | 54                                  | 45    | 30            | 12                  | 5 09  | 72             | 24    | 28 |
| 22 | 148                                    | 32.8 | 40.4     | 191                                                                                    | 01.0 <sup>115</sup>                                                                                                       | 10.6                  | 60      | 56                                  | 50    | 38            | 23                  | 23    | 76             | 12 09 | 25 |
| 23 | 163                                    | 32.7 | 40.0     | 205                                                                                    | 31.5 <sup>115</sup>                                                                                                       | 16.5                  | 59      | 58                                  | 6 56  | 47            | 36                  | 5 40  | 80             | 11 52 | 21 |
| 24 | 178                                    | 32.6 | +21 39.6 | 220                                                                                    | 01.9 <sup>114</sup>                                                                                                       | +25 22.2              | 57      | 60 S                                | 7 02  | 7 57          | 8 51                | 6 00  | 87             | 11 32 | 13 |

| UT  | ARIES                                |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|--------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG 4 <sup>h</sup> 34 <sup>m</sup> 4 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 21 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 34 <sup>m</sup> |     | Mag: -1.8<br>PMG: 15 <sup>h</sup> 40 <sup>m</sup> |          | Mag: +0.1<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                 | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                    | '    | °                                                | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 291                                  | 12.7 | 219                                              | 25.5 | +17 38.7                                          | 156 | 21.0                                              | +18 19.5 | 124                                               | 23.4 | +6 52.8 | 182 | 24.0 | +22 03.1 |
| 1   | 306                                  | 15.2 | 234                                              | 26.8 | 38.8                                              | 171 | 21.9                                              | 19.1     | 139                                               | 25.5 | 52.6    | 197 | 26.1 | 03.1     |
| 2   | 321                                  | 17.6 | 249                                              | 28.1 | 38.9                                              | 186 | 22.8                                              | 18.6     | 154                                               | 27.6 | 52.5    | 212 | 28.2 | 03.0     |
| 3   | 336                                  | 20.1 | 264                                              | 29.5 | 39.0                                              | 201 | 23.6                                              | 18.2     | 169                                               | 29.7 | 52.3    | 227 | 30.3 | 03.0     |
| 4   | 351                                  | 22.6 | 279                                              | 30.8 | 39.1                                              | 216 | 24.5                                              | 17.7     | 184                                               | 31.8 | 52.2    | 242 | 32.4 | 03.0     |
| 5   | 6                                    | 25.0 | 294                                              | 32.1 | +17 39.2                                          | 231 | 25.4                                              | +18 17.3 | 199                                               | 33.9 | +6 52.0 | 257 | 34.6 | +22 02.9 |
| 6   | 21                                   | 27.5 | 309                                              | 33.5 | +17 39.4                                          | 246 | 26.2                                              | +18 16.8 | 214                                               | 36.0 | +6 51.8 | 272 | 36.7 | +22 02.9 |
| 7   | 36                                   | 30.0 | 324                                              | 34.8 | 39.5                                              | 261 | 27.1                                              | 16.4     | 229                                               | 38.0 | 51.7    | 287 | 38.8 | 02.9     |
| 8   | 51                                   | 32.4 | 339                                              | 36.1 | 39.6                                              | 276 | 28.0                                              | 15.9     | 244                                               | 40.1 | 51.5    | 302 | 40.9 | 02.8     |
| 9   | 66                                   | 34.9 | 354                                              | 37.4 | 39.7                                              | 291 | 28.9                                              | 15.5     | 259                                               | 42.2 | 51.3    | 317 | 43.0 | 02.8     |
| 10  | 81                                   | 37.3 | 9                                                | 38.7 | 39.8                                              | 306 | 29.7                                              | 15.0     | 274                                               | 44.3 | 51.2    | 332 | 45.1 | 02.7     |
| 11  | 96                                   | 39.8 | 24                                               | 40.0 | +17 39.9                                          | 321 | 30.6                                              | +18 14.6 | 289                                               | 46.4 | +6 51.0 | 347 | 47.3 | +22 02.7 |
| 12  | 111                                  | 42.3 | 39                                               | 41.4 | +17 40.0                                          | 336 | 31.5                                              | +18 14.1 | 304                                               | 48.5 | +6 50.8 | 2   | 49.4 | +22 02.7 |
| 13  | 126                                  | 44.7 | 54                                               | 42.7 | 40.1                                              | 351 | 32.4                                              | 13.7     | 319                                               | 50.5 | 50.7    | 17  | 51.5 | 02.6     |
| 14  | 141                                  | 47.2 | 69                                               | 44.0 | 40.2                                              | 6   | 33.2                                              | 13.2     | 334                                               | 52.6 | 50.5    | 32  | 53.6 | 02.6     |
| 15  | 156                                  | 49.7 | 84                                               | 45.3 | 40.3                                              | 21  | 34.1                                              | 12.8     | 349                                               | 54.7 | 50.4    | 47  | 55.7 | 02.5     |
| 16  | 171                                  | 52.1 | 99                                               | 46.6 | 40.5                                              | 36  | 35.0                                              | 12.3     | 4                                                 | 56.8 | 50.2    | 62  | 57.8 | 02.5     |
| 17  | 186                                  | 54.6 | 114                                              | 47.9 | +17 40.6                                          | 51  | 35.9                                              | +18 11.9 | 19                                                | 58.9 | +6 50.0 | 78  | 00.0 | +22 02.5 |
| 18  | 201                                  | 57.1 | 129                                              | 49.1 | +17 40.7                                          | 66  | 36.7                                              | +18 11.4 | 35                                                | 01.0 | +6 49.9 | 93  | 02.1 | +22 02.4 |
| 19  | 216                                  | 59.5 | 144                                              | 50.4 | 40.8                                              | 81  | 37.6                                              | 11.0     | 50                                                | 03.0 | 49.7    | 108 | 04.2 | 02.4     |
| 20  | 232                                  | 02.0 | 159                                              | 51.7 | 40.9                                              | 96  | 38.5                                              | 10.5     | 65                                                | 05.1 | 49.5    | 123 | 06.3 | 02.4     |
| 21  | 247                                  | 04.5 | 174                                              | 53.0 | 41.0                                              | 111 | 39.4                                              | 10.1     | 80                                                | 07.2 | 49.4    | 138 | 08.4 | 02.3     |
| 22  | 262                                  | 06.9 | 189                                              | 54.3 | 41.2                                              | 126 | 40.2                                              | 09.6     | 95                                                | 09.3 | 49.2    | 153 | 10.5 | 02.3     |
| 23  | 277                                  | 09.4 | 204                                              | 55.6 | 41.3                                              | 141 | 41.1                                              | 09.2     | 110                                               | 11.4 | 49.0    | 168 | 12.7 | 02.2     |
| 24  | 292                                  | 11.8 | 219                                              | 56.8 | +17 41.4                                          | 156 | 42.0                                              | +18 08.7 | 125                                               | 13.5 | +6 48.9 | 183 | 14.8 | +22 02.2 |
| Dif | —                                    |      | +13                                              |      | +1                                                | +9  |                                                   | -5       | +21                                               |      | -2      | +21 |      |          |

| UT | SOL                                    |      |          | ● LUNA                  |                     |                                                                           | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |       | Puesta de Luna |       |      |    |
|----|----------------------------------------|------|----------|-------------------------|---------------------|---------------------------------------------------------------------------|---------|---------------|----------------------|-------|---------|----------------|-------|----------------|-------|------|----|
|    | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 26 <sup>d</sup> 1 | PHE {               | 4 <sup>h</sup> : 54'0<br>12 <sup>h</sup> : 54'0<br>20 <sup>h</sup> : 54'0 |         |               | Civil                |       |         | Náutico        |       | Hora           | R°    | Hora | R° |
|    | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 9 | hG ☉ | Dec      |                         |                     |                                                                           |         |               | hG ☾                 | Dif   | Dec     | Dif            | h m   |                |       |      |    |
| h  | °                                      | '    | °        | °                       | '                   | °                                                                         | '       | °             | h m                  | h m   | h m     | m              | h m   | m              | h m   | m    |    |
| 0  | 178                                    | 32.6 | +21 39.6 | 220                     | 01.9                | +25 22.2                                                                  | 57      | 60 N          | 21 08                | 22 27 | ** ** * | ** ** *        | 20 04 | 64             | 20 04 | 64   |    |
| 1  | 193                                    | 32.6 | 39.3     | 234                     | 32.2 <sup>113</sup> | 27.9                                                                      | 57      | 58            | 20 51                | 21 56 | ** ** * | 0 04           | 27    | 19 34          | 61    | 61   |    |
| 2  | 208                                    | 32.5 | 38.9     | 249                     | 02.5 <sup>113</sup> | 33.4                                                                      | 55      | 56            | 37                   | 33    | 23 25   | 23 31          | 19 11 | 60             | 19 11 | 60   |    |
| 3  | 223                                    | 32.4 | 38.5     | 263                     | 32.8 <sup>113</sup> | 38.8                                                                      | 54      | 54            | 25                   | 15    | 22 35   | 38 34          | 18 53 | 58             | 18 53 | 58   |    |
| 4  | 238                                    | 32.4 | 38.1     | 278                     | 03.0 <sup>112</sup> | 44.1                                                                      | 53      | 52            | 14                   | 21 00 | 22 07   | 0 52           | 36    | 37             | 58    | 58   |    |
| 5  | 253                                    | 32.3 | +21 37.7 | 292                     | 33.2 <sup>112</sup> | +25 49.2                                                                  | 51      | 50            | 20 04                | 20 47 | 21 45   | 1 04           | 38    | 18 24          | 57    | 57   |    |
| 6  | 268                                    | 32.2 | +21 37.4 | 307                     | 03.3 <sup>111</sup> | +25 54.3                                                                  | 51      | 45            | 19 44                | 20 20 | 21 07   | 1 29           | 41    | 17 56          | 56    | 56   |    |
| 7  | 283                                    | 32.2 | 37.0     | 321                     | 33.4 <sup>111</sup> | +25 59.2                                                                  | 49      | 40            | 28                   | 20 00 | 20 40   | 1 49           | 43    | 34             | 55    | 55   |    |
| 8  | 298                                    | 32.1 | 36.6     | 336                     | 03.4 <sup>110</sup> | +26 04.0                                                                  | 48      | 35            | 15                   | 19 44 | 19      | 2 06           | 44    | 16             | 55    | 55   |    |
| 9  | 313                                    | 32.0 | 36.2     | 350                     | 33.4 <sup>110</sup> | 08.7                                                                      | 47      | 30            | 19 03                | 30    | 20 02   | 21 45          | 17 01 | 53             | 17 01 | 53   |    |
| 10 | 328                                    | 32.0 | 35.8     | 5                       | 03.4 <sup>110</sup> | 13.3                                                                      | 46      | 20            | 18 43                | 19 07 | 19 36   | 2 46           | 47    | 16 35          | 52    | 52   |    |
| 11 | 343                                    | 31.9 | +21 35.4 | 19                      | 33.3 <sup>109</sup> | +26 17.7                                                                  | 44      | 10 N          | 18 26                | 18 48 | 19 15   | 3 07           | 49    | 16 12          | 52    | 52   |    |
| 12 | 358                                    | 31.8 | +21 35.0 | 34                      | 03.1 <sup>108</sup> | +26 22.0                                                                  | 43      | 0             | 18 09                | 18 32 | 18 58   | 3 27           | 50    | 15 51          | 51    | 51   |    |
| 13 | 13                                     | 31.8 | 34.6     | 48                      | 33.0 <sup>109</sup> | 26.2                                                                      | 42      | 10 S          | 17 54                | 16    | 42      | 3 47           | 52    | 30             | 50    | 50   |    |
| 14 | 28                                     | 31.7 | 34.3     | 63                      | 02.7 <sup>107</sup> | 30.3                                                                      | 41      | 20            | 37                   | 18 00 | 28      | 4 09           | 53    | 15 08          | 49    | 49   |    |
| 15 | 43                                     | 31.6 | 33.9     | 77                      | 32.5 <sup>108</sup> | 34.2                                                                      | 39      | 30            | 17                   | 17 43 | 13      | 34             | 55    | 14 42          | 47    | 47   |    |
| 16 | 58                                     | 31.6 | 33.5     | 92                      | 02.2 <sup>107</sup> | 38.0                                                                      | 38      | 35            | 17 06                | 34    | 18 05   | 4 49           | 56    | 26             | 47    | 47   |    |
| 17 | 73                                     | 31.5 | +21 33.1 | 106                     | 31.9 <sup>107</sup> | +26 41.7                                                                  | 37      | 40            | 16 53                | 17 23 | 17 57   | 5 06           | 58    | 14 09          | 45    | 45   |    |
| 18 | 88                                     | 31.4 | +21 32.7 | 121                     | 01.5 <sup>106</sup> | +26 45.3                                                                  | 36      | 45            | 16 38                | 17 11 | 17 48   | 5 27           | 59    | 13 47          | 45    | 45   |    |
| 19 | 103                                    | 31.4 | 32.3     | 135                     | 31.1 <sup>106</sup> | 48.7                                                                      | 34      | 50            | 20                   | 16 57 | 38      | 5 54           | 61    | 20             | 43    | 43   |    |
| 20 | 118                                    | 31.3 | 31.9     | 150                     | 00.7 <sup>106</sup> | 52.1                                                                      | 34      | 52            | 11                   | 51    | 33      | 6 07           | 62    | 13 07          | 41    | 41   |    |
| 21 | 133                                    | 31.2 | 31.5     | 164                     | 30.2 <sup>105</sup> | 55.2                                                                      | 31      | 54            | 16 01                | 43    | 28      | 21             | 65    | 12 52          | 40    | 40   |    |
| 22 | 148                                    | 31.2 | 31.1     | 178                     | 59.7 <sup>105</sup> | +26 58.3                                                                  | 31      | 56            | 15 50                | 35    | 23      | 6 39           | 66    | 34             | 38    | 38   |    |
| 23 | 163                                    | 31.1 | 30.7     | 193                     | 29.2 <sup>105</sup> | +27 01.2                                                                  | 29      | 58            | 38                   | 27    | 17      | 7 00           | 70    | 12 13          | 35    | 35   |    |
| 24 | 178                                    | 31.0 | +21 30.3 | 207                     | 58.6 <sup>104</sup> | +27 04.0                                                                  | 28      | 60 S          | 15 23                | 16 16 | 17 11   | 7 27           | 76    | 11 45          | 30    | 30   |    |

| UT  | ARIES                                 |           | VENUS                               |           | MARTE                                |           | JÚPITER                              |           | SATURNO                              |          |
|-----|---------------------------------------|-----------|-------------------------------------|-----------|--------------------------------------|-----------|--------------------------------------|-----------|--------------------------------------|----------|
|     | PMG: 4 <sup>h</sup> 30 <sup>m</sup> 5 | Mag: -4.7 | PMG: 9 <sup>h</sup> 19 <sup>m</sup> | Mag: +1.8 | PMG: 13 <sup>h</sup> 32 <sup>m</sup> | Mag: -1.8 | PMG: 15 <sup>h</sup> 37 <sup>m</sup> | Mag: +0.1 | PMG: 11 <sup>h</sup> 45 <sup>m</sup> |          |
|     | hG ♈                                  | Dec       | hG ♀                                | Dec       | hG ♂                                 | Dec       | hG ♃                                 | Dec       | hG ♄                                 | Dec      |
| h   | °                                     | '         | °                                   | '         | °                                    | '         | °                                    | '         | °                                    | '        |
| 0   | 292                                   | 11.8      | 219 56.8                            | +17 41.4  | 156 42.0                             | +18 08.7  | 125 13.5                             | +6 48.9   | 183 14.8                             | +22 02.2 |
| 1   | 307                                   | 14.3      | 234 58.1                            | 41.5      | 171 42.9                             | 08.3      | 140 15.5                             | 48.7      | 198 16.9                             | 02.2     |
| 2   | 322                                   | 16.8      | 249 59.4                            | 41.6      | 186 43.7                             | 07.8      | 155 17.6                             | 48.5      | 213 19.0                             | 02.1     |
| 3   | 337                                   | 19.2      | 265 00.7                            | 41.7      | 201 44.6                             | 07.4      | 170 19.7                             | 48.4      | 228 21.1                             | 02.1     |
| 4   | 352                                   | 21.7      | 280 01.9                            | 41.9      | 216 45.5                             | 06.9      | 185 21.8                             | 48.2      | 243 23.2                             | 02.0     |
| 5   | 7                                     | 24.2      | 295 03.2                            | +17 42.0  | 231 46.4                             | +18 06.4  | 200 23.9                             | +6 48.1   | 258 25.4                             | +22 02.0 |
| 6   | 22                                    | 26.6      | 310 04.4                            | +17 42.1  | 246 47.3                             | +18 06.0  | 215 26.0                             | +6 47.9   | 273 27.5                             | +22 02.0 |
| 7   | 37                                    | 29.1      | 325 05.7                            | 42.2      | 261 48.1                             | 05.5      | 230 28.0                             | 47.7      | 288 29.6                             | 01.9     |
| 8   | 52                                    | 31.6      | 340 07.0                            | 42.4      | 276 49.0                             | 05.1      | 245 30.1                             | 47.6      | 303 31.7                             | 01.9     |
| 9   | 67                                    | 34.0      | 355 08.2                            | 42.5      | 291 49.9                             | 04.6      | 260 32.2                             | 47.4      | 318 33.8                             | 01.9     |
| 10  | 82                                    | 36.5      | 10 09.5                             | 42.6      | 306 50.8                             | 04.2      | 275 34.3                             | 47.2      | 333 35.9                             | 01.8     |
| 11  | 97                                    | 39.0      | 25 10.7                             | +17 42.7  | 321 51.6                             | +18 03.7  | 290 36.4                             | +6 47.1   | 348 38.1                             | +22 01.8 |
| 12  | 112                                   | 41.4      | 40 11.9                             | +17 42.9  | 336 52.5                             | +18 03.3  | 305 38.4                             | +6 46.9   | 3 40.2                               | +22 01.7 |
| 13  | 127                                   | 43.9      | 55 13.2                             | 43.0      | 351 53.4                             | 02.8      | 320 40.5                             | 46.7      | 18 42.3                              | 01.7     |
| 14  | 142                                   | 46.3      | 70 14.4                             | 43.1      | 6 54.3                               | 02.4      | 335 42.6                             | 46.6      | 33 44.4                              | 01.7     |
| 15  | 157                                   | 48.8      | 85 15.7                             | 43.2      | 21 55.2                              | 01.9      | 350 44.7                             | 46.4      | 48 46.5                              | 01.6     |
| 16  | 172                                   | 51.3      | 100 16.9                            | 43.4      | 36 56.0                              | 01.4      | 5 46.8                               | 46.2      | 63 48.6                              | 01.6     |
| 17  | 187                                   | 53.7      | 115 18.1                            | +17 43.5  | 51 56.9                              | +18 01.0  | 20 48.8                              | +6 46.1   | 78 50.8                              | +22 01.5 |
| 18  | 202                                   | 56.2      | 130 19.3                            | +17 43.6  | 66 57.8                              | +18 00.5  | 35 50.9                              | +6 45.9   | 93 52.9                              | +22 01.5 |
| 19  | 217                                   | 58.7      | 145 20.6                            | 43.8      | 81 58.7                              | +18 00.1  | 50 53.0                              | 45.7      | 108 55.0                             | 01.5     |
| 20  | 233                                   | 01.1      | 160 21.8                            | 43.9      | 96 59.5                              | +17 59.6  | 65 55.1                              | 45.6      | 123 57.1                             | 01.4     |
| 21  | 248                                   | 03.6      | 175 23.0                            | 44.0      | 112 00.4                             | 59.2      | 80 57.2                              | 45.4      | 138 59.2                             | 01.4     |
| 22  | 263                                   | 06.1      | 190 24.2                            | 44.2      | 127 01.3                             | 58.7      | 95 59.2                              | 45.2      | 154 01.3                             | 01.4     |
| 23  | 278                                   | 08.5      | 205 25.4                            | 44.3      | 142 02.2                             | 58.2      | 111 01.3                             | 45.1      | 169 03.5                             | 01.3     |
| 24  | 293                                   | 11.0      | 220 26.6                            | +17 44.4  | 157 03.1                             | +17 57.8  | 126 03.4                             | +6 44.9   | 184 05.6                             | +22 01.3 |
| Dif | —                                     |           | +12                                 | +1        | +9                                   | -5        | +21                                  | -2        | +21                                  | 0        |

| UT | SOL                                    |      |     |      | ● LUNA                                                                                                                                                                |                     |         |                    | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |
|----|----------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|
|    | SD: 15 <sup>h</sup> 7                  |      |     |      | Edad: 27 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 0<br>12 <sup>h</sup> : 54 <sup>m</sup> 0<br>20 <sup>h</sup> : 54 <sup>m</sup> 0<br>R°: 51 <sup>m</sup> |                     |         |                    |         |                          |       |               |                |    |                |    |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 0 |      |     |      | SD: 14 <sup>h</sup> 7<br>PMG: 10 <sup>h</sup> 30 <sup>m</sup>                                                                                                         |                     |         |                    |         |                          |       |               |                |    |                |    |
|    | hG ☉                                   |      | Dec |      | hG ☾ Dif                                                                                                                                                              |                     | Dec Dif |                    |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |
| h  | °                                      | '    | °   | '    | °                                                                                                                                                                     | '                   | °       | '                  | °       | h m                      | h m   | h m           | h m m          | m  | h m m          | m  |
| 0  | 178                                    | 31.0 | +21 | 30.3 | 207                                                                                                                                                                   | 58.6                | +27     | 04.0               | 60 N    | *** **                   | 1 46  | 3 04          | 0 01           | 42 | 21 08          | 38 |
| 1  | 193                                    | 31.0 |     | 29.9 | 222                                                                                                                                                                   | 28.0 <sup>104</sup> |         | 06.7 <sup>27</sup> | 58      | *** **                   | 2 17  | 21            | 31             | 44 | 20 35          | 42 |
| 2  | 208                                    | 30.9 |     | 29.5 | 236                                                                                                                                                                   | 57.4 <sup>104</sup> |         | 09.3 <sup>26</sup> | 56      | 0 47                     | 39    | 35            | 0 54           | 46 | 20 11          | 44 |
| 3  | 223                                    | 30.9 |     | 29.1 | 251                                                                                                                                                                   | 26.7 <sup>103</sup> |         | 11.7 <sup>24</sup> | 54      | 1 37                     | 2 57  | 47            | 1 12           | 47 | 19 51          | 45 |
| 4  | 238                                    | 30.8 |     | 28.7 | 265                                                                                                                                                                   | 56.1 <sup>104</sup> |         | 14.0 <sup>23</sup> | 52      | 2 06                     | 3 13  | 3 58          | 28             | 48 | 35             | 46 |
| 5  | 253                                    | 30.7 | +21 | 28.3 | 280                                                                                                                                                                   | 25.4 <sup>103</sup> | +27     | 16.1 <sup>21</sup> | 50      | 2 27                     | 3 26  | 4 08          | 1 42           | 48 | 19 21          | 46 |
| 6  | 268                                    | 30.7 | +21 | 27.9 | 294                                                                                                                                                                   | 54.6 <sup>102</sup> | +27     | 18.1 <sup>20</sup> | 45      | 3 05                     | 3 52  | 4 28          | 2 10           | 49 | 18 52          | 48 |
| 7  | 283                                    | 30.6 |     | 27.5 | 309                                                                                                                                                                   | 23.9 <sup>103</sup> |         | 20.0 <sup>19</sup> | 40      | 32                       | 4 12  | 44            | 32             | 49 | 29             | 49 |
| 8  | 298                                    | 30.5 |     | 27.1 | 323                                                                                                                                                                   | 53.1 <sup>102</sup> |         | 21.8 <sup>18</sup> | 35      | 3 53                     | 28    | 4 57          | 2 50           | 50 | 18 11          | 49 |
| 9  | 313                                    | 30.5 |     | 26.7 | 338                                                                                                                                                                   | 22.3 <sup>102</sup> |         | 23.4 <sup>16</sup> | 30      | 4 10                     | 4 42  | 5 09          | 3 06           | 50 | 17 54          | 50 |
| 10 | 328                                    | 30.4 |     | 26.3 | 352                                                                                                                                                                   | 51.5 <sup>102</sup> |         | 24.9 <sup>15</sup> | 20      | 36                       | 5 05  | 29            | 33             | 50 | 27             | 51 |
| 11 | 343                                    | 30.3 | +21 | 25.9 | 7                                                                                                                                                                     | 20.7 <sup>102</sup> | +27     | 26.3 <sup>14</sup> | 10 N    | 4 57                     | 5 24  | 5 46          | 3 56           | 51 | 17 04          | 51 |
| 12 | 358                                    | 30.3 | +21 | 25.5 | 21                                                                                                                                                                    | 49.8 <sup>101</sup> | +27     | 27.5 <sup>12</sup> | 0       | 5 14                     | 5 40  | 6 02          | 4 17           | 51 | 16 42          | 51 |
| 13 | 13                                     | 30.2 |     | 25.1 | 36                                                                                                                                                                    | 18.9 <sup>101</sup> |         | 28.6 <sup>11</sup> | 10 S    | 30                       | 5 56  | 18            | 4 39           | 51 | 16 20          | 52 |
| 14 | 28                                     | 30.2 |     | 24.7 | 50                                                                                                                                                                    | 48.0 <sup>101</sup> |         | 29.6 <sup>10</sup> | 20      | 44                       | 6 11  | 35            | 5 02           | 52 | 15 57          | 52 |
| 15 | 43                                     | 30.1 |     | 24.3 | 65                                                                                                                                                                    | 17.1 <sup>101</sup> |         | 30.4 <sup>8</sup>  | 30      | 5 59                     | 28    | 6 54          | 29             | 52 | 29             | 53 |
| 16 | 58                                     | 30.0 |     | 23.9 | 79                                                                                                                                                                    | 46.2 <sup>101</sup> |         | 31.1 <sup>7</sup>  | 35      | 6 07                     | 38    | 7 05          | 5 45           | 52 | 15 13          | 53 |
| 17 | 73                                     | 30.0 | +21 | 23.5 | 94                                                                                                                                                                    | 15.3 <sup>101</sup> | +27     | 31.7 <sup>6</sup>  | 40      | 6 15                     | 6 48  | 7 18          | 6 04           | 52 | 14 54          | 54 |
| 18 | 88                                     | 29.9 | +21 | 23.1 | 108                                                                                                                                                                   | 44.4 <sup>101</sup> | +27     | 32.2 <sup>5</sup>  | 45      | 6 24                     | 7 00  | 7 33          | 6 26           | 52 | 14 32          | 53 |
| 19 | 103                                    | 29.9 |     | 22.7 | 123                                                                                                                                                                   | 13.4 <sup>100</sup> |         | 32.5 <sup>3</sup>  | 50      | 34                       | 14    | 7 51          | 6 55           | 52 | 14 03          | 54 |
| 20 | 118                                    | 29.8 |     | 22.3 | 137                                                                                                                                                                   | 42.4 <sup>100</sup> |         | 32.6 <sup>1</sup>  | 52      | 38                       | 21    | 8 00          | 7 09           | 52 | 13 48          | 55 |
| 21 | 133                                    | 29.7 |     | 21.9 | 152                                                                                                                                                                   | 11.5 <sup>101</sup> |         | 32.7 <sup>1</sup>  | 54      | 43                       | 28    | 10            | 26             | 52 | 32             | 54 |
| 22 | 148                                    | 29.7 |     | 21.5 | 166                                                                                                                                                                   | 40.5 <sup>100</sup> |         | 32.6 <sup>1</sup>  | 56      | 48                       | 36    | 21            | 7 45           | 52 | 13 12          | 55 |
| 23 | 163                                    | 29.6 |     | 21.1 | 181                                                                                                                                                                   | 09.5 <sup>100</sup> |         | 32.3 <sup>3</sup>  | 58      | 6 54                     | 45    | 33            | 8 10           | 51 | 12 48          | 55 |
| 24 | 178                                    | 29.6 | +21 | 20.6 | 195                                                                                                                                                                   | 38.5 <sup>100</sup> | +27     | 32.0 <sup>3</sup>  | 60 S    | 7 00                     | 7 54  | 8 48          | 8 43           | 51 | 12 15          | 55 |

| UT  | ARIES                                 |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |    |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|----|------|
|     | PMG: 4 <sup>h</sup> 26 <sup>m</sup> 5 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 17 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 31 <sup>m</sup> |     |      | Mag: -1.8<br>PMG: 15 <sup>h</sup> 34 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 11 <sup>h</sup> 42 <sup>m</sup> |    |      |
|     | hG ♈                                  |      | hG ♀ Dec                                         |      |     | hG ♂ Dec                                          |     |      | hG ♃ Dec                                          |      |     | hG ♄ Dec                                          |    |      |
| h   | °                                     | '    | °                                                | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                 | °  | '    |
| 0   | 293                                   | 11.0 | 220                                              | 26.6 | +17 | 44.4                                              | 157 | 03.1 | +17                                               | 57.8 | 126 | 03.4                                              | +6 | 44.9 |
| 1   | 308                                   | 13.4 | 235                                              | 27.9 |     | 44.6                                              | 172 | 03.9 |                                                   | 57.3 | 141 | 05.5                                              |    | 44.7 |
| 2   | 323                                   | 15.9 | 250                                              | 29.1 |     | 44.7                                              | 187 | 04.8 |                                                   | 56.9 | 156 | 07.6                                              |    | 44.6 |
| 3   | 338                                   | 18.4 | 265                                              | 30.3 |     | 44.8                                              | 202 | 05.7 |                                                   | 56.4 | 171 | 09.6                                              |    | 44.4 |
| 4   | 353                                   | 20.8 | 280                                              | 31.5 |     | 45.0                                              | 217 | 06.6 |                                                   | 56.0 | 186 | 11.7                                              |    | 44.2 |
| 5   | 8                                     | 23.3 | 295                                              | 32.7 | +17 | 45.1                                              | 232 | 07.5 | +17                                               | 55.5 | 201 | 13.8                                              | +6 | 44.1 |
| 6   | 23                                    | 25.8 | 310                                              | 33.9 | +17 | 45.2                                              | 247 | 08.3 | +17                                               | 55.0 | 216 | 15.9                                              | +6 | 43.9 |
| 7   | 38                                    | 28.2 | 325                                              | 35.0 |     | 45.4                                              | 262 | 09.2 |                                                   | 54.6 | 231 | 17.9                                              |    | 43.7 |
| 8   | 53                                    | 30.7 | 340                                              | 36.2 |     | 45.5                                              | 277 | 10.1 |                                                   | 54.1 | 246 | 20.0                                              |    | 43.6 |
| 9   | 68                                    | 33.2 | 355                                              | 37.4 |     | 45.7                                              | 292 | 11.0 |                                                   | 53.7 | 261 | 22.1                                              |    | 43.4 |
| 10  | 83                                    | 35.6 | 10                                               | 38.6 |     | 45.8                                              | 307 | 11.9 |                                                   | 53.2 | 276 | 24.2                                              |    | 43.2 |
| 11  | 98                                    | 38.1 | 25                                               | 39.8 | +17 | 45.9                                              | 322 | 12.7 | +17                                               | 52.7 | 291 | 26.3                                              | +6 | 43.1 |
| 12  | 113                                   | 40.6 | 40                                               | 41.0 | +17 | 46.1                                              | 337 | 13.6 | +17                                               | 52.3 | 306 | 28.3                                              | +6 | 42.9 |
| 13  | 128                                   | 43.0 | 55                                               | 42.2 |     | 46.2                                              | 352 | 14.5 |                                                   | 51.8 | 321 | 30.4                                              |    | 42.7 |
| 14  | 143                                   | 45.5 | 70                                               | 43.3 |     | 46.4                                              | 7   | 15.4 |                                                   | 51.4 | 336 | 32.5                                              |    | 42.6 |
| 15  | 158                                   | 47.9 | 85                                               | 44.5 |     | 46.5                                              | 22  | 16.3 |                                                   | 50.9 | 351 | 34.6                                              |    | 42.4 |
| 16  | 173                                   | 50.4 | 100                                              | 45.7 |     | 46.6                                              | 37  | 17.1 |                                                   | 50.4 | 6   | 36.6                                              |    | 42.2 |
| 17  | 188                                   | 52.9 | 115                                              | 46.8 | +17 | 46.8                                              | 52  | 18.0 | +17                                               | 50.0 | 21  | 38.7                                              | +6 | 42.1 |
| 18  | 203                                   | 55.3 | 130                                              | 48.0 | +17 | 46.9                                              | 67  | 18.9 | +17                                               | 49.5 | 36  | 40.8                                              | +6 | 41.9 |
| 19  | 218                                   | 57.8 | 145                                              | 49.2 |     | 47.1                                              | 82  | 19.8 |                                                   | 49.1 | 51  | 42.9                                              |    | 41.7 |
| 20  | 234                                   | 00.3 | 160                                              | 50.3 |     | 47.2                                              | 97  | 20.7 |                                                   | 48.6 | 66  | 45.0                                              |    | 41.6 |
| 21  | 249                                   | 02.7 | 175                                              | 51.5 |     | 47.4                                              | 112 | 21.6 |                                                   | 48.1 | 81  | 47.0                                              |    | 41.4 |
| 22  | 264                                   | 05.2 | 190                                              | 52.6 |     | 47.5                                              | 127 | 22.4 |                                                   | 47.7 | 96  | 49.1                                              |    | 41.2 |
| 23  | 279                                   | 07.7 | 205                                              | 53.8 |     | 47.7                                              | 142 | 23.3 |                                                   | 47.2 | 111 | 51.2                                              |    | 41.1 |
| 24  | 294                                   | 10.1 | 220                                              | 54.9 | +17 | 47.8                                              | 157 | 24.2 | +17                                               | 46.7 | 126 | 53.3                                              | +6 | 40.9 |
| Dif | —                                     |      | +12 +1                                           |      |     | +9 -5                                             |     |      | +21 -2                                            |      |     | +21 0                                             |    |      |



| UT | SOL                                                |      |     | ● LUNA                                                                                                                                                                |     |                     | Latitud     | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |      | Puesta de Luna |       |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-------------|---------------|----------------------|-------|----------------|------|----------------|-------|----|
|    | SD: 15:7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 1 |      |     | Edad: 28 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 1<br>12 <sup>h</sup> : 54 <sup>m</sup> 1<br>20 <sup>h</sup> : 54 <sup>m</sup> 2<br>R°: 51 <sup>m</sup> |     |                     |             |               |                      |       |                |      |                |       |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                  | Dif | Dec                 |             |               | Dif                  | Civil | Náutico        | Hora | R°             | Hora  | R° |
| h  | °                                                  | '    | °   | '                                                                                                                                                                     | °   | '                   | °           | h m           | h m                  | h m   | h m            | h m  | h m            | h m   |    |
| 0  | 178                                                | 29.6 | +21 | 20.6                                                                                                                                                                  | 195 | 38.5                | +27 32.0    | 60 N          | 21 05                | 22 20 | ** **          | 0 43 | 69             | 21 46 | 18 |
| 1  | 193                                                | 29.5 |     | 20.2                                                                                                                                                                  | 210 | 07.6 <sup>101</sup> | 31.5 5      | 58            | 20 48                | 21 51 | ** **          | 1 15 | 65             | 21 17 | 25 |
| 2  | 208                                                | 29.4 |     | 19.8                                                                                                                                                                  | 224 | 36.6 <sup>100</sup> | 30.8 7      | 56            | 34                   | 29    | 23 13          | 40   | 62             | 20 55 | 29 |
| 3  | 223                                                | 29.4 |     | 19.4                                                                                                                                                                  | 239 | 05.6 <sup>100</sup> | 30.1 7      | 54            | 22                   | 21 12 | 22 30          | 1 59 | 61             | 36    | 32 |
| 4  | 238                                                | 29.3 |     | 19.0                                                                                                                                                                  | 253 | 34.6 <sup>100</sup> | 29.2 9      | 52            | 12                   | 20 57 | 22 03          | 2 16 | 60             | 21    | 34 |
| 5  | 253                                                | 29.3 | +21 | 18.6                                                                                                                                                                  | 268 | 03.6 <sup>100</sup> | +27 28.1 11 | 50            | 20 03                | 20 44 | 21 42          | 2 30 | 59             | 20 07 | 36 |
| 6  | 268                                                | 29.2 | +21 | 18.2                                                                                                                                                                  | 282 | 32.6 <sup>100</sup> | +27 27.0 11 | 45            | 19 43                | 20 19 | 21 05          | 2 59 | 57             | 19 40 | 39 |
| 7  | 283                                                | 29.2 |     | 17.7                                                                                                                                                                  | 297 | 01.7 <sup>101</sup> | 25.7 13     | 40            | 27                   | 19 59 | 20 38          | 3 21 | 57             | 18    | 41 |
| 8  | 298                                                | 29.1 |     | 17.3                                                                                                                                                                  | 311 | 30.7 <sup>100</sup> | 24.2 15     | 35            | 14                   | 43    | 18             | 40   | 55             | 19 00 | 43 |
| 9  | 313                                                | 29.0 |     | 16.9                                                                                                                                                                  | 325 | 59.7 <sup>100</sup> | 22.7 15     | 30            | 19 02                | 29    | 20 01          | 3 56 | 55             | 18 44 | 45 |
| 10 | 328                                                | 29.0 |     | 16.5                                                                                                                                                                  | 340 | 28.8 <sup>101</sup> | 21.0 17     | 20            | 18 42                | 19 07 | 19 35          | 4 23 | 54             | 18 18 | 47 |
| 11 | 343                                                | 28.9 | +21 | 16.1                                                                                                                                                                  | 354 | 57.8 <sup>100</sup> | +27 19.1 19 | 10 N          | 18 25                | 18 48 | 19 15          | 4 47 | 52             | 17 55 | 49 |
| 12 | 358                                                | 28.9 | +21 | 15.7                                                                                                                                                                  | 9   | 26.9 <sup>101</sup> | +27 17.2 21 | 0             | 18 10                | 18 32 | 18 58          | 5 08 | 52             | 17 33 | 51 |
| 13 | 13                                                 | 28.8 |     | 15.2                                                                                                                                                                  | 23  | 55.9 <sup>100</sup> | 15.1 23     | 10 S          | 17 54                | 17    | 42             | 30   | 50             | 17 12 | 52 |
| 14 | 28                                                 | 28.8 |     | 14.8                                                                                                                                                                  | 38  | 25.0 <sup>101</sup> | 12.8 23     | 20            | 37                   | 18 01 | 28             | 5 54 | 48             | 16 49 | 54 |
| 15 | 43                                                 | 28.7 |     | 14.4                                                                                                                                                                  | 52  | 54.1 <sup>101</sup> | 10.5 23     | 30            | 18                   | 17 44 | 14             | 6 21 | 47             | 22    | 56 |
| 16 | 58                                                 | 28.6 |     | 14.0                                                                                                                                                                  | 67  | 23.2 <sup>101</sup> | 08.0 25     | 35            | 17 07                | 35    | 18 06          | 37   | 46             | 16 06 | 57 |
| 17 | 73                                                 | 28.6 | +21 | 13.6                                                                                                                                                                  | 81  | 52.4 <sup>102</sup> | +27 05.3 27 | 40            | 16 55                | 17 25 | 17 58          | 6 56 | 45             | 15 48 | 58 |
| 18 | 88                                                 | 28.5 | +21 | 13.1                                                                                                                                                                  | 96  | 21.5 <sup>101</sup> | +27 02.6 27 | 45            | 16 40                | 17 13 | 17 49          | 7 18 | 44             | 15 25 | 61 |
| 19 | 103                                                | 28.5 |     | 12.7                                                                                                                                                                  | 110 | 50.7 <sup>102</sup> | +26 59.7 29 | 50            | 22                   | 16 59 | 39             | 7 47 | 41             | 14 57 | 63 |
| 20 | 118                                                | 28.4 |     | 12.3                                                                                                                                                                  | 125 | 19.9 <sup>102</sup> | 56.6 31     | 52            | 13                   | 53    | 35             | 8 01 | 40             | 43    | 65 |
| 21 | 133                                                | 28.4 |     | 11.9                                                                                                                                                                  | 139 | 49.1 <sup>102</sup> | 53.5 31     | 54            | 16 04                | 46    | 30             | 18   | 38             | 26    | 67 |
| 22 | 148                                                | 28.3 |     | 11.4                                                                                                                                                                  | 154 | 18.3 <sup>102</sup> | 50.2 33     | 56            | 15 53                | 38    | 25             | 8 37 | 36             | 14 07 | 69 |
| 23 | 163                                                | 28.3 |     | 11.0                                                                                                                                                                  | 168 | 47.5 <sup>102</sup> | 46.8 34     | 58            | 41                   | 29    | 20             | 9 01 | 32             | 13 43 | 73 |
| 24 | 178                                                | 28.2 | +21 | 10.6                                                                                                                                                                  | 183 | 16.8 <sup>103</sup> | +26 43.2 36 | 60 S          | 15 26                | 16 19 | 17 14          | 9 34 | 26             | 13 10 | 80 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 4 <sup>h</sup> 22 <sup>m</sup> 6 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 16 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 30 <sup>m</sup> |      | Mag: -1.8<br>PMG: 15 <sup>h</sup> 30 <sup>m</sup> |      | Mag: +0.1<br>PMG: 11 <sup>h</sup> 39 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 294                                   | 10.1 | 220                                              | 54.9 | +17                                               | 47.8 | 126                                               | 53.3 | +6                                                | 40.9 |
| 1   | 309                                   | 12.6 | 235                                              | 56.1 |                                                   | 47.9 | 141                                               | 55.3 |                                                   | 40.7 |
| 2   | 324                                   | 15.1 | 250                                              | 57.2 |                                                   | 48.1 | 156                                               | 57.4 |                                                   | 40.6 |
| 3   | 339                                   | 17.5 | 265                                              | 58.4 |                                                   | 48.2 | 171                                               | 59.5 |                                                   | 40.4 |
| 4   | 354                                   | 20.0 | 280                                              | 59.5 |                                                   | 48.4 | 187                                               | 01.6 |                                                   | 40.2 |
| 5   | 9                                     | 22.4 | 296                                              | 00.6 | +17                                               | 48.5 | 202                                               | 03.6 | +6                                                | 40.1 |
| 6   | 24                                    | 24.9 | 311                                              | 01.8 | +17                                               | 48.7 | 217                                               | 05.7 | +6                                                | 39.9 |
| 7   | 39                                    | 27.4 | 326                                              | 02.9 |                                                   | 48.8 | 232                                               | 07.8 |                                                   | 39.7 |
| 8   | 54                                    | 29.8 | 341                                              | 04.0 |                                                   | 49.0 | 247                                               | 09.9 |                                                   | 39.6 |
| 9   | 69                                    | 32.3 | 356                                              | 05.1 |                                                   | 49.1 | 262                                               | 11.9 |                                                   | 39.4 |
| 10  | 84                                    | 34.8 | 11                                               | 06.3 |                                                   | 49.3 | 277                                               | 14.0 |                                                   | 39.2 |
| 11  | 99                                    | 37.2 | 26                                               | 07.4 | +17                                               | 49.5 | 292                                               | 16.1 | +6                                                | 39.1 |
| 12  | 114                                   | 39.7 | 41                                               | 08.5 | +17                                               | 49.6 | 307                                               | 18.2 | +6                                                | 38.9 |
| 13  | 129                                   | 42.2 | 56                                               | 09.6 |                                                   | 49.8 | 322                                               | 20.2 |                                                   | 38.7 |
| 14  | 144                                   | 44.6 | 71                                               | 10.7 |                                                   | 49.9 | 337                                               | 22.3 |                                                   | 38.6 |
| 15  | 159                                   | 47.1 | 86                                               | 11.8 |                                                   | 50.1 | 352                                               | 24.4 |                                                   | 38.4 |
| 16  | 174                                   | 49.6 | 101                                              | 13.0 |                                                   | 50.2 | 7                                                 | 26.5 |                                                   | 38.2 |
| 17  | 189                                   | 52.0 | 116                                              | 14.1 | +17                                               | 50.4 | 22                                                | 28.5 | +6                                                | 38.1 |
| 18  | 204                                   | 54.5 | 131                                              | 15.2 | +17                                               | 50.5 | 37                                                | 30.6 | +6                                                | 37.9 |
| 19  | 219                                   | 56.9 | 146                                              | 16.3 |                                                   | 50.7 | 52                                                | 32.7 |                                                   | 37.7 |
| 20  | 234                                   | 59.4 | 161                                              | 17.4 |                                                   | 50.9 | 67                                                | 34.7 |                                                   | 37.5 |
| 21  | 250                                   | 01.9 | 176                                              | 18.5 |                                                   | 51.0 | 82                                                | 36.8 |                                                   | 37.4 |
| 22  | 265                                   | 04.3 | 191                                              | 19.6 |                                                   | 51.2 | 97                                                | 38.9 |                                                   | 37.2 |
| 23  | 280                                   | 06.8 | 206                                              | 20.6 |                                                   | 51.3 | 112                                               | 41.0 |                                                   | 37.0 |
| 24  | 295                                   | 09.3 | 221                                              | 21.7 | +17                                               | 51.5 | 127                                               | 43.0 | +6                                                | 36.9 |
| Dif | —                                     |      | +11                                              | +2   | +9                                                | -5   | +21                                               | -2   | +21                                               | 0    |

| UT  | SOL                                                             |      |     |      | ● LUNA                                                                                                                                                                   |                     |         |                    | Latitud                                           | Principio del crepúsculo |       | Salida de Sol | Salida de Luna                                    |     | Puesta de Luna |      |                                                   |     |      |  |
|-----|-----------------------------------------------------------------|------|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------|---------------------------------------------------|--------------------------|-------|---------------|---------------------------------------------------|-----|----------------|------|---------------------------------------------------|-----|------|--|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 2 |      |     |      | Edad: 29 <sup>d</sup> 1 PHE {<br>4 <sup>h</sup> : 54 <sup>m</sup> 2<br>12 <sup>h</sup> : 54 <sup>m</sup> 3<br>20 <sup>h</sup> : 54 <sup>m</sup> 4<br>Rº: 49 <sup>m</sup> |                     |         |                    |                                                   |                          |       |               |                                                   |     |                |      |                                                   |     |      |  |
|     | hG ☉                                                            |      | Dec |      | hG ☾ Dif                                                                                                                                                                 |                     | Dec Dif |                    |                                                   | Náutico                  | Civil |               | Hora                                              | Rº  | Hora           | Rº   |                                                   |     |      |  |
| h   | °                                                               | '    | °   | '    | °                                                                                                                                                                        | '                   | °       | '                  | °                                                 | h                        | m     | h             | m                                                 | h   | m              | h    | m                                                 |     |      |  |
| 0   | 178                                                             | 28.2 | +21 | 10.6 | 183                                                                                                                                                                      | 16.8                | +26     | 43.2               | 60 N                                              | ** *                     | 1 52  | 3 08          | 1 52                                              | 86  | 22 04          | 9    |                                                   |     |      |  |
| 1   | 193                                                             | 28.2 |     | 10.2 | 197                                                                                                                                                                      | 46.1 <sup>103</sup> |         | 39.5 <sup>37</sup> | 58                                                | ** *                     | 2 21  | 24            | 2 20                                              | 79  | 21 42          | 14   |                                                   |     |      |  |
| 2   | 208                                                             | 28.1 |     | 09.7 | 212                                                                                                                                                                      | 15.4 <sup>103</sup> |         | 35.7 <sup>38</sup> | 56                                                | 1 00                     | 2 43  | 38            | 2 42                                              | 75  | 24             | 19   |                                                   |     |      |  |
| 3   | 223                                                             | 28.1 |     | 09.3 | 226                                                                                                                                                                      | 44.8 <sup>104</sup> |         | 31.8 <sup>39</sup> | 54                                                | 1 43                     | 3 01  | 3 50          | 3 00                                              | 72  | 21 08          | 23   |                                                   |     |      |  |
| 4   | 238                                                             | 28.0 |     | 08.9 | 241                                                                                                                                                                      | 14.1 <sup>103</sup> |         | 27.7 <sup>41</sup> | 52                                                | 2 10                     | 16    | 4 01          | 16                                                | 69  | 20 55          | 25   |                                                   |     |      |  |
| 5   | 253                                                             | 27.9 | +21 | 08.5 | 255                                                                                                                                                                      | 43.5 <sup>104</sup> | +26     | 23.5 <sup>42</sup> | 50                                                | 2 30                     | 3 28  | 4 10          | 3 29                                              | 67  | 20 43          | 28   |                                                   |     |      |  |
| 6   | 268                                                             | 27.9 | +21 | 08.0 | 270                                                                                                                                                                      | 13.0 <sup>105</sup> | +26     | 19.2 <sup>43</sup> | 45                                                | 3 08                     | 3 54  | 4 30          | 3 56                                              | 64  | 20 19          | 32   |                                                   |     |      |  |
| 7   | 283                                                             | 27.8 |     | 07.6 | 284                                                                                                                                                                      | 42.4 <sup>104</sup> |         | 14.7 <sup>45</sup> | 40                                                | 34                       | 4 14  | 45            | 4 18                                              | 61  | 19 59          | 35   |                                                   |     |      |  |
| 8   | 298                                                             | 27.8 |     | 07.2 | 299                                                                                                                                                                      | 11.9 <sup>105</sup> |         | 10.1 <sup>46</sup> | 35                                                | 3 55                     | 30    | 4 59          | 35                                                | 59  | 43             | 38   |                                                   |     |      |  |
| 9   | 313                                                             | 27.7 |     | 06.7 | 313                                                                                                                                                                      | 41.4 <sup>105</sup> |         | 05.4 <sup>47</sup> | 30                                                | 4 11                     | 4 44  | 5 10          | 4 51                                              | 57  | 29             | 40   |                                                   |     |      |  |
| 10  | 328                                                             | 27.7 |     | 06.3 | 328                                                                                                                                                                      | 11.0 <sup>106</sup> | +26     | 00.6 <sup>48</sup> | 20                                                | 37                       | 5 06  | 30            | 5 17                                              | 54  | 19 05          | 43   |                                                   |     |      |  |
| 11  | 343                                                             | 27.6 | +21 | 05.9 | 342                                                                                                                                                                      | 40.6 <sup>106</sup> | +25     | 55.6 <sup>50</sup> | 10 N                                              | 4 58                     | 5 24  | 5 47          | 5 39                                              | 52  | 18 44          | 46   |                                                   |     |      |  |
| 12  | 358                                                             | 27.6 | +21 | 05.4 | 357                                                                                                                                                                      | 10.2 <sup>106</sup> | +25     | 50.5 <sup>51</sup> | 0                                                 | 5 15                     | 5 40  | 6 03          | 6 00                                              | 49  | 18 24          | 49   |                                                   |     |      |  |
| 13  | 13                                                              | 27.5 |     | 05.0 | 11                                                                                                                                                                       | 39.9 <sup>107</sup> |         | 45.3 <sup>52</sup> | 10 S                                              | 30                       | 5 56  | 18            | 20                                                | 48  | 18 04          | 52   |                                                   |     |      |  |
| 14  | 28                                                              | 27.5 |     | 04.6 | 26                                                                                                                                                                       | 09.6 <sup>107</sup> |         | 40.0 <sup>53</sup> | 20                                                | 44                       | 6 11  | 35            | 6 42                                              | 46  | 17 43          | 54   |                                                   |     |      |  |
| 15  | 43                                                              | 27.4 |     | 04.1 | 40                                                                                                                                                                       | 39.3 <sup>107</sup> |         | 34.5 <sup>55</sup> | 30                                                | 5 58                     | 28    | 6 53          | 7 08                                              | 42  | 18             | 58   |                                                   |     |      |  |
| 16  | 58                                                              | 27.4 |     | 03.7 | 55                                                                                                                                                                       | 09.1 <sup>108</sup> |         | 28.9 <sup>56</sup> | 35                                                | 6 06                     | 37    | 7 04          | 23                                                | 41  | 17 03          | 60   |                                                   |     |      |  |
| 17  | 73                                                              | 27.3 | +21 | 03.3 | 69                                                                                                                                                                       | 38.9 <sup>108</sup> | +25     | 23.2 <sup>57</sup> | 40                                                | 6 14                     | 6 47  | 7 17          | 7 41                                              | 38  | 16 46          | 63   |                                                   |     |      |  |
| 18  | 88                                                              | 27.3 | +21 | 02.8 | 84                                                                                                                                                                       | 08.7 <sup>108</sup> | +25     | 17.4 <sup>58</sup> | 45                                                | 6 22                     | 6 59  | 7 32          | 8 02                                              | 35  | 16 26          | 66   |                                                   |     |      |  |
| 19  | 103                                                             | 27.2 |     | 02.4 | 98                                                                                                                                                                       | 38.6 <sup>109</sup> |         | 11.4 <sup>60</sup> | 50                                                | 32                       | 7 13  | 50            | 28                                                | 31  | 16 00          | 70   |                                                   |     |      |  |
| 20  | 118                                                             | 27.2 |     | 01.9 | 113                                                                                                                                                                      | 08.6 <sup>110</sup> | +25     | 05.3 <sup>61</sup> | 52                                                | 37                       | 19    | 7 58          | 41                                                | 29  | 15 48          | 72   |                                                   |     |      |  |
| 21  | 133                                                             | 27.1 |     | 01.5 | 127                                                                                                                                                                      | 38.5 <sup>109</sup> | +24     | 59.1 <sup>62</sup> | 54                                                | 41                       | 26    | 8 07          | 8 56                                              | 26  | 33             | 75   |                                                   |     |      |  |
| 22  | 148                                                             | 27.1 |     | 01.1 | 142                                                                                                                                                                      | 08.6 <sup>111</sup> |         | 52.8 <sup>63</sup> | 56                                                | 46                       | 34    | 18            | 9 13                                              | 23  | 15 16          | 79   |                                                   |     |      |  |
| 23  | 163                                                             | 27.0 |     | 00.6 | 156                                                                                                                                                                      | 38.6 <sup>110</sup> |         | 46.4 <sup>64</sup> | 58                                                | 52                       | 42    | 30            | 9 33                                              | 19  | 14 56          | 83   |                                                   |     |      |  |
| 24  | 178                                                             | 27.0 | +21 | 00.2 | 171                                                                                                                                                                      | 08.7 <sup>111</sup> | +24     | 39.8 <sup>66</sup> | 60 S                                              | 6 58                     | 7 52  | 8 45          | 10 00                                             | 12  | 14 30          | 91   |                                                   |     |      |  |
| UT  | ARIES                                                           |      |     |      | VENUS                                                                                                                                                                    |                     |         |                    | MARTE                                             |                          |       |               | JÚPITER                                           |     |                |      | SATURNO                                           |     |      |  |
|     | PMG<br>4 <sup>h</sup> 18 <sup>m</sup> 7                         |      |     |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 14 <sup>m</sup>                                                                                                                         |                     |         |                    | Mag: +1.8<br>PMG: 13 <sup>h</sup> 28 <sup>m</sup> |                          |       |               | Mag: -1.8<br>PMG: 15 <sup>h</sup> 27 <sup>m</sup> |     |                |      | Mag: +0.1<br>PMG: 11 <sup>h</sup> 35 <sup>m</sup> |     |      |  |
| h   | hG ♈                                                            | Dec  |     | hG ♀ | Dec                                                                                                                                                                      |                     | hG ♂    | Dec                |                                                   | hG ♃                     | Dec   |               | hG ♄                                              | Dec |                | hG ♅ | Dec                                               |     |      |  |
| 0   | 295                                                             | 09.3 |     | 221  | 21.7                                                                                                                                                                     | +17                 | 51.5    | 157                | 45.4                                              | +17                      | 35.6  | 127           | 43.0                                              | +6  | 36.9           | 185  | 47.2                                              | +21 | 59.4 |  |
| 1   | 310                                                             | 11.7 |     | 236  | 22.8                                                                                                                                                                     |                     | 51.6    | 172                | 46.3                                              |                          | 35.1  | 142           | 45.1                                              |     | 36.7           | 200  | 49.3                                              |     | 59.4 |  |
| 2   | 325                                                             | 14.2 |     | 251  | 23.9                                                                                                                                                                     |                     | 51.8    | 187                | 47.2                                              |                          | 34.7  | 157           | 47.2                                              |     | 36.5           | 215  | 51.5                                              |     | 59.3 |  |
| 3   | 340                                                             | 16.7 |     | 266  | 25.0                                                                                                                                                                     |                     | 52.0    | 202                | 48.1                                              |                          | 34.2  | 172           | 49.3                                              |     | 36.4           | 230  | 53.6                                              |     | 59.3 |  |
| 4   | 355                                                             | 19.1 |     | 281  | 26.1                                                                                                                                                                     |                     | 52.1    | 217                | 48.9                                              |                          | 33.7  | 187           | 51.3                                              |     | 36.2           | 245  | 55.7                                              |     | 59.3 |  |
| 5   | 10                                                              | 21.6 |     | 296  | 27.1                                                                                                                                                                     | +17                 | 52.3    | 232                | 49.8                                              | +17                      | 33.3  | 202           | 53.4                                              | +6  | 36.0           | 260  | 57.8                                              | +21 | 59.2 |  |
| 6   | 25                                                              | 24.1 |     | 311  | 28.2                                                                                                                                                                     | +17                 | 52.5    | 247                | 50.7                                              | +17                      | 32.8  | 217           | 55.5                                              | +6  | 35.9           | 275  | 59.9                                              | +21 | 59.2 |  |
| 7   | 40                                                              | 26.5 |     | 326  | 29.3                                                                                                                                                                     |                     | 52.6    | 262                | 51.6                                              |                          | 32.3  | 232           | 57.5                                              |     | 35.7           | 291  | 02.1                                              |     | 59.1 |  |
| 8   | 55                                                              | 29.0 |     | 341  | 30.3                                                                                                                                                                     |                     | 52.8    | 277                | 52.5                                              |                          | 31.8  | 247           | 59.6                                              |     | 35.5           | 306  | 04.2                                              |     | 59.1 |  |
| 9   | 70                                                              | 31.4 |     | 356  | 31.4                                                                                                                                                                     |                     | 52.9    | 292                | 53.4                                              |                          | 31.4  | 263           | 01.7                                              |     | 35.3           | 321  | 06.3                                              |     | 59.1 |  |
| 10  | 85                                                              | 33.9 |     | 11   | 32.5                                                                                                                                                                     |                     | 53.1    | 307                | 54.3                                              |                          | 30.9  | 278           | 03.8                                              |     | 35.2           | 336  | 08.4                                              |     | 59.0 |  |
| 11  | 100                                                             | 36.4 |     | 26   | 33.5                                                                                                                                                                     | +17                 | 53.3    | 322                | 55.2                                              | +17                      | 30.4  | 293           | 05.8                                              | +6  | 35.0           | 351  | 10.5                                              | +21 | 59.0 |  |
| 12  | 115                                                             | 38.8 |     | 41   | 34.6                                                                                                                                                                     | +17                 | 53.4    | 337                | 56.0                                              | +17                      | 30.0  | 308           | 07.9                                              | +6  | 34.8           | 6    | 12.6                                              | +21 | 58.9 |  |
| 13  | 130                                                             | 41.3 |     | 56   | 35.6                                                                                                                                                                     |                     | 53.6    | 352                | 56.9                                              |                          | 29.5  | 323           | 10.0                                              |     | 34.7           | 21   | 14.8                                              |     | 58.9 |  |
| 14  | 145                                                             | 43.8 |     | 71   | 36.7                                                                                                                                                                     |                     | 53.8    | 7                  | 57.8                                              |                          | 29.0  | 338           | 12.0                                              |     | 34.5           | 36   | 16.9                                              |     | 58.9 |  |
| 15  | 160                                                             | 46.2 |     | 86   | 37.8                                                                                                                                                                     |                     | 53.9    | 22                 | 58.7                                              |                          | 28.6  | 353           | 14.1                                              |     | 34.3           | 51   | 19.0                                              |     | 58.8 |  |
| 16  | 175                                                             | 48.7 |     | 101  | 38.8                                                                                                                                                                     |                     | 54.1    | 37                 | 59.6                                              |                          | 28.1  | 8             | 16.2                                              |     | 34.2           | 66   | 21.1                                              |     | 58.8 |  |
| 17  | 190                                                             | 51.2 |     | 116  | 39.9                                                                                                                                                                     | +17                 | 54.3    | 53                 | 00.5                                              | +17                      | 27.6  | 23            | 18.2                                              | +6  | 34.0           | 81   | 23.2                                              | +21 | 58.7 |  |
| 18  | 205                                                             | 53.6 |     | 131  | 40.9                                                                                                                                                                     | +17                 | 54.4    | 68                 | 01.4                                              | +17                      | 27.1  | 38            | 20.3                                              | +6  | 33.8           | 96   | 25.4                                              | +21 | 58.7 |  |
| 19  | 220                                                             | 56.1 |     | 146  | 41.9                                                                                                                                                                     |                     | 54.6    | 83                 | 02.2                                              |                          | 26.7  | 53            | 22.4                                              |     | 33.6           | 111  | 27.5                                              |     | 58.7 |  |
| 20  | 235                                                             | 58.6 |     | 161  | 43.0                                                                                                                                                                     |                     | 54.8    | 98                 | 03.1                                              |                          | 26.2  | 68            | 24.5                                              |     | 33.5           | 126  | 29.6                                              |     | 58.6 |  |
| 21  | 251                                                             | 01.0 |     | 176  | 44.0                                                                                                                                                                     |                     | 54.9    | 113                | 04.0                                              |                          | 25.7  | 83            | 26.5                                              |     | 33.3           | 141  | 31.7                                              |     | 58.6 |  |
| 22  | 266                                                             | 03.5 |     | 191  | 45.0                                                                                                                                                                     |                     | 55.1    | 128                | 04.9                                              |                          | 25.3  | 98            | 28.6                                              |     | 33.1           | 156  | 33.8                                              |     | 58.5 |  |
| 23  | 281                                                             | 05.9 |     | 206  | 46.1                                                                                                                                                                     |                     | 55.3    | 143                | 05.8                                              |                          | 24.8  | 113           | 30.7                                              |     | 33.0           | 171  | 35.9                                              |     | 58.5 |  |
| 24  | 296                                                             | 08.4 |     | 221  | 47.1                                                                                                                                                                     | +17                 | 55.4    | 158                | 06.7                                              | +17                      | 24.3  | 128           | 32.7                                              | +6  | 32.8           | 186  | 38.1                                              | +21 | 58.5 |  |
| Dif | —                                                               |      |     | +11  | +2                                                                                                                                                                       |                     |         | +9                 | -5                                                |                          |       | +21           | -2                                                |     |                | +21  | 0                                                 |     |      |  |

| UT  | SOL                                                |      |          | ● LUNA                                                                                                                         |                     |          | Latitud                                           | Puesta de Sol | Final del crepúsculo |                                                   |       | Salida de Luna |                                                   | Puesta de Luna |      |
|-----|----------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|---------------------------------------------------|---------------|----------------------|---------------------------------------------------|-------|----------------|---------------------------------------------------|----------------|------|
|     | SD: 15:7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 2 |      |          | Edad: 30 <sup>d</sup> 1 PHE { 4 <sup>h</sup> : 54:5<br>12 <sup>h</sup> : 54:6<br>20 <sup>h</sup> : 54:7<br>R°: 47 <sup>m</sup> |                     |          |                                                   |               |                      |                                                   |       |                |                                                   |                |      |
|     | hG ☉                                               | Dec  |          | hG ☾                                                                                                                           | Dif                 | Dec      |                                                   |               | Dif                  |                                                   | Civil | Náutico        | Hora                                              | R°             | Hora |
| h   | °                                                  | '    | °        | °                                                                                                                              | '                   | °        | '                                                 | °             | h m                  | h m                                               | h m   | h m m          | h m m                                             | h m m          |      |
| 0   | 178                                                | 27.0 | +21 00.2 | 171                                                                                                                            | 08.7                | +24 39.8 | 67                                                | 60 N          | 21 01                | 22 14                                             | ** ** | 3 18 91        | 22 13 4                                           |                |      |
| 1   | 193                                                | 26.9 | +20 59.7 | 185                                                                                                                            | 38.9 <sup>112</sup> | 33.1     | 67                                                | 58            | 20 45                | 21 47                                             | ** ** | 39 85          | 21 56 9                                           |                |      |
| 2   | 208                                                | 26.9 | 59.3     | 200                                                                                                                            | 09.1 <sup>112</sup> | 26.3     | 68                                                | 56            | 32                   | 26                                                | 23 03 | 3 57 81        | 43 13                                             |                |      |
| 3   | 223                                                | 26.8 | 58.9     | 214                                                                                                                            | 39.3 <sup>112</sup> | 19.4     | 69                                                | 54            | 20                   | 21 09                                             | 22 24 | 4 12 77        | 31 16                                             |                |      |
| 4   | 238                                                | 26.8 | 58.4     | 229                                                                                                                            | 09.6 <sup>113</sup> | 12.4     | 70                                                | 52            | 10                   | 20 54                                             | 21 58 | 25 74          | 20 19                                             |                |      |
| 5   | 253                                                | 26.8 | +20 58.0 | 243                                                                                                                            | 39.9 <sup>113</sup> | +24 05.3 | 71                                                | 50            | 20 01                | 20 42                                             | 21 39 | 4 36 72        | 21 11 21                                          |                |      |
| 6   | 268                                                | 26.7 | +20 57.5 | 258                                                                                                                            | 10.3 <sup>114</sup> | +23 58.0 | 73                                                | 45            | 19 41                | 20 17                                             | 21 03 | 5 00 67        | 20 51 26                                          |                |      |
| 7   | 283                                                | 26.7 | 57.1     | 272                                                                                                                            | 40.7 <sup>114</sup> | 50.6     | 74                                                | 40            | 26                   | 19 57                                             | 20 37 | 19 63          | 34 30                                             |                |      |
| 8   | 298                                                | 26.6 | 56.6     | 287                                                                                                                            | 11.2 <sup>115</sup> | 43.1     | 75                                                | 35            | 13                   | 41                                                | 17    | 34 61          | 21 32                                             |                |      |
| 9   | 313                                                | 26.6 | 56.2     | 301                                                                                                                            | 41.7 <sup>115</sup> | 35.5     | 76                                                | 30            | 19 01                | 28                                                | 20 00 | 5 48 58        | 20 09 35                                          |                |      |
| 10  | 328                                                | 26.5 | 55.7     | 316                                                                                                                            | 12.2 <sup>115</sup> | 27.8     | 77                                                | 20            | 18 42                | 19 06                                             | 19 34 | 6 11 54        | 19 48 39                                          |                |      |
| 11  | 343                                                | 26.5 | +20 55.3 | 330                                                                                                                            | 42.9 <sup>117</sup> | +23 20.0 | 78                                                | 10 N          | 18 25                | 18 48                                             | 19 14 | 6 31 51        | 19 30 43                                          |                |      |
| 12  | 358                                                | 26.4 | +20 54.8 | 345                                                                                                                            | 13.5 <sup>116</sup> | +23 12.1 | 79                                                | 0             | 18 10                | 18 32                                             | 18 58 | 6 49 48        | 19 13 46                                          |                |      |
| 13  | 13                                                 | 26.4 | 54.4     | 359                                                                                                                            | 44.2 <sup>117</sup> | +23 04.0 | 81                                                | 10 S          | 17 54                | 17                                                | 43    | 7 08 45        | 18 56 50                                          |                |      |
| 14  | 28                                                 | 26.3 | 54.0     | 14                                                                                                                             | 15.0 <sup>118</sup> | +22 55.9 | 81                                                | 20            | 38                   | 18 02                                             | 29    | 28 41          | 37 54                                             |                |      |
| 15  | 43                                                 | 26.3 | 53.5     | 28                                                                                                                             | 45.8 <sup>118</sup> | 47.6     | 83                                                | 30            | 20                   | 17 45                                             | 15    | 7 50 38        | 16 58                                             |                |      |
| 16  | 58                                                 | 26.3 | 53.1     | 43                                                                                                                             | 16.7 <sup>119</sup> | 39.2     | 84                                                | 35            | 17 09                | 36                                                | 07    | 8 04 35        | 18 03 61                                          |                |      |
| 17  | 73                                                 | 26.2 | +20 52.6 | 57                                                                                                                             | 47.6 <sup>119</sup> | +22 30.7 | 85                                                | 40            | 16 56                | 17 26                                             | 18 00 | 8 19 32        | 17 49 64                                          |                |      |
| 18  | 88                                                 | 26.2 | +20 52.1 | 72                                                                                                                             | 18.5 <sup>119</sup> | +22 22.1 | 86                                                | 45            | 16 42                | 17 15                                             | 17 51 | 8 37 29        | 17 32 67                                          |                |      |
| 19  | 103                                                | 26.1 | 51.7     | 86                                                                                                                             | 49.5 <sup>120</sup> | 13.5     | 86                                                | 50            | 24                   | 17 01                                             | 41    | 8 59 24        | 10 73                                             |                |      |
| 20  | 118                                                | 26.1 | 51.2     | 101                                                                                                                            | 20.6 <sup>121</sup> | +22 04.7 | 88                                                | 52            | 16                   | 16 55                                             | 37    | 9 10 22        | 17 00 75                                          |                |      |
| 21  | 133                                                | 26.0 | 50.8     | 115                                                                                                                            | 51.7 <sup>121</sup> | +21 55.7 | 90                                                | 54            | 16 07                | 48                                                | 33    | 22 19          | 16 48 79                                          |                |      |
| 22  | 148                                                | 26.0 | 50.3     | 130                                                                                                                            | 22.9 <sup>122</sup> | 46.7     | 90                                                | 56            | 15 56                | 41                                                | 28    | 36 16          | 35 82                                             |                |      |
| 23  | 163                                                | 26.0 | 49.9     | 144                                                                                                                            | 54.1 <sup>122</sup> | 37.6     | 91                                                | 58            | 44                   | 32                                                | 22    | 9 52 11        | 19 87                                             |                |      |
| 24  | 178                                                | 25.9 | +20 49.4 | 159                                                                                                                            | 25.3 <sup>122</sup> | +21 28.4 | 92                                                | 60 S          | 15 30                | 16 23                                             | 17 16 | 10 12 5        | 16 01 91                                          |                |      |
| UT  | ARIES                                              |      |          | VENUS                                                                                                                          |                     |          | MARTE                                             |               |                      | JÚPITER                                           |       |                | SATURNO                                           |                |      |
|     | PMG: 4 <sup>h</sup> 14 <sup>m</sup> 7              |      |          | Mag: -4.7<br>PMG: 9 <sup>h</sup> 12 <sup>m</sup>                                                                               |                     |          | Mag: +1.8<br>PMG: 13 <sup>h</sup> 27 <sup>m</sup> |               |                      | Mag: -1.8<br>PMG: 15 <sup>h</sup> 24 <sup>m</sup> |       |                | Mag: +0.1<br>PMG: 11 <sup>h</sup> 32 <sup>m</sup> |                |      |
|     | hG ♈                                               |      |          | hG ♀                                                                                                                           | Dec                 |          | hG ♂                                              | Dec           |                      | hG ♃                                              | Dec   |                | hG ♄                                              | Dec            |      |
| h   | °                                                  | '    | °        | °                                                                                                                              | '                   | °        | '                                                 | °             | °                    | '                                                 | °     | '              | °                                                 | '              |      |
| 0   | 296                                                | 08.4 | 221 47.1 | +17 55.4                                                                                                                       | 158 06.7            | +17 24.3 | 128 32.7                                          | +6 32.8       | 186 38.1             | +21 58.5                                          |       |                |                                                   |                |      |
| 1   | 311                                                | 10.9 | 236 48.1 | 55.6                                                                                                                           | 173 07.6            | 23.8     | 143 34.8                                          | 32.6          | 201 40.2             | 58.4                                              |       |                |                                                   |                |      |
| 2   | 326                                                | 13.3 | 251 49.2 | 55.8                                                                                                                           | 188 08.5            | 23.4     | 158 36.9                                          | 32.5          | 216 42.3             | 58.4                                              |       |                |                                                   |                |      |
| 3   | 341                                                | 15.8 | 266 50.2 | 56.0                                                                                                                           | 203 09.4            | 22.9     | 173 38.9                                          | 32.3          | 231 44.4             | 58.3                                              |       |                |                                                   |                |      |
| 4   | 356                                                | 18.3 | 281 51.2 | 56.1                                                                                                                           | 218 10.2            | 22.4     | 188 41.0                                          | 32.1          | 246 46.5             | 58.3                                              |       |                |                                                   |                |      |
| 5   | 11                                                 | 20.7 | 296 52.2 | +17 56.3                                                                                                                       | 233 11.1            | +17 22.0 | 203 43.1                                          | +6 31.9       | 261 48.7             | +21 58.3                                          |       |                |                                                   |                |      |
| 6   | 26                                                 | 23.2 | 311 53.2 | +17 56.5                                                                                                                       | 248 12.0            | +17 21.5 | 218 45.1                                          | +6 31.8       | 276 50.8             | +21 58.2                                          |       |                |                                                   |                |      |
| 7   | 41                                                 | 25.7 | 326 54.2 | 56.7                                                                                                                           | 263 12.9            | 21.0     | 233 47.2                                          | 31.6          | 291 52.9             | 58.2                                              |       |                |                                                   |                |      |
| 8   | 56                                                 | 28.1 | 341 55.3 | 56.8                                                                                                                           | 278 13.8            | 20.5     | 248 49.3                                          | 31.4          | 306 55.0             | 58.2                                              |       |                |                                                   |                |      |
| 9   | 71                                                 | 30.6 | 356 56.3 | 57.0                                                                                                                           | 293 14.7            | 20.1     | 263 51.4                                          | 31.3          | 321 57.1             | 58.1                                              |       |                |                                                   |                |      |
| 10  | 86                                                 | 33.0 | 11 57.3  | 57.2                                                                                                                           | 308 15.6            | 19.6     | 278 53.4                                          | 31.1          | 336 59.3             | 58.1                                              |       |                |                                                   |                |      |
| 11  | 101                                                | 35.5 | 26 58.3  | +17 57.3                                                                                                                       | 323 16.5            | +17 19.1 | 293 55.5                                          | +6 30.9       | 352 01.4             | +21 58.0                                          |       |                |                                                   |                |      |
| 12  | 116                                                | 38.0 | 41 59.3  | +17 57.5                                                                                                                       | 338 17.4            | +17 18.6 | 308 57.6                                          | +6 30.7       | 7 03.5               | +21 58.0                                          |       |                |                                                   |                |      |
| 13  | 131                                                | 40.4 | 57 00.3  | 57.7                                                                                                                           | 353 18.2            | 18.2     | 323 59.6                                          | 30.6          | 22 05.6              | 58.0                                              |       |                |                                                   |                |      |
| 14  | 146                                                | 42.9 | 72 01.3  | 57.9                                                                                                                           | 8 19.1              | 17.7     | 339 01.7                                          | 30.4          | 37 07.7              | 57.9                                              |       |                |                                                   |                |      |
| 15  | 161                                                | 45.4 | 87 02.3  | 58.1                                                                                                                           | 23 20.0             | 17.2     | 354 03.8                                          | 30.2          | 52 09.8              | 57.9                                              |       |                |                                                   |                |      |
| 16  | 176                                                | 47.8 | 102 03.3 | 58.2                                                                                                                           | 38 20.9             | 16.7     | 9 05.8                                            | 30.1          | 67 12.0              | 57.8                                              |       |                |                                                   |                |      |
| 17  | 191                                                | 50.3 | 117 04.2 | +17 58.4                                                                                                                       | 53 21.8             | +17 16.3 | 24 07.9                                           | +6 29.9       | 82 14.1              | +21 57.8                                          |       |                |                                                   |                |      |
| 18  | 206                                                | 52.8 | 132 05.2 | +17 58.6                                                                                                                       | 68 22.7             | +17 15.8 | 39 10.0                                           | +6 29.7       | 97 16.2              | +21 57.8                                          |       |                |                                                   |                |      |
| 19  | 221                                                | 55.2 | 147 06.2 | 58.8                                                                                                                           | 83 23.6             | 15.3     | 54 12.0                                           | 29.6          | 112 18.3             | 57.7                                              |       |                |                                                   |                |      |
| 20  | 236                                                | 57.7 | 162 07.2 | 58.9                                                                                                                           | 98 24.5             | 14.8     | 69 14.1                                           | 29.4          | 127 20.4             | 57.7                                              |       |                |                                                   |                |      |
| 21  | 252                                                | 00.2 | 177 08.2 | 59.1                                                                                                                           | 113 25.4            | 14.4     | 84 16.2                                           | 29.2          | 142 22.6             | 57.6                                              |       |                |                                                   |                |      |
| 22  | 267                                                | 02.6 | 192 09.2 | 59.3                                                                                                                           | 128 26.3            | 13.9     | 99 18.2                                           | 29.0          | 157 24.7             | 57.6                                              |       |                |                                                   |                |      |
| 23  | 282                                                | 05.1 | 207 10.1 | 59.5                                                                                                                           | 143 27.1            | 13.4     | 114 20.3                                          | 28.9          | 172 26.8             | 57.6                                              |       |                |                                                   |                |      |
| 24  | 297                                                | 07.5 | 222 11.1 | +17 59.7                                                                                                                       | 158 28.0            | +17 12.9 | 129 22.4                                          | +6 28.7       | 187 28.9             | +21 57.5                                          |       |                |                                                   |                |      |
| Dif | —                                                  |      | +10      | +2                                                                                                                             | +9                  | -5       | +21                                               | -2            | +21                  | 0                                                 |       |                |                                                   |                |      |

| UT  | SOL                                    |      |          | ● LUNA                                           |                     |                                                                                                                  | Latitud                                           | Principio del crepúsculo |          | Salida de Sol                                     | Salida de Luna |       | Puesta de Luna                                    |       |                       |                                      |
|-----|----------------------------------------|------|----------|--------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|--------------------------|----------|---------------------------------------------------|----------------|-------|---------------------------------------------------|-------|-----------------------|--------------------------------------|
|     | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 1 <sup>d</sup> 5                           | PHE {               | 4 <sup>h</sup> : 54 <sup>m</sup> 8<br>12 <sup>h</sup> : 55 <sup>m</sup> 0<br>20 <sup>h</sup> : 55 <sup>m</sup> 1 |                                                   | Náutico                  | Civil    |                                                   | Hora           | R°    | Hora                                              | R°    |                       |                                      |
|     | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 3 |      |          |                                                  |                     |                                                                                                                  |                                                   |                          |          |                                                   |                |       |                                                   |       | SD: 14 <sup>h</sup> 9 | PMG: 13 <sup>h</sup> 48 <sup>m</sup> |
|     | hG ☉                                   | Dec  |          | hG ☾                                             | Dif                 | Dec                                                                                                              | Dif                                               |                          |          |                                                   |                |       |                                                   |       |                       |                                      |
| h   | °                                      | '    | °        | °                                                | '                   | °                                                                                                                | '                                                 | °                        | h        | m                                                 | h              | m     | h                                                 | m     | h                     | m                                    |
| 0   | 178                                    | 25.9 | +20 49.4 | 159                                              | 25.3                | +21 28.4                                                                                                         | 93                                                | 60 N                     | ** **    | 1 59                                              | 3 12           | 4 49  | 91                                                | 22 17 | 2                     |                                      |
| 1   | 193                                    | 25.9 | 49.0     | 173                                              | 56.6 <sup>123</sup> | 19.1                                                                                                             | 93                                                | 58                       | ** *     | 2 26                                              | 28             | 5 04  | 87                                                | 22 05 | 7                     |                                      |
| 2   | 208                                    | 25.8 | 48.5     | 188                                              | 28.0 <sup>124</sup> | 09.7                                                                                                             | 94                                                | 56                       | 1 10     | 2 47                                              | 41             | 18    | 82                                                | 21 56 | 9                     |                                      |
| 3   | 223                                    | 25.8 | 48.1     | 202                                              | 59.4 <sup>124</sup> | +21 00.2                                                                                                         | 95                                                | 54                       | 1 49     | 3 04                                              | 3 53           | 29    | 79                                                | 47    | 12                    |                                      |
| 4   | 238                                    | 25.7 | 47.6     | 217                                              | 30.9 <sup>125</sup> | +20 50.6                                                                                                         | 96                                                | 52                       | 2 14     | 19                                                | 4 03           | 39    | 76                                                | 39    | 15                    |                                      |
| 5   | 253                                    | 25.7 | +20 47.1 | 232                                              | 02.4 <sup>125</sup> | +20 40.9                                                                                                         | 97                                                | 50                       | 2 34     | 3 31                                              | 4 12           | 5 48  | 73                                                | 21 32 | 17                    |                                      |
| 6   | 268                                    | 25.7 | +20 46.7 | 246                                              | 34.0 <sup>126</sup> | +20 31.0                                                                                                         | 99                                                | 45                       | 3 10     | 3 56                                              | 4 32           | 6 07  | 68                                                | 21 17 | 22                    |                                      |
| 7   | 283                                    | 25.6 | 46.2     | 261                                              | 05.6 <sup>126</sup> | 21.1                                                                                                             | 99                                                | 40                       | 36       | 4 16                                              | 4 47           | 22    | 64                                                | 21 04 | 26                    |                                      |
| 8   | 298                                    | 25.6 | 45.8     | 275                                              | 37.3 <sup>127</sup> | 11.1                                                                                                             | 100                                               | 35                       | 3 56     | 31                                                | 5 00           | 35    | 61                                                | 20 53 | 29                    |                                      |
| 9   | 313                                    | 25.5 | 45.3     | 290                                              | 09.0 <sup>127</sup> | +20 01.0                                                                                                         | 101                                               | 30                       | 4 13     | 4 45                                              | 11             | 6 46  | 58                                                | 44    | 32                    |                                      |
| 10  | 328                                    | 25.5 | 44.8     | 304                                              | 40.8 <sup>128</sup> | +19 50.9                                                                                                         | 101                                               | 20                       | 38       | 5 07                                              | 31             | 7 05  | 54                                                | 27    | 37                    |                                      |
| 11  | 343                                    | 25.5 | +20 44.4 | 319                                              | 12.6 <sup>128</sup> | +19 40.6                                                                                                         | 103                                               | 10 N                     | 4 58     | 5 25                                              | 5 47           | 7 22  | 49                                                | 20 13 | 41                    |                                      |
| 12  | 358                                    | 25.4 | +20 43.9 | 333                                              | 44.4 <sup>128</sup> | +19 30.2                                                                                                         | 104                                               | 0                        | 5 15     | 5 41                                              | 6 03           | 7 37  | 46                                                | 19 59 | 45                    |                                      |
| 13  | 13                                     | 25.4 | 43.4     | 348                                              | 16.4 <sup>130</sup> | 19.7                                                                                                             | 105                                               | 10 S                     | 30       | 5 56                                              | 18             | 7 53  | 42                                                | 46    | 49                    |                                      |
| 14  | 28                                     | 25.3 | 43.0     | 2                                                | 48.3 <sup>129</sup> | +19 09.2                                                                                                         | 105                                               | 20                       | 44       | 6 11                                              | 34             | 8 09  | 38                                                | 31    | 53                    |                                      |
| 15  | 43                                     | 25.3 | 42.5     | 17                                               | 20.3 <sup>130</sup> | +18 58.5                                                                                                         | 107                                               | 30                       | 5 58     | 27                                                | 6 53           | 28    | 33                                                | 14    | 58                    |                                      |
| 16  | 58                                     | 25.3 | 42.1     | 31                                               | 52.4 <sup>131</sup> | 47.8                                                                                                             | 107                                               | 35                       | 6 05     | 36                                                | 7 03           | 39    | 30                                                | 19 04 | 61                    |                                      |
| 17  | 73                                     | 25.2 | +20 41.6 | 46                                               | 24.5 <sup>131</sup> | +18 37.0                                                                                                         | 108                                               | 40                       | 6 13     | 6 46                                              | 7 16           | 8 51  | 28                                                | 18 53 | 64                    |                                      |
| 18  | 88                                     | 25.2 | +20 41.1 | 60                                               | 56.7 <sup>132</sup> | +18 26.1                                                                                                         | 109                                               | 45                       | 6 21     | 6 57                                              | 7 30           | 9 06  | 23                                                | 18 39 | 69                    |                                      |
| 19  | 103                                    | 25.1 | 40.7     | 75                                               | 28.9 <sup>132</sup> | 15.1                                                                                                             | 110                                               | 50                       | 31       | 7 11                                              | 48             | 23    | 19                                                | 23    | 73                    |                                      |
| 20  | 118                                    | 25.1 | 40.2     | 90                                               | 01.1 <sup>132</sup> | +18 04.0                                                                                                         | 111                                               | 52                       | 35       | 17                                                | 7 56           | 32    | 16                                                | 15    | 76                    |                                      |
| 21  | 133                                    | 25.1 | 39.7     | 104                                              | 33.5 <sup>134</sup> | +17 52.8                                                                                                         | 112                                               | 54                       | 39       | 24                                                | 8 05           | 41    | 14                                                | 18 07 | 78                    |                                      |
| 22  | 148                                    | 25.0 | 39.2     | 119                                              | 05.8 <sup>133</sup> | 41.6                                                                                                             | 112                                               | 56                       | 44       | 31                                                | 15             | 9 52  | 10                                                | 17 57 | 82                    |                                      |
| 23  | 163                                    | 25.0 | 38.8     | 133                                              | 38.2 <sup>134</sup> | 30.2                                                                                                             | 114                                               | 58                       | 49       | 40                                                | 27             | 10 03 | 8                                                 | 46    | 85                    |                                      |
| 24  | 178                                    | 25.0 | +20 38.3 | 148                                              | 10.6 <sup>134</sup> | +17 18.8                                                                                                         | 114                                               | 60 S                     | 6 55     | 7 49                                              | 8 41           | 10 17 | 3                                                 | 17 32 | 91                    |                                      |
| UT  | ARIES                                  |      |          | VENUS                                            |                     |                                                                                                                  | MARTE                                             |                          |          | JÚPITER                                           |                |       | SATURNO                                           |       |                       |                                      |
|     | PMG: 4 <sup>h</sup> 10 <sup>m</sup> 8  |      |          | Mag: -4.7<br>PMG: 9 <sup>h</sup> 11 <sup>m</sup> |                     |                                                                                                                  | Mag: +1.8<br>PMG: 13 <sup>h</sup> 25 <sup>m</sup> |                          |          | Mag: -1.8<br>PMG: 15 <sup>h</sup> 20 <sup>m</sup> |                |       | Mag: +0.1<br>PMG: 11 <sup>h</sup> 28 <sup>m</sup> |       |                       |                                      |
|     | hG ♈                                   |      |          | hG ♀                                             | Dec                 |                                                                                                                  | hG ♂                                              | Dec                      |          | hG ♃                                              | Dec            |       | hG ♄                                              | Dec   |                       |                                      |
| h   | °                                      | '    | °        | °                                                | '                   | °                                                                                                                | '                                                 | °                        | °        | '                                                 | °              | '     | °                                                 | °     | '                     | °                                    |
| 0   | 297                                    | 07.5 | 222 11.1 | +17 59.7                                         | 158 28.0            | +17 12.9                                                                                                         | 129 22.4                                          | +6 28.7                  | 187 28.9 | +21 57.5                                          |                |       | 187                                               | 28.9  | +21 57.5              |                                      |
| 1   | 312                                    | 10.0 | 237 12.1 | +17 59.8                                         | 173 28.9            | 12.4                                                                                                             | 144 24.4                                          | 28.5                     | 202 31.0 | 57.5                                              |                |       | 202                                               | 31.0  | 57.5                  |                                      |
| 2   | 327                                    | 12.5 | 252 13.1 | +18 00.0                                         | 188 29.8            | 12.0                                                                                                             | 159 26.5                                          | 28.3                     | 217 33.2 | 57.4                                              |                |       | 217                                               | 33.2  | 57.4                  |                                      |
| 3   | 342                                    | 14.9 | 267 14.0 | +18 00.2                                         | 203 30.7            | 11.5                                                                                                             | 174 28.6                                          | 28.2                     | 232 35.3 | 57.4                                              |                |       | 232                                               | 35.3  | 57.4                  |                                      |
| 4   | 357                                    | 17.4 | 282 15.0 | 00.4                                             | 218 31.6            | 11.0                                                                                                             | 189 30.6                                          | 28.0                     | 247 37.4 | 57.4                                              |                |       | 247                                               | 37.4  | 57.4                  |                                      |
| 5   | 12                                     | 19.9 | 297 15.9 | +18 00.6                                         | 233 32.5            | +17 10.5                                                                                                         | 204 32.7                                          | +6 27.8                  | 262 39.5 | +21 57.3                                          |                |       | 262                                               | 39.5  | +21 57.3              |                                      |
| 6   | 27                                     | 22.3 | 312 16.9 | +18 00.7                                         | 248 33.4            | +17 10.1                                                                                                         | 219 34.8                                          | +6 27.7                  | 277 41.6 | +21 57.3                                          |                |       | 277                                               | 41.6  | +21 57.3              |                                      |
| 7   | 42                                     | 24.8 | 327 17.9 | 00.9                                             | 263 34.3            | 09.6                                                                                                             | 234 36.8                                          | 27.5                     | 292 43.8 | 57.2                                              |                |       | 292                                               | 43.8  | 57.2                  |                                      |
| 8   | 57                                     | 27.3 | 342 18.8 | 01.1                                             | 278 35.2            | 09.1                                                                                                             | 249 38.9                                          | 27.3                     | 307 45.9 | 57.2                                              |                |       | 307                                               | 45.9  | 57.2                  |                                      |
| 9   | 72                                     | 29.7 | 357 19.8 | 01.3                                             | 293 36.1            | 08.6                                                                                                             | 264 40.9                                          | 27.1                     | 322 48.0 | 57.2                                              |                |       | 322                                               | 48.0  | 57.2                  |                                      |
| 10  | 87                                     | 32.2 | 12 20.7  | 01.5                                             | 308 37.0            | 08.1                                                                                                             | 279 43.0                                          | 27.0                     | 337 50.1 | 57.1                                              |                |       | 337                                               | 50.1  | 57.1                  |                                      |
| 11  | 102                                    | 34.7 | 27 21.7  | +18 01.7                                         | 323 37.8            | +17 07.7                                                                                                         | 294 45.1                                          | +6 26.8                  | 352 52.2 | +21 57.1                                          |                |       | 352                                               | 52.2  | +21 57.1              |                                      |
| 12  | 117                                    | 37.1 | 42 22.6  | +18 01.8                                         | 338 38.7            | +17 07.2                                                                                                         | 309 47.1                                          | +6 26.6                  | 7 54.4   | +21 57.0                                          |                |       | 7                                                 | 54.4  | +21 57.0              |                                      |
| 13  | 132                                    | 39.6 | 57 23.6  | 02.0                                             | 353 39.6            | 06.7                                                                                                             | 324 49.2                                          | 26.5                     | 22 56.5  | 57.0                                              |                |       | 22                                                | 56.5  | 57.0                  |                                      |
| 14  | 147                                    | 42.0 | 72 24.5  | 02.2                                             | 8 40.5              | 06.2                                                                                                             | 339 51.3                                          | 26.3                     | 37 58.6  | 57.0                                              |                |       | 37                                                | 58.6  | 57.0                  |                                      |
| 15  | 162                                    | 44.5 | 87 25.4  | 02.4                                             | 23 41.4             | 05.8                                                                                                             | 354 53.3                                          | 26.1                     | 53 00.7  | 56.9                                              |                |       | 53                                                | 00.7  | 56.9                  |                                      |
| 16  | 177                                    | 47.0 | 102 26.4 | 02.6                                             | 38 42.3             | 05.3                                                                                                             | 9 55.4                                            | 25.9                     | 68 02.8  | 56.9                                              |                |       | 68                                                | 02.8  | 56.9                  |                                      |
| 17  | 192                                    | 49.4 | 117 27.3 | +18 02.8                                         | 53 43.2             | +17 04.8                                                                                                         | 24 57.5                                           | +6 25.8                  | 83 04.9  | +21 56.8                                          |                |       | 83                                                | 04.9  | +21 56.8              |                                      |
| 18  | 207                                    | 51.9 | 132 28.2 | +18 03.0                                         | 68 44.1             | +17 04.3                                                                                                         | 39 59.5                                           | +6 25.6                  | 98 07.1  | +21 56.8                                          |                |       | 98                                                | 07.1  | +21 56.8              |                                      |
| 19  | 222                                    | 54.4 | 147 29.2 | 03.1                                             | 83 45.0             | 03.8                                                                                                             | 55 01.6                                           | 25.4                     | 113 09.2 | 56.8                                              |                |       | 113                                               | 09.2  | 56.8                  |                                      |
| 20  | 237                                    | 56.8 | 162 30.1 | 03.3                                             | 98 45.9             | 03.3                                                                                                             | 70 03.7                                           | 25.2                     | 128 11.3 | 56.7                                              |                |       | 128                                               | 11.3  | 56.7                  |                                      |
| 21  | 252                                    | 59.3 | 177 31.0 | 03.5                                             | 113 46.8            | 02.9                                                                                                             | 85 05.7                                           | 25.1                     | 143 13.4 | 56.7                                              |                |       | 143                                               | 13.4  | 56.7                  |                                      |
| 22  | 268                                    | 01.8 | 192 31.9 | 03.7                                             | 128 47.7            | 02.4                                                                                                             | 100 07.8                                          | 24.9                     | 158 15.5 | 56.6                                              |                |       | 158                                               | 15.5  | 56.6                  |                                      |
| 23  | 283                                    | 04.2 | 207 32.9 | 03.9                                             | 143 48.6            | 01.9                                                                                                             | 115 09.8                                          | 24.7                     | 173 17.7 | 56.6                                              |                |       | 173                                               | 17.7  | 56.6                  |                                      |
| 24  | 298                                    | 06.7 | 222 33.8 | +18 04.1                                         | 158 49.5            | +17 01.4                                                                                                         | 130 11.9                                          | +6 24.6                  | 188 19.8 | +21 56.6                                          |                |       | 188                                               | 19.8  | +21 56.6              |                                      |
| Dif | —                                      |      | +9       | +2                                               | +9                  | -5                                                                                                               | +21                                               | -2                       | +21      | 0                                                 |                | +21   | 0                                                 |       |                       |                                      |

| UT  | SOL                                    |      |                                                  | ● LUNA                                                                                                                                           |                                                   |                         | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |         | Salida de Luna |         | Puesta de Luna |       |
|-----|----------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------|---------------|---------------------------------------------------|---------|----------------|---------|----------------|-------|
|     | SD: 15 <sup>h</sup> 7                  |      |                                                  | Edad: 2 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 55 <sup>h</sup> /2<br>12 <sup>h</sup> : 55 <sup>h</sup> /4<br>20 <sup>h</sup> : 55 <sup>h</sup> /5 |                                                   |                         |                                                   |               |                                                   |         |                |         |                |       |
|     | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 4 |      |                                                  | SD: 15 <sup>h</sup> 0<br>PMG: 14 <sup>h</sup> 34 <sup>m</sup> R°: 44 <sup>m</sup>                                                                |                                                   |                         |                                                   |               |                                                   |         |                |         |                |       |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                                                             | Dif                                               | Dec                     | Dif                                               |               | Civil                                             | Náutico | Hora           | R°      | Hora           | R°    |
| h   | °                                      | '    | °                                                | °                                                                                                                                                | '                                                 | °                       | '                                                 | °             | h m                                               | h m     | h m            | h m m   | h m m          | h m m |
| 0   | 178                                    | 25.0 | +20 38.3                                         | 148                                                                                                                                              | 10.6                                              | +17 18.8                |                                                   | 60 N          | 20 57                                             | 22 08   | ** **          | 6 20 89 | 22 19 1        |       |
| 1   | 193                                    | 24.9 |                                                  | 162                                                                                                                                              | 43.1 <sup>135</sup>                               | +17 07.3 <sup>115</sup> |                                                   | 58            | 42                                                | 21 42   | ** **          | 31 85   | 12 4           |       |
| 2   | 208                                    | 24.9 | 37.4                                             | 177                                                                                                                                              | 15.7 <sup>136</sup>                               | +16 55.7 <sup>116</sup> |                                                   | 56            | 29                                                | 22      | 22 53          | 40 81   | 22 05 7        |       |
| 3   | 223                                    | 24.9 | 36.9                                             | 191                                                                                                                                              | 48.2 <sup>135</sup>                               | 44.1 <sup>116</sup>     |                                                   | 54            | 17                                                | 21 05   | 22 18          | 48 78   | 21 59 10       |       |
| 4   | 238                                    | 24.8 | 36.4                                             | 206                                                                                                                                              | 20.9 <sup>137</sup>                               | 32.3 <sup>118</sup>     |                                                   | 52            | 20 07                                             | 20 51   | 21 54          | 6 55 76 | 54 12          |       |
| 5   | 253                                    | 24.8 | +20 36.0                                         | 220                                                                                                                                              | 53.5 <sup>136</sup>                               | +16 20.5 <sup>118</sup> |                                                   | 50            | 19 58                                             | 20 39   | 21 35          | 7 01 74 | 21 49 15       |       |
| 6   | 268                                    | 24.8 | +20 35.5                                         | 235                                                                                                                                              | 26.2 <sup>137</sup>                               | +16 08.6 <sup>119</sup> |                                                   | 45            | 19 40                                             | 20 15   | 21 00          | 7 15 68 | 21 39 19       |       |
| 7   | 283                                    | 24.7 | 35.0                                             | 249                                                                                                                                              | 59.0 <sup>138</sup>                               | +15 56.7 <sup>119</sup> |                                                   | 40            | 24                                                | 19 56   | 20 35          | 26 65   | 30 23          |       |
| 8   | 298                                    | 24.7 | 34.5                                             | 264                                                                                                                                              | 31.8 <sup>138</sup>                               | 44.6 <sup>121</sup>     |                                                   | 35            | 12                                                | 40      | 20 15          | 36 61   | 22 27          |       |
| 9   | 313                                    | 24.6 | 34.1                                             | 279                                                                                                                                              | 04.6 <sup>138</sup>                               | 32.5 <sup>121</sup>     |                                                   | 30            | 19 00                                             | 27      | 19 59          | 44 58   | 16 29          |       |
| 10  | 328                                    | 24.6 | 33.6                                             | 293                                                                                                                                              | 37.5 <sup>139</sup>                               | 20.3 <sup>122</sup>     |                                                   | 20            | 18 41                                             | 19 05   | 34             | 7 59 52 | 21 04 35       |       |
| 11  | 343                                    | 24.6 | +20 33.1                                         | 308                                                                                                                                              | 10.4 <sup>139</sup>                               | +15 08.1 <sup>122</sup> |                                                   | 10 N          | 18 25                                             | 18 48   | 19 14          | 8 11 49 | 20 54 39       |       |
| 12  | 358                                    | 24.5 | +20 32.6                                         | 322                                                                                                                                              | 43.3 <sup>139</sup>                               | +14 55.7 <sup>124</sup> |                                                   | 0             | 18 10                                             | 18 32   | 18 58          | 8 23 44 | 20 44 44       |       |
| 13  | 13                                     | 24.5 | 32.1                                             | 337                                                                                                                                              | 16.3 <sup>140</sup>                               | 43.3 <sup>124</sup>     |                                                   | 10 S          | 17 55                                             | 17      | 43             | 35 40   | 35 47          |       |
| 14  | 28                                     | 24.5 | 31.7                                             | 351                                                                                                                                              | 49.3 <sup>140</sup>                               | 30.8 <sup>125</sup>     |                                                   | 20            | 39                                                | 18 02   | 29             | 8 47 36 | 24 52          |       |
| 15  | 43                                     | 24.4 | 31.2                                             | 6                                                                                                                                                | 22.4 <sup>141</sup>                               | 18.3 <sup>125</sup>     |                                                   | 30            | 21                                                | 17 46   | 16             | 9 01 31 | 12 58          |       |
| 16  | 58                                     | 24.4 | 30.7                                             | 20                                                                                                                                               | 55.5 <sup>141</sup>                               | +14 05.7 <sup>126</sup> |                                                   | 35            | 17 10                                             | 38      | 08             | 09 28   | 20 05 61       |       |
| 17  | 73                                     | 24.4 | +20 30.2                                         | 35                                                                                                                                               | 28.6 <sup>141</sup>                               | +13 53.0 <sup>127</sup> |                                                   | 40            | 16 58                                             | 17 28   | 18 01          | 9 19 24 | 19 57 64       |       |
| 18  | 88                                     | 24.3 | +20 29.7                                         | 50                                                                                                                                               | 01.8 <sup>142</sup>                               | +13 40.2 <sup>128</sup> |                                                   | 45            | 16 44                                             | 17 16   | 17 53          | 9 29 21 | 19 48 68       |       |
| 19  | 103                                    | 24.3 | 29.3                                             | 64                                                                                                                                               | 35.0 <sup>142</sup>                               | 27.4 <sup>128</sup>     |                                                   | 50            | 27                                                | 17 03   | 43             | 42 16   | 36 74          |       |
| 20  | 118                                    | 24.3 | 28.8                                             | 79                                                                                                                                               | 08.2 <sup>142</sup>                               | 14.6 <sup>128</sup>     |                                                   | 52            | 18                                                | 16 57   | 39             | 48 14   | 31 76          |       |
| 21  | 133                                    | 24.3 | 28.3                                             | 93                                                                                                                                               | 41.5 <sup>143</sup>                               | +13 01.6 <sup>130</sup> |                                                   | 54            | 16 09                                             | 51      | 35             | 9 55 11 | 25 79          |       |
| 22  | 148                                    | 24.2 | 27.8                                             | 108                                                                                                                                              | 14.8 <sup>143</sup>                               | +12 48.6 <sup>130</sup> |                                                   | 56            | 15 59                                             | 43      | 30             | 10 02 9 | 19 81          |       |
| 23  | 163                                    | 24.2 | 27.3                                             | 122                                                                                                                                              | 48.1 <sup>143</sup>                               | 35.5 <sup>131</sup>     |                                                   | 58            | 48                                                | 35      | 25             | 11 5    | 11 85          |       |
| 24  | 178                                    | 24.2 | +20 26.8                                         | 137                                                                                                                                              | 21.5 <sup>144</sup>                               | +12 22.4 <sup>131</sup> |                                                   | 60 S          | 15 34                                             | 16 26   | 17 19          | 10 20 1 | 19 03 89       |       |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                                                                  | MARTE                                             |                         | JÚPITER                                           |               | SATURNO                                           |         |                |         |                |       |
|     | PMG: 4 <sup>h</sup> 06 <sup>m</sup> 9  |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 09 <sup>m</sup> |                                                                                                                                                  | Mag: +1.8<br>PMG: 13 <sup>h</sup> 24 <sup>m</sup> |                         | Mag: -1.8<br>PMG: 15 <sup>h</sup> 17 <sup>m</sup> |               | Mag: +0.1<br>PMG: 11 <sup>h</sup> 25 <sup>m</sup> |         |                |         |                |       |
|     | hG ♈                                   | hG ♀ | Dec                                              | hG ♂                                                                                                                                             | Dec                                               | hG ♃                    | Dec                                               | hG ♄          | Dec                                               |         |                |         |                |       |
| h   | °                                      | '    | °                                                | °                                                                                                                                                | '                                                 | °                       | '                                                 | °             | '                                                 |         |                |         |                |       |
| 0   | 298                                    | 06.7 | 222 33.8                                         | +18 04.1                                                                                                                                         | 158 49.5                                          | +17 01.4                | 130 11.9                                          | +6 24.6       | 188 19.8                                          |         |                |         |                |       |
| 1   | 313                                    | 09.2 | 237 34.7                                         | 04.3                                                                                                                                             | 173 50.4                                          | 00.9                    | 145 14.0                                          | 24.4          | 203 21.9                                          |         |                |         |                |       |
| 2   | 328                                    | 11.6 | 252 35.6                                         | 04.5                                                                                                                                             | 188 51.2                                          | +17 00.5                | 160 16.0                                          | 24.2          | 218 24.0                                          |         |                |         |                |       |
| 3   | 343                                    | 14.1 | 267 36.5                                         | 04.6                                                                                                                                             | 203 52.1                                          | +17 00.0                | 175 18.1                                          | 24.0          | 233 26.1                                          |         |                |         |                |       |
| 4   | 358                                    | 16.5 | 282 37.4                                         | 04.8                                                                                                                                             | 218 53.0                                          | +16 59.5                | 190 20.2                                          | 23.9          | 248 28.3                                          |         |                |         |                |       |
| 5   | 13                                     | 19.0 | 297 38.3                                         | +18 05.0                                                                                                                                         | 233 53.9                                          | +16 59.0                | 205 22.2                                          | +6 23.7       | 263 30.4                                          |         |                |         |                |       |
| 6   | 28                                     | 21.5 | 312 39.2                                         | +18 05.2                                                                                                                                         | 248 54.8                                          | +16 58.5                | 220 24.3                                          | +6 23.5       | 278 32.5                                          |         |                |         |                |       |
| 7   | 43                                     | 23.9 | 327 40.2                                         | 05.4                                                                                                                                             | 263 55.7                                          | 58.0                    | 235 26.3                                          | 23.3          | 293 34.6                                          |         |                |         |                |       |
| 8   | 58                                     | 26.4 | 342 41.1                                         | 05.6                                                                                                                                             | 278 56.6                                          | 57.6                    | 250 28.4                                          | 23.2          | 308 36.7                                          |         |                |         |                |       |
| 9   | 73                                     | 28.9 | 357 42.0                                         | 05.8                                                                                                                                             | 293 57.5                                          | 57.1                    | 265 30.5                                          | 23.0          | 323 38.9                                          |         |                |         |                |       |
| 10  | 88                                     | 31.3 | 12 42.8                                          | 06.0                                                                                                                                             | 308 58.4                                          | 56.6                    | 280 32.5                                          | 22.8          | 338 41.0                                          |         |                |         |                |       |
| 11  | 103                                    | 33.8 | 27 43.7                                          | +18 06.2                                                                                                                                         | 323 59.3                                          | +16 56.1                | 295 34.6                                          | +6 22.6       | 353 43.1                                          |         |                |         |                |       |
| 12  | 118                                    | 36.3 | 42 44.6                                          | +18 06.4                                                                                                                                         | 339 00.2                                          | +16 55.6                | 310 36.7                                          | +6 22.5       | 8 45.2                                            |         |                |         |                |       |
| 13  | 133                                    | 38.7 | 57 45.5                                          | 06.5                                                                                                                                             | 354 01.1                                          | 55.1                    | 325 38.7                                          | 22.3          | 23 47.3                                           |         |                |         |                |       |
| 14  | 148                                    | 41.2 | 72 46.4                                          | 06.7                                                                                                                                             | 9 02.0                                            | 54.7                    | 340 40.8                                          | 22.1          | 38 49.5                                           |         |                |         |                |       |
| 15  | 163                                    | 43.6 | 87 47.3                                          | 06.9                                                                                                                                             | 24 02.9                                           | 54.2                    | 355 42.8                                          | 22.0          | 53 51.6                                           |         |                |         |                |       |
| 16  | 178                                    | 46.1 | 102 48.2                                         | 07.1                                                                                                                                             | 39 03.8                                           | 53.7                    | 10 44.9                                           | 21.8          | 68 53.7                                           |         |                |         |                |       |
| 17  | 193                                    | 48.6 | 117 49.1                                         | +18 07.3                                                                                                                                         | 54 04.7                                           | +16 53.2                | 25 47.0                                           | +6 21.6       | 83 55.8                                           |         |                |         |                |       |
| 18  | 208                                    | 51.0 | 132 49.9                                         | +18 07.5                                                                                                                                         | 69 05.6                                           | +16 52.7                | 40 49.0                                           | +6 21.4       | 98 57.9                                           |         |                |         |                |       |
| 19  | 223                                    | 53.5 | 147 50.8                                         | 07.7                                                                                                                                             | 84 06.5                                           | 52.2                    | 55 51.1                                           | 21.3          | 114 00.1                                          |         |                |         |                |       |
| 20  | 238                                    | 56.0 | 162 51.7                                         | 07.9                                                                                                                                             | 99 07.4                                           | 51.8                    | 70 53.1                                           | 21.1          | 129 02.2                                          |         |                |         |                |       |
| 21  | 253                                    | 58.4 | 177 52.6                                         | 08.1                                                                                                                                             | 114 08.3                                          | 51.3                    | 85 55.2                                           | 20.9          | 144 04.3                                          |         |                |         |                |       |
| 22  | 269                                    | 00.9 | 192 53.4                                         | 08.3                                                                                                                                             | 129 09.2                                          | 50.8                    | 100 57.3                                          | 20.7          | 159 06.4                                          |         |                |         |                |       |
| 23  | 284                                    | 03.4 | 207 54.3                                         | 08.5                                                                                                                                             | 144 10.1                                          | 50.3                    | 115 59.3                                          | 20.6          | 174 08.5                                          |         |                |         |                |       |
| 24  | 299                                    | 05.8 | 222 55.2                                         | +18 08.7                                                                                                                                         | 159 11.0                                          | +16 49.8                | 131 01.4                                          | +6 20.4       | 189 10.7                                          |         |                |         |                |       |
| Dif | —                                      | +9   | +2                                               | +9                                                                                                                                               | -5                                                | +21                     | -2                                                | +21           | 0                                                 |         |                |         |                |       |

| UT  | SOL                                                             |      |      |                                                  | ● LUNA                                                                                                                                                                  |                     |                                                   |                     | Latitud | Principio del crepúsculo                          |       | Salida de Sol | Salida de Luna                                    |      | Puesta de Luna |      |     |      |
|-----|-----------------------------------------------------------------|------|------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|---------------------------------------------------|-------|---------------|---------------------------------------------------|------|----------------|------|-----|------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 4 |      |      |                                                  | Edad: 3 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 55 <sup>h</sup> 7<br>12 <sup>h</sup> : 55 <sup>h</sup> 9<br>20 <sup>h</sup> : 56 <sup>h</sup> 1<br>R°: 43 <sup>m</sup> |                     |                                                   |                     |         |                                                   |       |               |                                                   |      |                |      |     |      |
|     | hG ☉                                                            |      | Dec  |                                                  | hG ☾ Dif                                                                                                                                                                |                     | Dec Dif                                           |                     |         | Náutico                                           | Civil |               | Hora                                              | R°   | Hora           | R°   |     |      |
| h   | °                                                               | '    | °    | '                                                | °                                                                                                                                                                       | '                   | °                                                 | '                   | °       | h                                                 | m     | h             | m                                                 | h    | m              | h    | m   | m    |
| 0   | 178                                                             | 24.2 | +20  | 26.8                                             | 137                                                                                                                                                                     | 21.5                | +12                                               | 22.4                | 60 N    | ** *                                              | 2 05  | 3 16          | 7 49                                              | 89   | 22 20          | 0    |     |      |
| 1   | 193                                                             | 24.1 |      | 26.4                                             | 151                                                                                                                                                                     | 54.9 <sup>144</sup> | +12                                               | 09.2 <sup>132</sup> | 58      | ** *                                              | 31    | 32            | 7 56                                              | 84   | 16             | 4    |     |      |
| 2   | 208                                                             | 24.1 |      | 25.9                                             | 166                                                                                                                                                                     | 28.3 <sup>144</sup> | +11                                               | 56.0 <sup>132</sup> | 56      | 1 20                                              | 2 51  | 45            | 8 01                                              | 82   | 12             | 7    |     |      |
| 3   | 223                                                             | 24.1 |      | 25.4                                             | 181                                                                                                                                                                     | 01.8 <sup>145</sup> |                                                   | 42.6 <sup>134</sup> | 54      | 1 55                                              | 3 08  | 3 56          | 06                                                | 79   | 09             | 9    |     |      |
| 4   | 238                                                             | 24.0 |      | 24.9                                             | 195                                                                                                                                                                     | 35.2 <sup>144</sup> |                                                   | 29.3 <sup>133</sup> | 52      | 2 19                                              | 22    | 4 06          | 11                                                | 76   | 06             | 12   |     |      |
| 5   | 253                                                             | 24.0 | +20  | 24.4                                             | 210                                                                                                                                                                     | 08.7 <sup>145</sup> | +11                                               | 15.9 <sup>134</sup> | 50      | 2 38                                              | 3 34  | 4 15          | 8 15                                              | 73   | 22 04          | 13   |     |      |
| 6   | 268                                                             | 24.0 | +20  | 23.9                                             | 224                                                                                                                                                                     | 42.3 <sup>146</sup> | +11                                               | 02.4 <sup>135</sup> | 45      | 3 13                                              | 3 58  | 4 34          | 8 23                                              | 69   | 21 58          | 18   |     |      |
| 7   | 283                                                             | 24.0 |      | 23.4                                             | 239                                                                                                                                                                     | 15.8 <sup>145</sup> | +10                                               | 48.8 <sup>136</sup> | 40      | 38                                                | 4 17  | 4 49          | 31                                                | 64   | 53             | 23   |     |      |
| 8   | 298                                                             | 23.9 |      | 23.0                                             | 253                                                                                                                                                                     | 49.4 <sup>146</sup> |                                                   | 35.2 <sup>136</sup> | 35      | 3 58                                              | 33    | 5 01          | 37                                                | 60   | 49             | 26   |     |      |
| 9   | 313                                                             | 23.9 |      | 22.5                                             | 268                                                                                                                                                                     | 23.0 <sup>146</sup> |                                                   | 21.6 <sup>136</sup> | 30      | 4 14                                              | 4 46  | 13            | 42                                                | 58   | 45             | 29   |     |      |
| 10  | 328                                                             | 23.9 |      | 22.0                                             | 282                                                                                                                                                                     | 56.6 <sup>146</sup> | +10                                               | 07.9 <sup>137</sup> | 20      | 39                                                | 5 08  | 31            | 8 51                                              | 53   | 39             | 34   |     |      |
| 11  | 343                                                             | 23.8 | +20  | 21.5                                             | 297                                                                                                                                                                     | 30.2 <sup>146</sup> | +9                                                | 54.2 <sup>137</sup> | 10 N    | 4 59                                              | 5 25  | 5 48          | 9 00                                              | 47   | 21 33          | 39   |     |      |
| 12  | 358                                                             | 23.8 | +20  | 21.0                                             | 312                                                                                                                                                                     | 03.9 <sup>147</sup> | +9                                                | 40.4 <sup>138</sup> | 0       | 5 15                                              | 5 41  | 6 03          | 9 07                                              | 43   | 21 28          | 43   |     |      |
| 13  | 13                                                              | 23.8 |      | 20.5                                             | 326                                                                                                                                                                     | 37.6 <sup>147</sup> |                                                   | 26.5 <sup>139</sup> | 10 S    | 30                                                | 5 55  | 18            | 15                                                | 39   | 22             | 48   |     |      |
| 14  | 28                                                              | 23.8 |      | 20.0                                             | 341                                                                                                                                                                     | 11.3 <sup>147</sup> | +9                                                | 12.6 <sup>139</sup> | 20      | 43                                                | 6 10  | 34            | 23                                                | 34   | 16             | 53   |     |      |
| 15  | 43                                                              | 23.7 |      | 19.5                                             | 355                                                                                                                                                                     | 45.0 <sup>147</sup> | +8                                                | 58.7 <sup>139</sup> | 30      | 5 57                                              | 26    | 6 52          | 32                                                | 29   | 10             | 58   |     |      |
| 16  | 58                                                              | 23.7 |      | 19.0                                             | 10                                                                                                                                                                      | 18.7 <sup>147</sup> |                                                   | 44.7 <sup>140</sup> | 35      | 6 04                                              | 35    | 7 02          | 37                                                | 26   | 06             | 61   |     |      |
| 17  | 73                                                              | 23.7 | +20  | 18.5                                             | 24                                                                                                                                                                      | 52.5 <sup>148</sup> | +8                                                | 30.6 <sup>141</sup> | 40      | 6 12                                              | 6 45  | 7 14          | 9 43                                              | 23   | 21 01          | 65   |     |      |
| 18  | 88                                                              | 23.7 | +20  | 18.0                                             | 39                                                                                                                                                                      | 26.2 <sup>147</sup> | +8                                                | 16.5 <sup>141</sup> | 45      | 6 20                                              | 6 56  | 7 28          | 9 50                                              | 19   | 20 56          | 69   |     |      |
| 19  | 103                                                             | 23.6 |      | 17.5                                             | 54                                                                                                                                                                      | 00.0 <sup>148</sup> | +8                                                | 02.4 <sup>141</sup> | 50      | 29                                                | 7 09  | 45            | 9 58                                              | 14   | 50             | 74   |     |      |
| 20  | 118                                                             | 23.6 |      | 17.0                                             | 68                                                                                                                                                                      | 33.8 <sup>148</sup> | +7                                                | 48.2 <sup>142</sup> | 52      | 33                                                | 15    | 7 53          | 10 02                                             | 12   | 47             | 76   |     |      |
| 21  | 133                                                             | 23.6 |      | 16.5                                             | 83                                                                                                                                                                      | 07.6 <sup>148</sup> |                                                   | 34.0 <sup>142</sup> | 54      | 37                                                | 21    | 8 02          | 06                                                | 10   | 44             | 78   |     |      |
| 22  | 148                                                             | 23.6 |      | 16.0                                             | 97                                                                                                                                                                      | 41.4 <sup>148</sup> |                                                   | 19.7 <sup>143</sup> | 56      | 42                                                | 29    | 13            | 11                                                | 6    | 40             | 82   |     |      |
| 23  | 163                                                             | 23.5 |      | 15.5                                             | 112                                                                                                                                                                     | 15.2 <sup>148</sup> | +7                                                | 05.4 <sup>143</sup> | 58      | 47                                                | 37    | 24            | 16                                                | 4    | 36             | 85   |     |      |
| 24  | 178                                                             | 23.5 | +20  | 15.0                                             | 126                                                                                                                                                                     | 49.0 <sup>148</sup> | +6                                                | 51.1 <sup>143</sup> | 60 S    | 6 53                                              | 7 46  | 8 37          | 10 21                                             | 1    | 20 32          | 88   |     |      |
| UT  | ARIES                                                           |      |      | VENUS                                            |                                                                                                                                                                         |                     | MARTE                                             |                     |         | JÚPITER                                           |       |               | SATURNO                                           |      |                |      |     |      |
|     | PMG: 4 <sup>h</sup> 02 <sup>m</sup> 9                           |      |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 08 <sup>m</sup> |                                                                                                                                                                         |                     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 22 <sup>m</sup> |                     |         | Mag: -1.8<br>PMG: 15 <sup>h</sup> 14 <sup>m</sup> |       |               | Mag: +0.1<br>PMG: 11 <sup>h</sup> 22 <sup>m</sup> |      |                |      |     |      |
|     | hG ♈                                                            |      | hG ♀ |                                                  | Dec                                                                                                                                                                     |                     | hG ♂                                              |                     | Dec     |                                                   | hG ♃  |               | Dec                                               |      | hG ♄           |      | Dec |      |
| h   | °                                                               | '    | °    | '                                                | °                                                                                                                                                                       | '                   | °                                                 | '                   | °       | '                                                 | °     | '             | °                                                 | '    | °              | '    | °   | '    |
| 0   | 299                                                             | 05.8 | 222  | 55.2                                             | +18                                                                                                                                                                     | 08.7                | 159                                               | 11.0                | +16     | 49.8                                              | 131   | 01.4          | +6                                                | 20.4 | 189            | 10.7 | +21 | 55.6 |
| 1   | 314                                                             | 08.3 | 237  | 56.0                                             |                                                                                                                                                                         | 08.9                | 174                                               | 11.8                |         | 49.3                                              | 146   | 03.4          |                                                   | 20.2 | 204            | 12.8 |     | 55.6 |
| 2   | 329                                                             | 10.8 | 252  | 56.9                                             |                                                                                                                                                                         | 09.1                | 189                                               | 12.7                |         | 48.8                                              | 161   | 05.5          |                                                   | 20.0 | 219            | 14.9 |     | 55.5 |
| 3   | 344                                                             | 13.2 | 267  | 57.8                                             |                                                                                                                                                                         | 09.3                | 204                                               | 13.6                |         | 48.4                                              | 176   | 07.6          |                                                   | 19.9 | 234            | 17.0 |     | 55.5 |
| 4   | 359                                                             | 15.7 | 282  | 58.6                                             |                                                                                                                                                                         | 09.5                | 219                                               | 14.5                |         | 47.9                                              | 191   | 09.6          |                                                   | 19.7 | 249            | 19.1 |     | 55.4 |
| 5   | 14                                                              | 18.1 | 297  | 59.5                                             | +18                                                                                                                                                                     | 09.7                | 234                                               | 15.4                | +16     | 47.4                                              | 206   | 11.7          | +6                                                | 19.5 | 264            | 21.3 | +21 | 55.4 |
| 6   | 29                                                              | 20.6 | 313  | 00.3                                             | +18                                                                                                                                                                     | 09.9                | 249                                               | 16.3                | +16     | 46.9                                              | 221   | 13.7          | +6                                                | 19.3 | 279            | 23.4 | +21 | 55.4 |
| 7   | 44                                                              | 23.1 | 328  | 01.2                                             |                                                                                                                                                                         | 10.1                | 264                                               | 17.2                |         | 46.4                                              | 236   | 15.8          |                                                   | 19.2 | 294            | 25.5 |     | 55.3 |
| 8   | 59                                                              | 25.5 | 343  | 02.0                                             |                                                                                                                                                                         | 10.3                | 279                                               | 18.1                |         | 45.9                                              | 251   | 17.9          |                                                   | 19.0 | 309            | 27.6 |     | 55.3 |
| 9   | 74                                                              | 28.0 | 358  | 02.9                                             |                                                                                                                                                                         | 10.4                | 294                                               | 19.0                |         | 45.4                                              | 266   | 19.9          |                                                   | 18.8 | 324            | 29.8 |     | 55.2 |
| 10  | 89                                                              | 30.5 | 13   | 03.7                                             |                                                                                                                                                                         | 10.6                | 309                                               | 19.9                |         | 44.9                                              | 281   | 22.0          |                                                   | 18.6 | 339            | 31.9 |     | 55.2 |
| 11  | 104                                                             | 32.9 | 28   | 04.6                                             | +18                                                                                                                                                                     | 10.8                | 324                                               | 20.8                | +16     | 44.5                                              | 296   | 24.0          | +6                                                | 18.5 | 354            | 34.0 | +21 | 55.2 |
| 12  | 119                                                             | 35.4 | 43   | 05.4                                             | +18                                                                                                                                                                     | 11.0                | 339                                               | 21.7                | +16     | 44.0                                              | 311   | 26.1          | +6                                                | 18.3 | 9              | 36.1 | +21 | 55.1 |
| 13  | 134                                                             | 37.9 | 58   | 06.2                                             |                                                                                                                                                                         | 11.2                | 354                                               | 22.6                |         | 43.5                                              | 326   | 28.1          |                                                   | 18.1 | 24             | 38.2 |     | 55.1 |
| 14  | 149                                                             | 40.3 | 73   | 07.1                                             |                                                                                                                                                                         | 11.4                | 9                                                 | 23.5                |         | 43.0                                              | 341   | 30.2          |                                                   | 17.9 | 39             | 40.4 |     | 55.0 |
| 15  | 164                                                             | 42.8 | 88   | 07.9                                             |                                                                                                                                                                         | 11.6                | 24                                                | 24.4                |         | 42.5                                              | 356   | 32.3          |                                                   | 17.8 | 54             | 42.5 |     | 55.0 |
| 16  | 179                                                             | 45.2 | 103  | 08.7                                             |                                                                                                                                                                         | 11.8                | 39                                                | 25.3                |         | 42.0                                              | 11    | 34.3          |                                                   | 17.6 | 69             | 44.6 |     | 55.0 |
| 17  | 194                                                             | 47.7 | 118  | 09.6                                             | +18                                                                                                                                                                     | 12.0                | 54                                                | 26.2                | +16     | 41.5                                              | 26    | 36.4          | +6                                                | 17.4 | 84             | 46.7 | +21 | 54.9 |
| 18  | 209                                                             | 50.2 | 133  | 10.4                                             | +18                                                                                                                                                                     | 12.2                | 69                                                | 27.1                | +16     | 41.0                                              | 41    | 38.4          | +6                                                | 17.2 | 99             | 48.8 | +21 | 54.9 |
| 19  | 224                                                             | 52.6 | 148  | 11.2                                             |                                                                                                                                                                         | 12.4                | 84                                                | 28.0                |         | 40.5                                              | 56    | 40.5          |                                                   | 17.1 | 114            | 51.0 |     | 54.8 |
| 20  | 239                                                             | 55.1 | 163  | 12.0                                             |                                                                                                                                                                         | 12.6                | 99                                                | 28.9                |         | 40.1                                              | 71    | 42.6          |                                                   | 16.9 | 129            | 53.1 |     | 54.8 |
| 21  | 254                                                             | 57.6 | 178  | 12.9                                             |                                                                                                                                                                         | 12.8                | 114                                               | 29.8                |         | 39.6                                              | 86    | 44.6          |                                                   | 16.7 | 144            | 55.2 |     | 54.8 |
| 22  | 270                                                             | 00.0 | 193  | 13.7                                             |                                                                                                                                                                         | 13.0                | 129                                               | 30.7                |         | 39.1                                              | 101   | 46.7          |                                                   | 16.5 | 159            | 57.3 |     | 54.7 |
| 23  | 285                                                             | 02.5 | 208  | 14.5                                             |                                                                                                                                                                         | 13.2                | 144                                               | 31.6                |         | 38.6                                              | 116   | 48.7          |                                                   | 16.4 | 174            | 59.4 |     | 54.7 |
| 24  | 300                                                             | 05.0 | 223  | 15.3                                             | +18                                                                                                                                                                     | 13.4                | 159                                               | 32.5                | +16     | 38.1                                              | 131   | 50.8          | +6                                                | 16.2 | 190            | 01.6 | +21 | 54.6 |
| Dif | —                                                               |      | +8   |                                                  | +2                                                                                                                                                                      |                     | +9                                                |                     | -5      |                                                   | +21   |               | -2                                                |      | +21            |      |     |      |

| UT  | SOL                                                             |      |                                                  |      | LUNA                                                                                          |                     |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |       |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|------|-----------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|----------------------|-------|----------------|-------|----------------|-------|
|     | SD: 15 <sup>h</sup> 7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |                                                  |      | Edad: 4 <sup>d</sup> 5 PHE {<br>SD: 15 <sup>h</sup> 3<br>PMG: 16 <sup>h</sup> 01 <sup>m</sup> |                     |                                                   |                     |                                                   |               |                      |       |                |       |                |       |
|     | hG ☉                                                            |      | Dec                                              |      | hG ☾                                                                                          |                     | Dif                                               |                     |                                                   |               | Civil                |       | Náutico        |       | Hora           |       |
| h   | °                                                               | '    | °                                                | '    | °                                                                                             | '                   | °                                                 | '                   | °                                                 | h m           | h m                  | h m   | h m m          | h m m | h m m          | h m m |
| 0   | 178                                                             | 23.5 | +20                                              | 15.0 | 126                                                                                           | 49.0                | +6                                                | 51.1                | 60 N                                              | 20 53         | 22 02                | ** ** | 9 18 89        | 22 20 | 1              |       |
| 1   | 193                                                             | 23.5 |                                                  | 14.5 | 141                                                                                           | 22.8 <sup>148</sup> |                                                   | 36.7 <sup>144</sup> | 58                                                | 38            | 21 37                | ** ** | 20 86          | 20    | 3              |       |
| 2   | 208                                                             | 23.5 |                                                  | 14.0 | 155                                                                                           | 56.7 <sup>149</sup> |                                                   | 22.3 <sup>144</sup> | 56                                                | 25            | 18                   | 22 45 | 23 82          | 19    | 6              |       |
| 3   | 223                                                             | 23.4 |                                                  | 13.5 | 170                                                                                           | 30.5 <sup>148</sup> | +6                                                | 07.8 <sup>145</sup> | 54                                                | 14            | 21 02                | 22 13 | 25 79          | 18    | 10             |       |
| 4   | 238                                                             | 23.4 |                                                  | 13.0 | 185                                                                                           | 04.4 <sup>149</sup> | +5                                                | 53.3 <sup>145</sup> | 52                                                | 20 05         | 20 48                | 21 50 | 27 76          | 18    | 11             |       |
| 5   | 253                                                             | 23.4 | +20                                              | 12.5 | 199                                                                                           | 38.2 <sup>148</sup> | +5                                                | 38.8 <sup>145</sup> | 50                                                | 19 56         | 20 36                | 21 31 | 9 28 75        | 22 17 | 14             |       |
| 6   | 268                                                             | 23.4 | +20                                              | 12.0 | 214                                                                                           | 12.1 <sup>149</sup> | +5                                                | 24.2 <sup>146</sup> | 45                                                | 19 38         | 20 13                | 20 57 | 9 32 69        | 22 16 | 19             |       |
| 7   | 283                                                             | 23.3 |                                                  | 11.5 | 228                                                                                           | 45.9 <sup>148</sup> | +5                                                | 09.6 <sup>146</sup> | 40                                                | 23            | 19 54                | 33    | 35 65          | 16    | 22             |       |
| 8   | 298                                                             | 23.3 |                                                  | 11.0 | 243                                                                                           | 19.7 <sup>148</sup> | +4                                                | 55.0 <sup>146</sup> | 35                                                | 19 10         | 39                   | 20 13 | 37 62          | 15    | 26             |       |
| 9   | 313                                                             | 23.3 |                                                  | 10.5 | 257                                                                                           | 53.6 <sup>149</sup> |                                                   | 40.3 <sup>147</sup> | 30                                                | 18 59         | 26                   | 19 58 | 40 58          | 14    | 29             |       |
| 10  | 328                                                             | 23.3 |                                                  | 10.0 | 272                                                                                           | 27.4 <sup>148</sup> |                                                   | 25.6 <sup>147</sup> | 20                                                | 41            | 19 05                | 33    | 44 52          | 13    | 35             |       |
| 11  | 343                                                             | 23.3 | +20                                              | 09.5 | 287                                                                                           | 01.3 <sup>149</sup> | +4                                                | 10.9 <sup>147</sup> | 10 N                                              | 18 25         | 18 47                | 19 14 | 9 47 48        | 22 12 | 39             |       |
| 12  | 358                                                             | 23.2 | +20                                              | 09.0 | 301                                                                                           | 35.1 <sup>148</sup> | +3                                                | 56.1 <sup>148</sup> | 0                                                 | 18 10         | 18 32                | 18 58 | 9 50 44        | 22 11 | 44             |       |
| 13  | 13                                                              | 23.2 |                                                  | 08.5 | 316                                                                                           | 08.9 <sup>148</sup> |                                                   | 41.3 <sup>148</sup> | 10 S                                              | 17 55         | 18                   | 43    | 54 39          | 10    | 48             |       |
| 14  | 28                                                              | 23.2 |                                                  | 08.0 | 330                                                                                           | 42.7 <sup>148</sup> |                                                   | 26.5 <sup>148</sup> | 20                                                | 40            | 18 03                | 30    | 9 57 34        | 09    | 53             |       |
| 15  | 43                                                              | 23.2 |                                                  | 07.5 | 345                                                                                           | 16.5 <sup>148</sup> | +3                                                | 11.6 <sup>149</sup> | 30                                                | 22            | 17 47                | 17    | 10 01 29       | 08    | 59             |       |
| 16  | 58                                                              | 23.1 |                                                  | 07.0 | 359                                                                                           | 50.3 <sup>148</sup> | +2                                                | 56.8 <sup>148</sup> | 35                                                | 12            | 39                   | 10    | 03 26          | 07    | 62             |       |
| 17  | 73                                                              | 23.1 | +20                                              | 06.5 | 14                                                                                            | 24.1 <sup>148</sup> | +2                                                | 41.9 <sup>149</sup> | 40                                                | 17 00         | 17 29                | 18 02 | 10 06 22       | 22 06 | 66             |       |
| 18  | 88                                                              | 23.1 | +20                                              | 06.0 | 28                                                                                            | 57.9 <sup>148</sup> | +2                                                | 27.0 <sup>149</sup> | 45                                                | 16 46         | 17 18                | 17 54 | 10 09 18       | 22 05 | 70             |       |
| 19  | 103                                                             | 23.1 |                                                  | 05.5 | 43                                                                                            | 31.6 <sup>147</sup> | +2                                                | 12.0 <sup>150</sup> | 50                                                | 29            | 05                   | 45    | 12 14          | 04    | 75             |       |
| 20  | 118                                                             | 23.1 |                                                  | 04.9 | 58                                                                                            | 05.4 <sup>148</sup> | +1                                                | 57.0 <sup>150</sup> | 52                                                | 21            | 17 00                | 41    | 14 11          | 03    | 78             |       |
| 21  | 133                                                             | 23.0 |                                                  | 04.4 | 72                                                                                            | 39.1 <sup>147</sup> |                                                   | 42.1 <sup>149</sup> | 54                                                | 12            | 16 53                | 37    | 16 9           | 02    | 81             |       |
| 22  | 148                                                             | 23.0 |                                                  | 03.9 | 87                                                                                            | 12.8 <sup>147</sup> |                                                   | 27.1 <sup>150</sup> | 56                                                | 16 02         | 46                   | 33    | 17 7           | 02    | 83             |       |
| 23  | 163                                                             | 23.0 |                                                  | 03.4 | 101                                                                                           | 46.5 <sup>147</sup> | +1                                                | 12.0 <sup>151</sup> | 58                                                | 15 51         | 38                   | 28    | 20 3           | 01    | 86             |       |
| 24  | 178                                                             | 23.0 | +20                                              | 02.9 | 116                                                                                           | 20.2 <sup>147</sup> | +0                                                | 57.0 <sup>150</sup> | 60 S                                              | 15 38         | 16 29                | 17 22 | 10 22 0        | 22 00 | 90             |       |
| UT  | ARIES                                                           |      | VENUS                                            |      | MARTE                                                                                         |                     | JÚPITER                                           |                     | SATURNO                                           |               |                      |       |                |       |                |       |
|     | PMG: 3 <sup>h</sup> 59 <sup>m</sup> 0                           |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 06 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 21 <sup>m</sup>                                             |                     | Mag: -1.8<br>PMG: 15 <sup>h</sup> 11 <sup>m</sup> |                     | Mag: +0.1<br>PMG: 11 <sup>h</sup> 18 <sup>m</sup> |               |                      |       |                |       |                |       |
|     | hG ♈                                                            |      | hG ♀                                             |      | hG ♂                                                                                          |                     | hG ♃                                              |                     | hG ♄                                              |               |                      |       |                |       |                |       |
| h   | °                                                               | '    | °                                                | '    | °                                                                                             | '                   | °                                                 | '                   | °                                                 | '             |                      |       |                |       |                |       |
| 0   | 300                                                             | 05.0 | 223                                              | 15.3 | +18                                                                                           | 13.4                | 159                                               | 32.5                | +6                                                | 16.2          |                      |       |                |       |                |       |
| 1   | 315                                                             | 07.4 | 238                                              | 16.1 |                                                                                               | 13.6                | 174                                               | 33.4                |                                                   | 16.0          |                      |       |                |       |                |       |
| 2   | 330                                                             | 09.9 | 253                                              | 16.9 |                                                                                               | 13.8                | 189                                               | 34.3                |                                                   | 15.8          |                      |       |                |       |                |       |
| 3   | 345                                                             | 12.4 | 268                                              | 17.7 |                                                                                               | 14.0                | 204                                               | 35.2                |                                                   | 15.7          |                      |       |                |       |                |       |
| 4   | 0                                                               | 14.8 | 283                                              | 18.5 |                                                                                               | 14.2                | 219                                               | 36.1                |                                                   | 15.5          |                      |       |                |       |                |       |
| 5   | 15                                                              | 17.3 | 298                                              | 19.4 | +18                                                                                           | 14.5                | 234                                               | 37.0                | +16                                               | 15.3          |                      |       |                |       |                |       |
| 6   | 30                                                              | 19.7 | 313                                              | 20.2 | +18                                                                                           | 14.7                | 249                                               | 37.9                | +16                                               | 15.1          |                      |       |                |       |                |       |
| 7   | 45                                                              | 22.2 | 328                                              | 21.0 |                                                                                               | 14.9                | 264                                               | 38.8                |                                                   | 15.0          |                      |       |                |       |                |       |
| 8   | 60                                                              | 24.7 | 343                                              | 21.8 |                                                                                               | 15.1                | 279                                               | 39.7                |                                                   | 14.8          |                      |       |                |       |                |       |
| 9   | 75                                                              | 27.1 | 358                                              | 22.5 |                                                                                               | 15.3                | 294                                               | 40.6                |                                                   | 14.6          |                      |       |                |       |                |       |
| 10  | 90                                                              | 29.6 | 13                                               | 23.3 |                                                                                               | 15.5                | 309                                               | 41.5                |                                                   | 14.4          |                      |       |                |       |                |       |
| 11  | 105                                                             | 32.1 | 28                                               | 24.1 | +18                                                                                           | 15.7                | 324                                               | 42.4                | +16                                               | 14.2          |                      |       |                |       |                |       |
| 12  | 120                                                             | 34.5 | 43                                               | 24.9 | +18                                                                                           | 15.9                | 339                                               | 43.3                | +16                                               | 14.1          |                      |       |                |       |                |       |
| 13  | 135                                                             | 37.0 | 58                                               | 25.7 |                                                                                               | 16.1                | 354                                               | 44.2                |                                                   | 13.9          |                      |       |                |       |                |       |
| 14  | 150                                                             | 39.5 | 73                                               | 26.5 |                                                                                               | 16.3                | 9                                                 | 45.1                |                                                   | 13.7          |                      |       |                |       |                |       |
| 15  | 165                                                             | 41.9 | 88                                               | 27.3 |                                                                                               | 16.5                | 24                                                | 46.0                |                                                   | 13.5          |                      |       |                |       |                |       |
| 16  | 180                                                             | 44.4 | 103                                              | 28.1 |                                                                                               | 16.7                | 39                                                | 46.9                |                                                   | 13.4          |                      |       |                |       |                |       |
| 17  | 195                                                             | 46.9 | 118                                              | 28.8 | +18                                                                                           | 16.9                | 54                                                | 47.8                | +16                                               | 13.2          |                      |       |                |       |                |       |
| 18  | 210                                                             | 49.3 | 133                                              | 29.6 | +18                                                                                           | 17.1                | 69                                                | 48.7                | +16                                               | 13.0          |                      |       |                |       |                |       |
| 19  | 225                                                             | 51.8 | 148                                              | 30.4 |                                                                                               | 17.3                | 84                                                | 49.6                |                                                   | 12.8          |                      |       |                |       |                |       |
| 20  | 240                                                             | 54.2 | 163                                              | 31.2 |                                                                                               | 17.5                | 99                                                | 50.5                |                                                   | 12.7          |                      |       |                |       |                |       |
| 21  | 255                                                             | 56.7 | 178                                              | 31.9 |                                                                                               | 17.7                | 114                                               | 51.4                |                                                   | 12.5          |                      |       |                |       |                |       |
| 22  | 270                                                             | 59.2 | 193                                              | 32.7 |                                                                                               | 17.9                | 129                                               | 52.3                |                                                   | 12.3          |                      |       |                |       |                |       |
| 23  | 286                                                             | 01.6 | 208                                              | 33.5 |                                                                                               | 18.1                | 144                                               | 53.2                |                                                   | 12.1          |                      |       |                |       |                |       |
| 24  | 301                                                             | 04.1 | 223                                              | 34.2 | +18                                                                                           | 18.3                | 159                                               | 54.2                | +16                                               | 12.0          |                      |       |                |       |                |       |
| Dif | —                                                               |      | +8                                               |      | +2                                                                                            |                     | +9                                                |                     | -5                                                |               |                      |       |                |       |                |       |
|     |                                                                 |      |                                                  |      |                                                                                               |                     | +21                                               |                     | -2                                                |               |                      |       |                |       |                |       |
|     |                                                                 |      |                                                  |      |                                                                                               |                     |                                                   |                     | +21                                               |               |                      |       |                |       |                |       |
|     |                                                                 |      |                                                  |      |                                                                                               |                     |                                                   |                     | 0                                                 |               |                      |       |                |       |                |       |

| UT | SOL                                    |      |     |      |  LUNA |                     |                                                                                                                  |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna                       |       | Puesta de Luna |          |
|----|----------------------------------------|------|-----|------|----------------------------------------------------------------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------------|-------|---------------|--------------------------------------|-------|----------------|----------|
|    | SD: 15 <sup>h</sup> 7                  |      |     |      | Edad: 5 <sup>d</sup> 5                                                                 | PHE {               | 4 <sup>h</sup> : 56 <sup>o</sup> 9<br>12 <sup>h</sup> : 57 <sup>o</sup> 1<br>20 <sup>h</sup> : 57 <sup>o</sup> 3 | R°: 46 <sup>m</sup> |         |                          |       |               |                                      |       |                |          |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |     |      |                                                                                        |                     |                                                                                                                  |                     |         | SD: 15 <sup>h</sup> 5    |       |               | PMG: 16 <sup>h</sup> 44 <sup>m</sup> |       |                |          |
|    | hG ☉                                   |      | Dec |      | hG ☾ Dif                                                                               |                     | Dec Dif                                                                                                          |                     |         | Náutico                  | Civil |               | Hora                                 | R°    | Hora           | R°       |
| h  |                                        | °    | '   | °    | '                                                                                      | °                   | '                                                                                                                | °                   | '       | h                        | m     | h             | m                                    | h     | m              | m        |
| 0  | 178                                    | 23.0 | +20 | 02.9 | 116                                                                                    | 20.2                | +0                                                                                                               | 57.0                | 60 N    | ** **                    | 2 12  | 3 21          | 10 47                                | 92    | 22 21          | 0        |
| 1  | 193                                    | 23.0 |     | 02.4 | 130                                                                                    | 53.8 <sup>146</sup> |                                                                                                                  | 41.9 <sup>151</sup> | 58      | ** **                    | 37    | 35            |                                      | 46 88 |                | 23 4     |
| 2  | 208                                    | 23.0 |     | 01.9 | 145                                                                                    | 27.5 <sup>147</sup> |                                                                                                                  | 26.8 <sup>151</sup> | 56      | 1 29                     | 2 56  | 48            |                                      | 45 85 |                | 25 8     |
| 3  | 223                                    | 22.9 |     | 01.4 | 160                                                                                    | 01.1 <sup>146</sup> | +0                                                                                                               | 11.7 <sup>151</sup> | 54      | 2 01                     | 3 12  | 3 59          |                                      | 44 82 |                | 28 10    |
| 4  | 238                                    | 22.9 |     | 00.8 | 174                                                                                    | 34.6 <sup>145</sup> | -0                                                                                                               | 03.4 <sup>151</sup> | 52      | 24                       | 25    | 4 09          |                                      | 43 80 |                | 29 13    |
| 5  | 253                                    | 22.9 | +20 | 00.3 | 189                                                                                    | 08.2 <sup>146</sup> | -0                                                                                                               | 18.5 <sup>151</sup> | 50      | 2 42                     | 3 37  | 4 17          | 10 43                                | 77    | 22 31          | 15       |
| 6  | 268                                    | 22.9 | +19 | 59.8 | 203                                                                                    | 41.7 <sup>145</sup> | -0                                                                                                               | 33.6 <sup>151</sup> | 45      | 3 16                     | 4 01  | 4 36          | 10 41                                | 72    | 22 35          | 20       |
| 7  | 283                                    | 22.9 |     | 59.3 | 218                                                                                    | 15.2 <sup>145</sup> | -0                                                                                                               | 48.8 <sup>152</sup> | 40      | 3 41                     | 19    | 4 50          |                                      | 40 67 |                | 38 24    |
| 8  | 298                                    | 22.9 |     | 58.8 | 232                                                                                    | 48.7 <sup>145</sup> | -1                                                                                                               | 03.9 <sup>151</sup> | 35      | 4 00                     | 34    | 5 03          |                                      | 39 63 |                | 41 28    |
| 9  | 313                                    | 22.8 |     | 58.3 | 247                                                                                    | 22.1 <sup>144</sup> |                                                                                                                  | 19.1 <sup>152</sup> | 30      | 15                       | 4 47  | 14            |                                      | 38 60 |                | 43 31    |
| 10 | 328                                    | 22.8 |     | 57.7 | 261                                                                                    | 55.5 <sup>144</sup> |                                                                                                                  | 34.3 <sup>152</sup> | 20      | 40                       | 5 08  | 32            |                                      | 36 55 |                | 48 36    |
| 11 | 343                                    | 22.8 | +19 | 57.2 | 276                                                                                    | 28.9 <sup>144</sup> | -1                                                                                                               | 49.4 <sup>151</sup> | 10 N    | 4 59                     | 5 26  | 5 48          | 10 35                                | 50    | 22 51          | 42       |
| 12 | 358                                    | 22.8 | +19 | 56.7 | 291                                                                                    | 02.2 <sup>143</sup> | -2                                                                                                               | 04.6 <sup>152</sup> | 0       | 5 15                     | 5 41  | 6 03          | 10 34                                | 45    | 22 55          | 46       |
| 13 | 13                                     | 22.8 |     | 56.2 | 305                                                                                    | 35.5 <sup>143</sup> |                                                                                                                  | 19.8 <sup>152</sup> | 10 S    | 30                       | 5 55  | 18            |                                      | 33 40 |                | 22 58 51 |
| 14 | 28                                     | 22.8 |     | 55.7 | 320                                                                                    | 08.8 <sup>143</sup> |                                                                                                                  | 35.0 <sup>152</sup> | 20      | 43                       | 6 10  | 33            |                                      | 31 36 |                | 23 02 56 |
| 15 | 43                                     | 22.8 |     | 55.1 | 334                                                                                    | 42.0 <sup>142</sup> | -2                                                                                                               | 50.2 <sup>152</sup> | 30      | 5 56                     | 25    | 6 51          |                                      | 30 30 |                | 07 61    |
| 16 | 58                                     | 22.7 |     | 54.6 | 349                                                                                    | 15.2 <sup>142</sup> | -3                                                                                                               | 05.4 <sup>152</sup> | 35      | 6 03                     | 34    | 7 01          |                                      | 29 27 |                | 09 65    |
| 17 | 73                                     | 22.7 | +19 | 54.1 | 3                                                                                      | 48.3 <sup>141</sup> | -3                                                                                                               | 20.6 <sup>152</sup> | 40      | 6 10                     | 6 43  | 7 13          | 10 28                                | 23    | 23 12          | 68       |
| 18 | 88                                     | 22.7 | +19 | 53.6 | 18                                                                                     | 21.4 <sup>141</sup> | -3                                                                                                               | 35.8 <sup>152</sup> | 45      | 6 18                     | 6 54  | 7 26          | 10 27                                | 19    | 23 15          | 73       |
| 19 | 103                                    | 22.7 |     | 53.1 | 32                                                                                     | 54.5 <sup>141</sup> | -3                                                                                                               | 51.1 <sup>153</sup> | 50      | 27                       | 7 07  | 43            |                                      | 26 14 |                | 19 78    |
| 20 | 118                                    | 22.7 |     | 52.5 | 47                                                                                     | 27.5 <sup>140</sup> | -4                                                                                                               | 06.3 <sup>152</sup> | 52      | 31                       | 13    | 7 51          |                                      | 25 12 |                | 21 81    |
| 21 | 133                                    | 22.7 |     | 52.0 | 62                                                                                     | 00.4 <sup>139</sup> |                                                                                                                  | 21.5 <sup>152</sup> | 54      | 35                       | 19    | 8 00          |                                      | 25 9  |                | 23 83    |
| 22 | 148                                    | 22.7 |     | 51.5 | 76                                                                                     | 33.3 <sup>139</sup> |                                                                                                                  | 36.6 <sup>151</sup> | 56      | 40                       | 26    | 09            |                                      | 24 7  |                | 25 87    |
| 23 | 163                                    | 22.6 |     | 50.9 | 91                                                                                     | 06.2 <sup>139</sup> | -4                                                                                                               | 51.8 <sup>152</sup> | 58      | 44                       | 34    | 21            |                                      | 23 4  |                | 27 91    |
| 24 | 178                                    | 22.6 | +19 | 50.4 | 105                                                                                    | 39.0 <sup>138</sup> | -5                                                                                                               | 07.0 <sup>152</sup> | 60 S    | 6 50                     | 7 43  | 8 34          | 10 22                                | 1     | 23 30          | 95       |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 3 <sup>h</sup> 55 <sup>m</sup> 1 |      | Mag: -4.7<br>PMG: 9 <sup>h</sup> 05 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 20 <sup>m</sup> |      | Mag: -1.8<br>PMG: 15 <sup>h</sup> 07 <sup>m</sup> |      | Mag: +0.1<br>PMG: 11 <sup>h</sup> 15 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀ Dec                                         |      | hG ♂ Dec                                          |      | hG ♃ Dec                                          |      | hG ♄ Dec                                          |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 301                                   | 04.1 | 223                                              | 34.2 | +18                                               | 18.3 | 159                                               | 54.2 | +16                                               | 26.3 |
| 1   | 316                                   | 06.6 | 238                                              | 35.0 |                                                   | 18.5 | 174                                               | 55.1 |                                                   | 25.8 |
| 2   | 331                                   | 09.0 | 253                                              | 35.8 |                                                   | 18.7 | 189                                               | 56.0 |                                                   | 25.3 |
| 3   | 346                                   | 11.5 | 268                                              | 36.5 |                                                   | 18.9 | 204                                               | 56.9 |                                                   | 24.8 |
| 4   | 1                                     | 14.0 | 283                                              | 37.3 |                                                   | 19.2 | 219                                               | 57.8 |                                                   | 24.3 |
| 5   | 16                                    | 16.4 | 298                                              | 38.0 | +18                                               | 19.4 | 234                                               | 58.7 | +16                                               | 23.8 |
| 6   | 31                                    | 18.9 | 313                                              | 38.8 | +18                                               | 19.6 | 249                                               | 59.6 | +16                                               | 23.3 |
| 7   | 46                                    | 21.3 | 328                                              | 39.5 |                                                   | 19.8 | 265                                               | 00.5 |                                                   | 22.8 |
| 8   | 61                                    | 23.8 | 343                                              | 40.3 |                                                   | 20.0 | 280                                               | 01.4 |                                                   | 22.3 |
| 9   | 76                                    | 26.3 | 358                                              | 41.0 |                                                   | 20.2 | 295                                               | 02.3 |                                                   | 21.8 |
| 10  | 91                                    | 28.7 | 13                                               | 41.8 |                                                   | 20.4 | 310                                               | 03.2 |                                                   | 21.3 |
| 11  | 106                                   | 31.2 | 28                                               | 42.5 | +18                                               | 20.6 | 325                                               | 04.1 | +16                                               | 20.8 |
| 12  | 121                                   | 33.7 | 43                                               | 43.3 | +18                                               | 20.8 | 340                                               | 05.0 | +16                                               | 20.3 |
| 13  | 136                                   | 36.1 | 58                                               | 44.0 |                                                   | 21.0 | 355                                               | 05.9 |                                                   | 19.8 |
| 14  | 151                                   | 38.6 | 73                                               | 44.8 |                                                   | 21.2 | 10                                                | 06.8 |                                                   | 19.3 |
| 15  | 166                                   | 41.1 | 88                                               | 45.5 |                                                   | 21.4 | 25                                                | 07.7 |                                                   | 18.8 |
| 16  | 181                                   | 43.5 | 103                                              | 46.2 |                                                   | 21.6 | 40                                                | 08.6 |                                                   | 18.3 |
| 17  | 196                                   | 46.0 | 118                                              | 47.0 | +18                                               | 21.9 | 55                                                | 09.5 | +16                                               | 17.8 |
| 18  | 211                                   | 48.5 | 133                                              | 47.7 | +18                                               | 22.1 | 70                                                | 10.4 | +16                                               | 17.3 |
| 19  | 226                                   | 50.9 | 148                                              | 48.4 |                                                   | 22.3 | 85                                                | 11.3 |                                                   | 16.8 |
| 20  | 241                                   | 53.4 | 163                                              | 49.1 |                                                   | 22.5 | 100                                               | 12.2 |                                                   | 16.3 |
| 21  | 256                                   | 55.8 | 178                                              | 49.9 |                                                   | 22.7 | 115                                               | 13.1 |                                                   | 15.8 |
| 22  | 271                                   | 58.3 | 193                                              | 50.6 |                                                   | 22.9 | 130                                               | 14.0 |                                                   | 15.3 |
| 23  | 287                                   | 00.8 | 208                                              | 51.3 |                                                   | 23.1 | 145                                               | 15.0 |                                                   | 14.8 |
| 24  | 302                                   | 03.2 | 223                                              | 52.0 | +18                                               | 23.3 | 160                                               | 15.9 | +16                                               | 14.3 |
| Dif | —                                     |      | +7                                               |      | +2                                                |      | +9                                                |      | -5                                                |      |
|     |                                       |      |                                                  |      |                                                   |      | +21                                               |      | -2                                                |      |
|     |                                       |      |                                                  |      |                                                   |      | +21                                               |      |                                                   |      |



| UT  | SOL                                                |      |          | ☾ LUNA                                                                     |                     |                         | Latitud                                           | Puesta de Sol | Final del crepúsculo                                                                                      |                                                   | Salida de Luna |          | Puesta de Luna                                    |       |          |
|-----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------|---------------------|-------------------------|---------------------------------------------------|---------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------------|----------|---------------------------------------------------|-------|----------|
|     | SD: 15'7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |          | Edad: 6 <sup>d</sup> 5<br>SD: 15'6<br>PMG: 17 <sup>h</sup> 30 <sup>m</sup> |                     |                         |                                                   |               | PHE {<br>4 <sup>h</sup> : 57'6<br>12 <sup>h</sup> : 57'8<br>20 <sup>h</sup> : 58'0<br>Rº: 48 <sup>m</sup> |                                                   |                |          |                                                   |       |          |
|     | hG ☉                                               | Dec  |          | hG ☾                                                                       | Dif                 | Dec                     |                                                   |               | Dif                                                                                                       | Civil                                             | Náutico        | Hora     | Rº                                                | Hora  | Rº       |
| h   | °                                                  | '    | °        | °                                                                          | '                   | °                       | '                                                 | °             | h m                                                                                                       | h m                                               | h m            | h m m    | h m m                                             | h m m |          |
| 0   | 178                                                | 22.6 | +19 50.4 | 105                                                                        | 39.0                | -5 07.0                 |                                                   | 60 N          | 20 49                                                                                                     | 21 55                                             | ** **          | 12 19 98 | 22 21 2                                           |       |          |
| 1   | 193                                                | 22.6 |          | 120                                                                        | 11.7 <sup>137</sup> | 22.2 <sup>152</sup>     |                                                   | 58            | 34                                                                                                        | 32                                                | 23 30          | 14 94    | 27 7                                              |       |          |
| 2   | 208                                                | 22.6 |          | 134                                                                        | 44.4 <sup>137</sup> | 37.4 <sup>152</sup>     |                                                   | 56            | 22                                                                                                        | 21 13                                             | 22 36          | 10 89    | 33 10                                             |       |          |
| 3   | 223                                                | 22.6 |          | 149                                                                        | 17.1 <sup>137</sup> | -5 52.5 <sup>151</sup>  |                                                   | 54            | 11                                                                                                        | 20 58                                             | 22 07          | 06 86    | 38 13                                             |       |          |
| 4   | 238                                                | 22.6 |          | 163                                                                        | 49.7 <sup>136</sup> | -6 07.7 <sup>152</sup>  |                                                   | 52            | 20 02                                                                                                     | 45                                                | 21 45          | 03 83    | 42 16                                             |       |          |
| 5   | 253                                                | 22.6 | +19 47.8 | 178                                                                        | 22.2 <sup>135</sup> | -6 22.8 <sup>151</sup>  |                                                   | 50            | 19 53                                                                                                     | 20 34                                             | 21 28          | 12 00 80 | 22 46 19                                          |       |          |
| 6   | 268                                                | 22.6 | +19 47.3 | 192                                                                        | 54.7 <sup>135</sup> | -6 37.9 <sup>151</sup>  |                                                   | 45            | 19 36                                                                                                     | 20 10                                             | 20 55          | 11 53 75 | 22 55 24                                          |       |          |
| 7   | 283                                                | 22.6 |          | 207                                                                        | 27.1 <sup>134</sup> | -6 53.0 <sup>151</sup>  |                                                   | 40            | 21                                                                                                        | 19 52                                             | 31             | 47 70    | 23 02 28                                          |       |          |
| 8   | 298                                                | 22.5 |          | 221                                                                        | 59.4 <sup>133</sup> | -7 08.1 <sup>151</sup>  |                                                   | 35            | 19 09                                                                                                     | 37                                                | 20 12          | 42 67    | 09 31                                             |       |          |
| 9   | 313                                                | 22.5 |          | 236                                                                        | 31.7 <sup>133</sup> | 23.2 <sup>151</sup>     |                                                   | 30            | 18 58                                                                                                     | 25                                                | 19 56          | 38 63    | 14 35                                             |       |          |
| 10  | 328                                                | 22.5 |          | 251                                                                        | 03.9 <sup>132</sup> | 38.2 <sup>150</sup>     |                                                   | 20            | 40                                                                                                        | 19 04                                             | 32             | 31 57    | 24 41                                             |       |          |
| 11  | 343                                                | 22.5 | +19 44.6 | 265                                                                        | 36.1 <sup>132</sup> | -7 53.3 <sup>151</sup>  |                                                   | 10 N          | 18 25                                                                                                     | 18 47                                             | 19 13          | 11 25 52 | 23 33 45                                          |       |          |
| 12  | 358                                                | 22.5 | +19 44.1 | 280                                                                        | 08.2 <sup>131</sup> | -8 08.3 <sup>150</sup>  |                                                   | 0             | 18 10                                                                                                     | 18 32                                             | 18 58          | 11 19 48 | 23 41 50                                          |       |          |
| 13  | 13                                                 | 22.5 |          | 294                                                                        | 40.2 <sup>130</sup> | 23.2 <sup>149</sup>     |                                                   | 10 S          | 17 56                                                                                                     | 18                                                | 44             | 13 43    | 49 54                                             |       |          |
| 14  | 28                                                 | 22.5 |          | 309                                                                        | 12.2 <sup>130</sup> | 38.2 <sup>150</sup>     |                                                   | 20            | 40                                                                                                        | 18 04                                             | 31             | 07 38    | 23 58 59                                          |       |          |
| 15  | 43                                                 | 22.5 |          | 323                                                                        | 44.0 <sup>128</sup> | -8 53.2 <sup>150</sup>  |                                                   | 30            | 23                                                                                                        | 17 49                                             | 18             | 11 00 33 | ** ** *                                           |       |          |
| 16  | 58                                                 | 22.5 |          | 338                                                                        | 15.8 <sup>128</sup> | -9 08.1 <sup>149</sup>  |                                                   | 35            | 13                                                                                                        | 40                                                | 11             | 10 56 30 | ** ** *                                           |       |          |
| 17  | 73                                                 | 22.5 | +19 41.4 | 352                                                                        | 47.6 <sup>128</sup> | -9 23.0 <sup>149</sup>  |                                                   | 40            | 17 01                                                                                                     | 17 31                                             | 18 04          | 10 51 26 | ** ** *                                           |       |          |
| 18  | 88                                                 | 22.5 | +19 40.8 | 7                                                                          | 19.2 <sup>126</sup> | -9 37.8 <sup>148</sup>  |                                                   | 45            | 16 48                                                                                                     | 17 20                                             | 17 56          | 10 46 22 | ** ** *                                           |       |          |
| 19  | 103                                                | 22.5 |          | 21                                                                         | 50.8 <sup>126</sup> | -9 52.6 <sup>148</sup>  |                                                   | 50            | 32                                                                                                        | 08                                                | 48             | 40 17    | ** ** *                                           |       |          |
| 20  | 118                                                | 22.5 |          | 36                                                                         | 22.3 <sup>125</sup> | -10 07.4 <sup>148</sup> |                                                   | 52            | 24                                                                                                        | 17 02                                             | 44             | 37 15    | ** ** *                                           |       |          |
| 21  | 133                                                | 22.4 |          | 50                                                                         | 53.7 <sup>124</sup> | 22.2 <sup>148</sup>     |                                                   | 54            | 15                                                                                                        | 16 56                                             | 40             | 34 12    | ** ** *                                           |       |          |
| 22  | 148                                                | 22.4 |          | 65                                                                         | 25.0 <sup>123</sup> | 36.9 <sup>147</sup>     |                                                   | 56            | 16 06                                                                                                     | 49                                                | 35             | 31 9     | ** ** *                                           |       |          |
| 23  | 163                                                | 22.4 |          | 79                                                                         | 56.3 <sup>123</sup> | -10 51.6 <sup>147</sup> |                                                   | 58            | 15 55                                                                                                     | 41                                                | 31             | 27 6     | ** ** *                                           |       |          |
| 24  | 178                                                | 22.4 | +19 37.6 | 94                                                                         | 27.5 <sup>122</sup> | -11 06.3 <sup>147</sup> |                                                   | 60 S          | 15 42                                                                                                     | 16 33                                             | 17 25          | 10 23 2  | ** ** *                                           |       |          |
| UT  | ARIES                                              |      |          | VENUS                                                                      |                     |                         | MARTE                                             |               |                                                                                                           | JÚPITER                                           |                |          | SATURNO                                           |       |          |
|     | PMG: 3 <sup>h</sup> 51 <sup>m</sup> 2              |      |          | Mag: -4.6<br>PMG: 9 <sup>h</sup> 04 <sup>m</sup>                           |                     |                         | Mag: +1.8<br>PMG: 13 <sup>h</sup> 18 <sup>m</sup> |               |                                                                                                           | Mag: -1.8<br>PMG: 15 <sup>h</sup> 04 <sup>m</sup> |                |          | Mag: +0.1<br>PMG: 11 <sup>h</sup> 12 <sup>m</sup> |       |          |
|     | hG ♈                                               |      |          | hG ♀                                                                       | Dec                 |                         | hG ♂                                              | Dec           |                                                                                                           | hG ♃                                              | Dec            |          | hG ♄                                              | Dec   |          |
| h   | °                                                  | '    | °        | °                                                                          | '                   | °                       | °                                                 | '             | °                                                                                                         | °                                                 | '              | °        | °                                                 | '     | °        |
| 0   | 302                                                | 03.2 |          | 223                                                                        | 52.0                | +18 23.3                | 160                                               | 15.9          | +16 14.3                                                                                                  | 133                                               | 29.4           | +6 07.7  | 191                                               | 43.4  | +21 52.7 |
| 1   | 317                                                | 05.7 |          | 238                                                                        | 52.7                | 23.5                    | 175                                               | 16.8          | 13.8                                                                                                      | 148                                               | 31.4           | 07.5     | 206                                               | 45.5  | 52.6     |
| 2   | 332                                                | 08.2 |          | 253                                                                        | 53.4                | 23.7                    | 190                                               | 17.7          | 13.3                                                                                                      | 163                                               | 33.5           | 07.3     | 221                                               | 47.7  | 52.6     |
| 3   | 347                                                | 10.6 |          | 268                                                                        | 54.2                | 23.9                    | 205                                               | 18.6          | 12.8                                                                                                      | 178                                               | 35.5           | 07.2     | 236                                               | 49.8  | 52.6     |
| 4   | 2                                                  | 13.1 |          | 283                                                                        | 54.9                | 24.2                    | 220                                               | 19.5          | 12.3                                                                                                      | 193                                               | 37.6           | 07.0     | 251                                               | 51.9  | 52.5     |
| 5   | 17                                                 | 15.6 |          | 298                                                                        | 55.6                | +18 24.4                | 235                                               | 20.4          | +16 11.8                                                                                                  | 208                                               | 39.6           | +6 06.8  | 266                                               | 54.0  | +21 52.5 |
| 6   | 32                                                 | 18.0 |          | 313                                                                        | 56.3                | +18 24.6                | 250                                               | 21.3          | +16 11.3                                                                                                  | 223                                               | 41.7           | +6 06.6  | 281                                               | 56.1  | +21 52.4 |
| 7   | 47                                                 | 20.5 |          | 328                                                                        | 57.0                | 24.8                    | 265                                               | 22.2          | 10.8                                                                                                      | 238                                               | 43.7           | 06.4     | 296                                               | 58.3  | 52.4     |
| 8   | 62                                                 | 22.9 |          | 343                                                                        | 57.7                | 25.0                    | 280                                               | 23.1          | 10.3                                                                                                      | 253                                               | 45.8           | 06.3     | 312                                               | 00.4  | 52.4     |
| 9   | 77                                                 | 25.4 |          | 358                                                                        | 58.4                | 25.2                    | 295                                               | 24.0          | 09.8                                                                                                      | 268                                               | 47.8           | 06.1     | 327                                               | 02.5  | 52.3     |
| 10  | 92                                                 | 27.9 |          | 13                                                                         | 59.1                | 25.4                    | 310                                               | 24.9          | 09.3                                                                                                      | 283                                               | 49.9           | 05.9     | 342                                               | 04.6  | 52.3     |
| 11  | 107                                                | 30.3 |          | 28                                                                         | 59.8                | +18 25.6                | 325                                               | 25.8          | +16 08.8                                                                                                  | 298                                               | 51.9           | +6 05.7  | 357                                               | 06.8  | +21 52.2 |
| 12  | 122                                                | 32.8 |          | 44                                                                         | 00.5                | +18 25.8                | 340                                               | 26.7          | +16 08.3                                                                                                  | 313                                               | 54.0           | +6 05.5  | 12                                                | 08.9  | +21 52.2 |
| 13  | 137                                                | 35.3 |          | 59                                                                         | 01.2                | 26.1                    | 355                                               | 27.6          | 07.8                                                                                                      | 328                                               | 56.0           | 05.4     | 27                                                | 11.0  | 52.2     |
| 14  | 152                                                | 37.7 |          | 74                                                                         | 01.9                | 26.3                    | 10                                                | 28.6          | 07.3                                                                                                      | 343                                               | 58.1           | 05.2     | 42                                                | 13.1  | 52.1     |
| 15  | 167                                                | 40.2 |          | 89                                                                         | 02.5                | 26.5                    | 25                                                | 29.5          | 06.8                                                                                                      | 359                                               | 00.1           | 05.0     | 57                                                | 15.3  | 52.1     |
| 16  | 182                                                | 42.7 |          | 104                                                                        | 03.2                | 26.7                    | 40                                                | 30.4          | 06.3                                                                                                      | 14                                                | 02.2           | 04.8     | 72                                                | 17.4  | 52.0     |
| 17  | 197                                                | 45.1 |          | 119                                                                        | 03.9                | +18 26.9                | 55                                                | 31.3          | +16 05.8                                                                                                  | 29                                                | 04.2           | +6 04.7  | 87                                                | 19.5  | +21 52.0 |
| 18  | 212                                                | 47.6 |          | 134                                                                        | 04.6                | +18 27.1                | 70                                                | 32.2          | +16 05.3                                                                                                  | 44                                                | 06.3           | +6 04.5  | 102                                               | 21.6  | +21 52.0 |
| 19  | 227                                                | 50.1 |          | 149                                                                        | 05.3                | 27.3                    | 85                                                | 33.1          | 04.8                                                                                                      | 59                                                | 08.3           | 04.3     | 117                                               | 23.7  | 51.9     |
| 20  | 242                                                | 52.5 |          | 164                                                                        | 06.0                | 27.5                    | 100                                               | 34.0          | 04.3                                                                                                      | 74                                                | 10.4           | 04.1     | 132                                               | 25.9  | 51.9     |
| 21  | 257                                                | 55.0 |          | 179                                                                        | 06.6                | 27.7                    | 115                                               | 34.9          | 03.8                                                                                                      | 89                                                | 12.4           | 03.9     | 147                                               | 28.0  | 51.8     |
| 22  | 272                                                | 57.4 |          | 194                                                                        | 07.3                | 28.0                    | 130                                               | 35.8          | 03.3                                                                                                      | 104                                               | 14.5           | 03.8     | 162                                               | 30.1  | 51.8     |
| 23  | 287                                                | 59.9 |          | 209                                                                        | 08.0                | 28.2                    | 145                                               | 36.7          | 02.8                                                                                                      | 119                                               | 16.5           | 03.6     | 177                                               | 32.2  | 51.7     |
| 24  | 303                                                | 02.4 |          | 224                                                                        | 08.7                | +18 28.4                | 160                                               | 37.6          | +16 02.3                                                                                                  | 134                                               | 18.6           | +6 03.4  | 192                                               | 34.4  | +21 51.7 |
| Dif | —                                                  |      |          | +7                                                                         | +2                  |                         | +9                                                | -5            |                                                                                                           | +20                                               | -2             |          | +21                                               |       | 0        |

| UT | SOL                                                |      |          | ☾ LUNA                                                                     |                                                                                                           |                         | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |     | Puesta de Luna |     |     |   |
|----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------|---------|--------------------------|-------|---------------|----------------|-----|----------------|-----|-----|---|
|    | SD: 15'7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |          | Edad: 7 <sup>d</sup> 5<br>SD: 15'8<br>PMG: 18 <sup>h</sup> 18 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'5<br>20 <sup>h</sup> : 58'8<br>R°: 54 <sup>m</sup> |                         |         | Náutico                  | Civil |               | Hora           | R°  | Hora           | R°  |     |   |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                       | Dif                                                                                                       | Dec                     |         |                          |       |               |                |     |                |     | Dif |   |
| h  | °                                                  | '    | °        | °                                                                          | '                                                                                                         | °                       | '       | °                        | h     | m             | h              | m   | h              | m   | h   | m |
| 0  | 178                                                | 22.4 | +19 37.6 | 94                                                                         | 27.5                                                                                                      | -11 06.3                | 60 N    | ** **                    | 2 18  | 3 25          | 13 57          | 105 | 22 23          | 4   |     |   |
| 1  | 193                                                | 22.4 | 37.1     | 108                                                                        | 58.6 <sup>121</sup>                                                                                       | 20.9 <sup>146</sup>     | 58      | 0 43                     | 2 42  | 39            | 48 99          |     | 34             | 9   |     |   |
| 2  | 208                                                | 22.4 | 36.5     | 123                                                                        | 29.6 <sup>120</sup>                                                                                       | 35.5 <sup>146</sup>     | 56      | 1 37                     | 3 00  | 3 52          | 39 95          |     | 43             | 14  |     |   |
| 3  | 223                                                | 22.4 | 36.0     | 138                                                                        | 00.5 <sup>119</sup>                                                                                       | -11 50.0 <sup>145</sup> | 54      | 2 07                     | 16    | 4 02          | 32 91          |     | 51             | 18  |     |   |
| 4  | 238                                                | 22.4 | 35.5     | 152                                                                        | 31.3 <sup>118</sup>                                                                                       | -12 04.5 <sup>145</sup> | 52      | 28                       | 29    | 12            | 26 87          |     | 22 58          | 21  |     |   |
| 5  | 253                                                | 22.4 | +19 34.9 | 167                                                                        | 02.0 <sup>117</sup>                                                                                       | -12 18.9 <sup>144</sup> | 50      | 2 46                     | 3 40  | 4 20          | 13 20          | 85  | 23 05          | 23  |     |   |
| 6  | 268                                                | 22.4 | +19 34.4 | 181                                                                        | 32.7 <sup>117</sup>                                                                                       | -12 33.3 <sup>144</sup> | 45      | 3 19                     | 4 03  | 4 38          | 13 08          | 78  | 23 19          | 29  |     |   |
| 7  | 283                                                | 22.4 | 33.8     | 196                                                                        | 03.2 <sup>115</sup>                                                                                       | -12 47.7 <sup>144</sup> | 40      | 3 43                     | 21    | 4 52          | 12 57          | 74  | 30             | 34  |     |   |
| 8  | 298                                                | 22.4 | 33.3     | 210                                                                        | 33.7 <sup>115</sup>                                                                                       | -13 02.0 <sup>143</sup> | 35      | 4 02                     | 36    | 5 04          | 49 70          |     | 40             | 38  |     |   |
| 9  | 313                                                | 22.4 | 32.7     | 225                                                                        | 04.0 <sup>113</sup>                                                                                       | 16.2 <sup>142</sup>     | 30      | 17                       | 4 49  | 15            | 41 67          |     | 23 49          | 41  |     |   |
| 10 | 328                                                | 22.4 | 32.2     | 239                                                                        | 34.3 <sup>113</sup>                                                                                       | 30.4 <sup>142</sup>     | 20      | 4 41                     | 5 09  | 33            | 28 61          |     | ** ** *        | **  |     |   |
| 11 | 343                                                | 22.4 | +19 31.6 | 254                                                                        | 04.4 <sup>111</sup>                                                                                       | -13 44.6 <sup>142</sup> | 10 N    | 5 00                     | 5 26  | 5 49          | 12 17          | 56  | ** ** *        | **  |     |   |
| 12 | 358                                                | 22.4 | +19 31.1 | 268                                                                        | 34.5 <sup>111</sup>                                                                                       | -13 58.7 <sup>141</sup> | 0       | 5 16                     | 5 41  | 6 03          | 12 07          | 52  | ** ** *        | **  |     |   |
| 13 | 13                                                 | 22.4 | 30.5     | 283                                                                        | 04.4 <sup>109</sup>                                                                                       | -14 12.7 <sup>140</sup> | 10 S    | 29                       | 5 55  | 17            | 11 56          | 48  | ** ** *        | **  |     |   |
| 14 | 28                                                 | 22.4 | 30.0     | 297                                                                        | 34.3 <sup>109</sup>                                                                                       | 26.7 <sup>140</sup>     | 20      | 42                       | 6 09  | 32            | 45 43          |     | ** ** *        | **  |     |   |
| 15 | 43                                                 | 22.4 | 29.4     | 312                                                                        | 04.1 <sup>108</sup>                                                                                       | 40.6 <sup>139</sup>     | 30      | 5 55                     | 24    | 6 50          | 33 37          |     | 0 08           | 65  |     |   |
| 16 | 58                                                 | 22.4 | 28.9     | 326                                                                        | 33.7 <sup>106</sup>                                                                                       | -14 54.5 <sup>139</sup> | 35      | 6 02                     | 33    | 7 00          | 26 34          |     | 14             | 68  |     |   |
| 17 | 73                                                 | 22.4 | +19 28.3 | 341                                                                        | 03.3 <sup>106</sup>                                                                                       | -15 08.3 <sup>138</sup> | 40      | 6 09                     | 6 42  | 7 11          | 11 17          | 31  | 0 20           | 72  |     |   |
| 18 | 88                                                 | 22.4 | +19 27.8 | 355                                                                        | 32.7 <sup>104</sup>                                                                                       | -15 22.0 <sup>137</sup> | 45      | 6 16                     | 6 52  | 7 24          | 11 08          | 26  | 0 28           | 77  |     |   |
| 19 | 103                                                | 22.4 | 27.2     | 10                                                                         | 02.0 <sup>103</sup>                                                                                       | 35.6 <sup>136</sup>     | 50      | 25                       | 7 05  | 41            | 10 57          | 21  | 37             | 83  |     |   |
| 20 | 118                                                | 22.4 | 26.7     | 24                                                                         | 31.3 <sup>103</sup>                                                                                       | -15 49.2 <sup>136</sup> | 52      | 29                       | 10    | 48            | 52 18          |     | 42             | 85  |     |   |
| 21 | 133                                                | 22.4 | 26.1     | 39                                                                         | 00.4 <sup>101</sup>                                                                                       | -16 02.8 <sup>136</sup> | 54      | 33                       | 16    | 7 57          | 46 15          |     | 46             | 89  |     |   |
| 22 | 148                                                | 22.4 | 25.6     | 53                                                                         | 29.4 <sup>100</sup>                                                                                       | 16.2 <sup>134</sup>     | 56      | 37                       | 23    | 8 06          | 40 12          |     | 52             | 92  |     |   |
| 23 | 163                                                | 22.4 | 25.0     | 67                                                                         | 58.3 <sup>99</sup>                                                                                        | 29.6 <sup>134</sup>     | 58      | 42                       | 31    | 17            | 33 8           |     | 0 58           | 96  |     |   |
| 24 | 178                                                | 22.4 | +19 24.5 | 82                                                                         | 27.1 <sup>98</sup>                                                                                        | -16 42.9 <sup>133</sup> | 60 S    | 6 47                     | 7 39  | 8 29          | 10 25          | 3   | 1 05           | 100 |     |   |

| UT  | ARIES                                   |      | VENUS                                            |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |   |
|-----|-----------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|---|
|     | PMG<br>3 <sup>h</sup> 47 <sup>m</sup> 2 |      | Mag: -4.6<br>PMG: 9 <sup>h</sup> 03 <sup>m</sup> |          | Mag: +1.8<br>PMG: 13 <sup>h</sup> 17 <sup>m</sup> |          | Mag: -1.8<br>PMG: 15 <sup>h</sup> 01 <sup>m</sup> |         | Mag: +0.1<br>PMG: 11 <sup>h</sup> 08 <sup>m</sup> |          |   |
|     | hG ♈                                    | Dec  | hG ♀                                             | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec      |   |
| h   | °                                       | '    | °                                                | °        | °                                                 | '        | °                                                 | °       | °                                                 | °        | ' |
| 0   | 303                                     | 02.4 | 224 08.7                                         | +18 28.4 | 160 37.6                                          | +16 02.3 | 134 18.6                                          | +6 03.4 | 192 34.4                                          | +21 51.7 |   |
| 1   | 318                                     | 04.8 | 239 09.3                                         | 28.6     | 175 38.5                                          | 01.8     | 149 20.6                                          | 03.2    | 207 36.5                                          | 51.7     |   |
| 2   | 333                                     | 07.3 | 254 10.0                                         | 28.8     | 190 39.4                                          | 01.3     | 164 22.7                                          | 03.0    | 222 38.6                                          | 51.6     |   |
| 3   | 348                                     | 09.8 | 269 10.7                                         | 29.0     | 205 40.4                                          | 00.8     | 179 24.7                                          | 02.9    | 237 40.7                                          | 51.6     |   |
| 4   | 3                                       | 12.2 | 284 11.3                                         | 29.2     | 220 41.3                                          | +16 00.3 | 194 26.8                                          | 02.7    | 252 42.9                                          | 51.5     |   |
| 5   | 18                                      | 14.7 | 299 12.0                                         | +18 29.4 | 235 42.2                                          | +15 59.8 | 209 28.8                                          | +6 02.5 | 267 45.0                                          | +21 51.5 |   |
| 6   | 33                                      | 17.2 | 314 12.6                                         | +18 29.7 | 250 43.1                                          | +15 59.3 | 224 30.9                                          | +6 02.3 | 282 47.1                                          | +21 51.5 |   |
| 7   | 48                                      | 19.6 | 329 13.3                                         | 29.9     | 265 44.0                                          | 58.7     | 239 32.9                                          | 02.1    | 297 49.2                                          | 51.4     |   |
| 8   | 63                                      | 22.1 | 344 14.0                                         | 30.1     | 280 44.9                                          | 58.2     | 254 35.0                                          | 02.0    | 312 51.4                                          | 51.4     |   |
| 9   | 78                                      | 24.6 | 359 14.6                                         | 30.3     | 295 45.8                                          | 57.7     | 269 37.0                                          | 01.8    | 327 53.5                                          | 51.3     |   |
| 10  | 93                                      | 27.0 | 14 15.3                                          | 30.5     | 310 46.7                                          | 57.2     | 284 39.0                                          | 01.6    | 342 55.6                                          | 51.3     |   |
| 11  | 108                                     | 29.5 | 29 15.9                                          | +18 30.7 | 325 47.6                                          | +15 56.7 | 299 41.1                                          | +6 01.4 | 357 57.7                                          | +21 51.3 |   |
| 12  | 123                                     | 31.9 | 44 16.6                                          | +18 30.9 | 340 48.5                                          | +15 56.2 | 314 43.1                                          | +6 01.2 | 12 59.8                                           | +21 51.2 |   |
| 13  | 138                                     | 34.4 | 59 17.2                                          | 31.1     | 355 49.5                                          | 55.7     | 329 45.2                                          | 01.1    | 28 02.0                                           | 51.2     |   |
| 14  | 153                                     | 36.9 | 74 17.9                                          | 31.4     | 10 50.4                                           | 55.2     | 344 47.2                                          | 00.9    | 43 04.1                                           | 51.1     |   |
| 15  | 168                                     | 39.3 | 89 18.5                                          | 31.6     | 25 51.3                                           | 54.7     | 359 49.3                                          | 00.7    | 58 06.2                                           | 51.1     |   |
| 16  | 183                                     | 41.8 | 104 19.1                                         | 31.8     | 40 52.2                                           | 54.2     | 14 51.3                                           | 00.5    | 73 08.3                                           | 51.1     |   |
| 17  | 198                                     | 44.3 | 119 19.8                                         | +18 32.0 | 55 53.1                                           | +15 53.7 | 29 53.4                                           | +6 00.3 | 88 10.5                                           | +21 51.0 |   |
| 18  | 213                                     | 46.7 | 134 20.4                                         | +18 32.2 | 70 54.0                                           | +15 53.2 | 44 55.4                                           | +6 00.2 | 103 12.6                                          | +21 51.0 |   |
| 19  | 228                                     | 49.2 | 149 21.1                                         | 32.4     | 85 54.9                                           | 52.7     | 59 57.5                                           | +6 00.0 | 118 14.7                                          | 50.9     |   |
| 20  | 243                                     | 51.7 | 164 21.7                                         | 32.6     | 100 55.8                                          | 52.2     | 74 59.5                                           | +5 59.8 | 133 16.8                                          | 50.9     |   |
| 21  | 258                                     | 54.1 | 179 22.3                                         | 32.9     | 115 56.7                                          | 51.7     | 90 01.6                                           | 59.6    | 148 19.0                                          | 50.8     |   |
| 22  | 273                                     | 56.6 | 194 23.0                                         | 33.1     | 130 57.7                                          | 51.1     | 105 03.6                                          | 59.4    | 163 21.1                                          | 50.8     |   |
| 23  | 288                                     | 59.0 | 209 23.6                                         | 33.3     | 145 58.6                                          | 50.6     | 120 05.7                                          | 59.3    | 178 23.2                                          | 50.8     |   |
| 24  | 304                                     | 01.5 | 224 24.2                                         | +18 33.5 | 160 59.5                                          | +15 50.1 | 135 07.7                                          | +5 59.1 | 193 25.3                                          | +21 50.7 |   |
| Dif | —                                       |      | +6                                               | +2       | +9                                                | -5       | +20                                               | -2      | +21                                               | 0        |   |

| UT | SOL                                    |      |     |      | LUNA                                                                                                                                                                 |      |     |      | Latitud             | Puesta de Sol | Final del crepúsculo |         |         | Salida de Luna |       |          | Puesta de Luna |  |  |
|----|----------------------------------------|------|-----|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------------------|---------------|----------------------|---------|---------|----------------|-------|----------|----------------|--|--|
|    | SD: 15 <sup>h</sup> 7                  |      |     |      | Edad: 8 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> 0<br>12 <sup>h</sup> : 59 <sup>m</sup> 3<br>20 <sup>h</sup> : 59 <sup>m</sup> 5<br>R°: 58 <sup>m</sup> |      |     |      |                     |               |                      |         |         |                |       |          |                |  |  |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |     |      | SD: 16 <sup>h</sup> 0<br>PMG: 19 <sup>h</sup> 12 <sup>m</sup>                                                                                                        |      |     |      |                     |               |                      |         |         |                |       |          |                |  |  |
|    | hG ☉ Dec                               |      |     |      | hG ☾ Dif Dec Dif                                                                                                                                                     |      |     |      |                     |               | Civil                | Náutico | Hora R° |                |       | Hora R°  |                |  |  |
| h  | °                                      | '    | °   | '    | °                                                                                                                                                                    | '    | °   | '    | °                   | '             | h m                  | h m     | h m     | h m m          | h m m | h m m    | h m m          |  |  |
| 0  | 178                                    | 22.4 | +19 | 24.5 | 82                                                                                                                                                                   | 27.1 | -16 | 42.9 | 60 N                | 20 44         | 21 49                | ** **   | 15 42   | 111            | 22 27 | 10       |                |  |  |
| 1  | 193                                    | 22.4 |     | 23.9 | 96                                                                                                                                                                   | 55.7 | 96  | -16  | 56.1 <sup>132</sup> | 58            | 30                   | 27      | 23 13   | 27             | 104   | 43 18    |                |  |  |
| 2  | 208                                    | 22.4 |     | 23.4 | 111                                                                                                                                                                  | 24.3 | 96  | -17  | 09.2 <sup>131</sup> | 56            | 18                   | 21 09   | 22 28   | 14             | 98    | 22 57 23 |                |  |  |
| 3  | 223                                    | 22.4 |     | 22.8 | 125                                                                                                                                                                  | 52.7 | 94  |      | 22.3 <sup>131</sup> | 54            | 20 08                | 20 54   | 22 01   | 15 03          | 94    | 23 09 27 |                |  |  |
| 4  | 238                                    | 22.4 |     | 22.3 | 140                                                                                                                                                                  | 21.0 | 93  |      | 35.3 <sup>130</sup> | 52            | 19 59                | 41      | 21 40   | 14 53          | 90    | 19 30    |                |  |  |
| 5  | 253                                    | 22.4 | +19 | 21.7 | 154                                                                                                                                                                  | 49.2 | 92  | -17  | 48.2 <sup>129</sup> | 50            | 19 51                | 20 30   | 21 24   | 14 45          | 87    | 23 28 34 |                |  |  |
| 6  | 268                                    | 22.4 | +19 | 21.2 | 169                                                                                                                                                                  | 17.3 | 91  | -18  | 01.0 <sup>128</sup> | 45            | 19 33                | 20 08   | 20 52   | 14 26          | 81    | 23 48 39 |                |  |  |
| 7  | 283                                    | 22.4 |     | 20.6 | 183                                                                                                                                                                  | 45.3 | 90  |      | 13.7 <sup>127</sup> | 40            | 19                   | 19 50   | 28      | 14 11          | 77    | ** ** ** |                |  |  |
| 8  | 298                                    | 22.4 |     | 20.0 | 198                                                                                                                                                                  | 13.1 | 88  |      | 26.3 <sup>126</sup> | 35            | 19 08                | 36      | 20 10   | 13 59          | 73    | ** ** ** |                |  |  |
| 9  | 313                                    | 22.4 |     | 19.5 | 212                                                                                                                                                                  | 40.8 | 87  |      | 38.9 <sup>126</sup> | 30            | 18 57                | 23      | 19 55   | 48             | 70    | ** ** ** |                |  |  |
| 10 | 328                                    | 22.4 |     | 18.9 | 227                                                                                                                                                                  | 08.4 | 86  | -18  | 51.3 <sup>124</sup> | 20            | 39                   | 19 03   | 31      | 29             | 66    | 0 05 45  |                |  |  |
| 11 | 343                                    | 22.4 | +19 | 18.4 | 241                                                                                                                                                                  | 35.9 | 85  | -19  | 03.7 <sup>124</sup> | 10 N          | 18 24                | 18 47   | 19 13   | 13 13          | 62    | 0 18 50  |                |  |  |
| 12 | 358                                    | 22.4 | +19 | 17.8 | 256                                                                                                                                                                  | 03.3 | 84  | -19  | 15.9 <sup>122</sup> | 0             | 18 10                | 18 32   | 18 57   | 12 59          | 57    | 0 31 54  |                |  |  |
| 13 | 13                                     | 22.4 |     | 17.2 | 270                                                                                                                                                                  | 30.5 | 82  |      | 28.1 <sup>122</sup> | 10 S          | 17 56                | 18      | 44      | 44             | 53    | 43 59    |                |  |  |
| 14 | 28                                     | 22.4 |     | 16.7 | 284                                                                                                                                                                  | 57.6 | 81  |      | 40.1 <sup>120</sup> | 20            | 41                   | 18 04   | 31      | 28             | 49    | 0 57 63  |                |  |  |
| 15 | 43                                     | 22.4 |     | 16.1 | 299                                                                                                                                                                  | 24.6 | 80  | -19  | 52.1 <sup>120</sup> | 30            | 24                   | 17 50   | 19      | 10             | 45    | 1 13 68  |                |  |  |
| 16 | 58                                     | 22.4 |     | 15.6 | 313                                                                                                                                                                  | 51.4 | 78  | -20  | 03.9 <sup>118</sup> | 35            | 14                   | 41      | 12      | 12 00          | 41    | 22 71    |                |  |  |
| 17 | 73                                     | 22.4 | +19 | 15.0 | 328                                                                                                                                                                  | 18.2 | 78  | -20  | 15.6 <sup>117</sup> | 40            | 17 03                | 17 32   | 18 05   | 11 48          | 38    | 1 32 76  |                |  |  |
| 18 | 88                                     | 22.4 | +19 | 14.4 | 342                                                                                                                                                                  | 44.8 | 76  | -20  | 27.3 <sup>117</sup> | 45            | 16 50                | 17 22   | 17 58   | 11 34          | 34    | 1 45 79  |                |  |  |
| 19 | 103                                    | 22.4 |     | 13.9 | 357                                                                                                                                                                  | 11.3 | 75  |      | 38.8 <sup>115</sup> | 50            | 34                   | 10      | 50      | 18             | 28    | 2 00 85  |                |  |  |
| 20 | 118                                    | 22.4 |     | 13.3 | 11                                                                                                                                                                   | 37.6 | 73  | -20  | 50.2 <sup>114</sup> | 52            | 27                   | 17 05   | 46      | 10             | 25    | 07 89    |                |  |  |
| 21 | 133                                    | 22.5 |     | 12.7 | 26                                                                                                                                                                   | 03.8 | 72  | -21  | 01.5 <sup>113</sup> | 54            | 18                   | 16 59   | 42      | 11 01          | 23    | 15 92    |                |  |  |
| 22 | 148                                    | 22.5 |     | 12.2 | 40                                                                                                                                                                   | 29.9 | 71  |      | 12.6 <sup>111</sup> | 56            | 16 09                | 52      | 38      | 10 52          | 18    | 24 96    |                |  |  |
| 23 | 163                                    | 22.5 |     | 11.6 | 54                                                                                                                                                                   | 55.9 | 70  |      | 23.7 <sup>111</sup> | 58            | 15 58                | 45      | 34      | 41             | 13    | 34 101   |                |  |  |
| 24 | 178                                    | 22.5 | +19 | 11.0 | 69                                                                                                                                                                   | 21.7 | 68  | -21  | 34.6 <sup>109</sup> | 60 S          | 15 46                | 16 36   | 17 29   | 10 28          | 7     | 2 45 108 |                |  |  |

| UT  | ARIES                                |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |    |      |     |      |     |      |
|-----|--------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|----|------|-----|------|-----|------|
|     | PMG 3 <sup>h</sup> 43 <sup>m</sup> 3 |      | Mag: -4.6<br>PMG: 9 <sup>h</sup> 02 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 15 <sup>m</sup> |     |      | Mag: -1.8<br>PMG: 14 <sup>h</sup> 57 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 11 <sup>h</sup> 05 <sup>m</sup> |    |      |     |      |     |      |
|     | hG ♈                                 |      | hG ♀                                             |      | Dec | hG ♂                                              |     | Dec  | hG ♃                                              |      | Dec | hG ♄                                              |    | Dec  |     |      |     |      |
| h   | °                                    | '    | °                                                | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                 | °  | '    |     |      |     |      |
| 0   | 304                                  | 01.5 | 224                                              | 24.2 | +18 | 33.5                                              | 160 | 59.5 | +15                                               | 50.1 | 135 | 07.7                                              | +5 | 59.1 | 193 | 25.3 | +21 | 50.7 |
| 1   | 319                                  | 04.0 | 239                                              | 24.8 |     | 33.7                                              | 176 | 00.4 |                                                   | 49.6 | 150 | 09.7                                              |    | 58.9 | 208 | 27.5 |     | 50.7 |
| 2   | 334                                  | 06.4 | 254                                              | 25.5 |     | 33.9                                              | 191 | 01.3 |                                                   | 49.1 | 165 | 11.8                                              |    | 58.7 | 223 | 29.6 |     | 50.6 |
| 3   | 349                                  | 08.9 | 269                                              | 26.1 |     | 34.1                                              | 206 | 02.2 |                                                   | 48.6 | 180 | 13.8                                              |    | 58.5 | 238 | 31.7 |     | 50.6 |
| 4   | 4                                    | 11.4 | 284                                              | 26.7 |     | 34.3                                              | 221 | 03.1 |                                                   | 48.1 | 195 | 15.9                                              |    | 58.3 | 253 | 33.8 |     | 50.6 |
| 5   | 19                                   | 13.8 | 299                                              | 27.3 | +18 | 34.6                                              | 236 | 04.0 | +15                                               | 47.6 | 210 | 17.9                                              | +5 | 58.2 | 268 | 36.0 | +21 | 50.5 |
| 6   | 34                                   | 16.3 | 314                                              | 27.9 | +18 | 34.8                                              | 251 | 04.9 | +15                                               | 47.1 | 225 | 20.0                                              | +5 | 58.0 | 283 | 38.1 | +21 | 50.5 |
| 7   | 49                                   | 18.8 | 329                                              | 28.5 |     | 35.0                                              | 266 | 05.9 |                                                   | 46.6 | 240 | 22.0                                              |    | 57.8 | 298 | 40.2 |     | 50.4 |
| 8   | 64                                   | 21.2 | 344                                              | 29.2 |     | 35.2                                              | 281 | 06.8 |                                                   | 46.1 | 255 | 24.1                                              |    | 57.6 | 313 | 42.3 |     | 50.4 |
| 9   | 79                                   | 23.7 | 359                                              | 29.8 |     | 35.4                                              | 296 | 07.7 |                                                   | 45.5 | 270 | 26.1                                              |    | 57.4 | 328 | 44.5 |     | 50.3 |
| 10  | 94                                   | 26.2 | 14                                               | 30.4 |     | 35.6                                              | 311 | 08.6 |                                                   | 45.0 | 285 | 28.1                                              |    | 57.3 | 343 | 46.6 |     | 50.3 |
| 11  | 109                                  | 28.6 | 29                                               | 31.0 | +18 | 35.8                                              | 326 | 09.5 | +15                                               | 44.5 | 300 | 30.2                                              | +5 | 57.1 | 358 | 48.7 | +21 | 50.3 |
| 12  | 124                                  | 31.1 | 44                                               | 31.6 | +18 | 36.1                                              | 341 | 10.4 | +15                                               | 44.0 | 315 | 32.2                                              | +5 | 56.9 | 13  | 50.8 | +21 | 50.2 |
| 13  | 139                                  | 33.5 | 59                                               | 32.2 |     | 36.3                                              | 356 | 11.3 |                                                   | 43.5 | 330 | 34.3                                              |    | 56.7 | 28  | 53.0 |     | 50.2 |
| 14  | 154                                  | 36.0 | 74                                               | 32.8 |     | 36.5                                              | 11  | 12.2 |                                                   | 43.0 | 345 | 36.3                                              |    | 56.5 | 43  | 55.1 |     | 50.1 |
| 15  | 169                                  | 38.5 | 89                                               | 33.4 |     | 36.7                                              | 26  | 13.2 |                                                   | 42.5 | 0   | 38.4                                              |    | 56.4 | 58  | 57.2 |     | 50.1 |
| 16  | 184                                  | 40.9 | 104                                              | 34.0 |     | 36.9                                              | 41  | 14.1 |                                                   | 42.0 | 15  | 40.4                                              |    | 56.2 | 73  | 59.3 |     | 50.1 |
| 17  | 199                                  | 43.4 | 119                                              | 34.6 | +18 | 37.1                                              | 56  | 15.0 | +15                                               | 41.5 | 30  | 42.5                                              | +5 | 56.0 | 89  | 01.5 | +21 | 50.0 |
| 18  | 214                                  | 45.9 | 134                                              | 35.2 | +18 | 37.3                                              | 71  | 15.9 | +15                                               | 41.0 | 45  | 44.5                                              | +5 | 55.8 | 104 | 03.6 | +21 | 50.0 |
| 19  | 229                                  | 48.3 | 149                                              | 35.8 |     | 37.6                                              | 86  | 16.8 |                                                   | 40.4 | 60  | 46.5                                              |    | 55.6 | 119 | 05.7 |     | 49.9 |
| 20  | 244                                  | 50.8 | 164                                              | 36.4 |     | 37.8                                              | 101 | 17.7 |                                                   | 39.9 | 75  | 48.6                                              |    | 55.4 | 134 | 07.8 |     | 49.9 |
| 21  | 259                                  | 53.3 | 179                                              | 36.9 |     | 38.0                                              | 116 | 18.6 |                                                   | 39.4 | 90  | 50.6                                              |    | 55.3 | 149 | 10.0 |     | 49.9 |
| 22  | 274                                  | 55.7 | 194                                              | 37.5 |     | 38.2                                              | 131 | 19.6 |                                                   | 38.9 | 105 | 52.7                                              |    | 55.1 | 164 | 12.1 |     | 49.8 |
| 23  | 289                                  | 58.2 | 209                                              | 38.1 |     | 38.4                                              | 146 | 20.5 |                                                   | 38.4 | 120 | 54.7                                              |    | 54.9 | 179 | 14.2 |     | 49.8 |
| 24  | 305                                  | 00.7 | 224                                              | 38.7 | +18 | 38.6                                              | 161 | 21.4 | +15                                               | 37.9 | 135 | 56.8                                              | +5 | 54.7 | 194 | 16.3 | +21 | 49.7 |
| Dif | —                                    |      | +6                                               |      | +2  |                                                   | +9  |      | -5                                                |      | +20 |                                                   | -2 |      | +21 |      | 0   |      |

| UT | SOL                                    |      |          | LUNA                   |       |                       |                                     |                                                                                                                                                      | Latitud | Principio del crepúsculo |      | Salida de Sol  | Salida de Luna |                | Puesta de Luna |   |
|----|----------------------------------------|------|----------|------------------------|-------|-----------------------|-------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------|---------|--------------------------|------|----------------|----------------|----------------|----------------|---|
|    | SD: 15 <sup>h</sup> 7                  |      |          | Edad: 9 <sup>d</sup> 5 | PHE { | SD: 16 <sup>h</sup> 2 | SD: 20 <sup>h</sup> 10 <sup>m</sup> | 4 <sup>h</sup> : 59 <sup>m</sup> 7<br>12 <sup>h</sup> : 59 <sup>m</sup> 9<br>20 <sup>h</sup> : 60 <sup>m</sup> 1<br>R <sup>o</sup> : 64 <sup>m</sup> |         |                          |      |                |                |                |                |   |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |          |                        |       |                       |                                     |                                                                                                                                                      |         |                          |      |                |                |                |                |   |
|    | hG ☉ Dec                               |      |          | hG ☾ Dif Dec Dif       |       |                       |                                     | Náutico                                                                                                                                              | Civil   |                          | Hora | R <sup>o</sup> | Hora           | R <sup>o</sup> |                |   |
| h  | °                                      | '    | °        | °                      | '     | °                     | '                                   | °                                                                                                                                                    | h       | m                        | h    | m              | h              | m              | h              | m |
| 0  | 178                                    | 22.5 | +19 11.0 | 69                     | 21.7  | -21 34.6              | 108                                 | 60 N                                                                                                                                                 | ** **   | 2 25                     | 3 30 | 17 33          | 108            | 22 37          | 25             |   |
| 1  | 193                                    | 22.5 | 10.5     | 83                     | 47.5  | 68 45.4               | 108                                 | 58                                                                                                                                                   | 1 01    | 2 47                     | 43   | 17 11          | 98             | 23 01          | 34             |   |
| 2  | 208                                    | 22.5 | 09.9     | 98                     | 13.0  | 65 -21 56.1           | 107                                 | 56                                                                                                                                                   | 1 45    | 3 05                     | 3 55 | 16 52          | 93             | 20 39          |                |   |
| 3  | 223                                    | 22.5 | 09.3     | 112                    | 38.5  | 65 -22 06.6           | 105                                 | 54                                                                                                                                                   | 2 12    | 19                       | 4 05 | 37 88          |                | 36 43          |                |   |
| 4  | 238                                    | 22.5 | 08.8     | 127                    | 03.8  | 63 17.1               | 105                                 | 52                                                                                                                                                   | 33      | 32                       | 15   | 23 86          |                | 23 49          | 46             |   |
| 5  | 253                                    | 22.5 | +19 08.2 | 141                    | 29.0  | 62 -22 27.3           | 102                                 | 50                                                                                                                                                   | 2 50    | 3 43                     | 4 23 | 16 12          | 83             | ** **          | ** **          |   |
| 6  | 268                                    | 22.5 | +19 07.6 | 155                    | 54.1  | 61 -22 37.5           | 102                                 | 45                                                                                                                                                   | 3 22    | 4 06                     | 4 40 | 15 47          | 79             | ** **          | ** **          |   |
| 7  | 283                                    | 22.5 | 07.0     | 170                    | 19.1  | 60 47.5               | 100                                 | 40                                                                                                                                                   | 3 45    | 23                       | 4 54 | 28 76          |                | 0 04           | 43             |   |
| 8  | 298                                    | 22.5 | 06.5     | 184                    | 43.9  | 58 -22 57.4           | 99                                  | 35                                                                                                                                                   | 4 03    | 38                       | 5 06 | 15 12          | 73             | 18 46          |                |   |
| 9  | 313                                    | 22.5 | 05.9     | 199                    | 08.6  | 57 -23 07.1           | 97                                  | 30                                                                                                                                                   | 18      | 4 50                     | 16   | 14 58          | 71             | 30 48          |                |   |
| 10 | 328                                    | 22.6 | 05.3     | 213                    | 33.1  | 55 16.7               | 96                                  | 20                                                                                                                                                   | 4 42    | 5 10                     | 34   | 35 68          |                | 0 50           | 53             |   |
| 11 | 343                                    | 22.6 | +19 04.8 | 227                    | 57.6  | 55 -23 26.2           | 95                                  | 10 N                                                                                                                                                 | 5 00    | 5 27                     | 5 49 | 14 15          | 65             | 1 08           | 57             |   |
| 12 | 358                                    | 22.6 | +19 04.2 | 242                    | 21.9  | 53 -23 35.5           | 93                                  | 0                                                                                                                                                    | 5 16    | 5 41                     | 6 03 | 13 56          | 62             | 1 25           | 60             |   |
| 13 | 13                                     | 22.6 | 03.6     | 256                    | 46.1  | 52 44.7               | 92                                  | 10 S                                                                                                                                                 | 29      | 5 55                     | 17   | 37 60          |                | 1 42           | 63             |   |
| 14 | 28                                     | 22.6 | 03.0     | 271                    | 10.2  | 51 -23 53.7           | 90                                  | 20                                                                                                                                                   | 42      | 6 08                     | 32   | 13 17          | 57             | 2 00           | 67             |   |
| 15 | 43                                     | 22.6 | 02.5     | 285                    | 34.1  | 49 -24 02.6           | 89                                  | 30                                                                                                                                                   | 5 54    | 23                       | 49   | 12 55          | 53             | 21 71          |                |   |
| 16 | 58                                     | 22.6 | 01.9     | 299                    | 58.0  | 49 11.3               | 87                                  | 35                                                                                                                                                   | 6 01    | 31                       | 6 58 | 41 52          |                | 33 74          |                |   |
| 17 | 73                                     | 22.6 | +19 01.3 | 314                    | 21.7  | 47 -24 19.8           | 85                                  | 40                                                                                                                                                   | 6 07    | 6 40                     | 7 09 | 12 26          | 49             | 2 48           | 76             |   |
| 18 | 88                                     | 22.6 | +19 00.7 | 328                    | 45.2  | 45 -24 28.2           | 84                                  | 45                                                                                                                                                   | 6 15    | 6 50                     | 7 22 | 12 08          | 45             | 3 04           | 81             |   |
| 19 | 103                                    | 22.7 | +19 00.2 | 343                    | 08.7  | 45 36.5               | 83                                  | 50                                                                                                                                                   | 23      | 7 02                     | 38   | 11 46          | 40             | 25 86          |                |   |
| 20 | 118                                    | 22.7 | +18 59.6 | 357                    | 32.1  | 44 44.5               | 80                                  | 52                                                                                                                                                   | 26      | 08                       | 45   | 35 38          |                | 36 88          |                |   |
| 21 | 133                                    | 22.7 | 59.0     | 11                     | 55.3  | 42 -24 52.4           | 79                                  | 54                                                                                                                                                   | 30      | 14                       | 7 54 | 24 34          |                | 3 47           | 92             |   |
| 22 | 148                                    | 22.7 | 58.4     | 26                     | 18.4  | 41 -25 00.2           | 78                                  | 56                                                                                                                                                   | 34      | 20                       | 8 03 | 11 10          | 31             | 4 00           | 96             |   |
| 23 | 163                                    | 22.7 | 57.8     | 40                     | 41.4  | 40 07.8               | 76                                  | 58                                                                                                                                                   | 39      | 27                       | 13   | 10 54          | 25             | 15 102         |                |   |
| 24 | 178                                    | 22.7 | +18 57.3 | 55                     | 04.3  | 39 -25 15.2           | 74                                  | 60 S                                                                                                                                                 | 6 43    | 7 36                     | 8 25 | 10 35          | 18             | 4 33           | 110            |   |

| UT  | ARIES                                |      | VENUS                                         |      |          | MARTE                                          |      |          | JÚPITER                                        |      |         | SATURNO                                        |      |          |   |  |
|-----|--------------------------------------|------|-----------------------------------------------|------|----------|------------------------------------------------|------|----------|------------------------------------------------|------|---------|------------------------------------------------|------|----------|---|--|
|     | PMG 3 <sup>h</sup> 39 <sup>m</sup> 4 |      | Mag: -4.6 PMG: 9 <sup>h</sup> 01 <sup>m</sup> |      |          | Mag: +1.8 PMG: 13 <sup>h</sup> 14 <sup>m</sup> |      |          | Mag: -1.8 PMG: 14 <sup>h</sup> 54 <sup>m</sup> |      |         | Mag: +0.1 PMG: 11 <sup>h</sup> 01 <sup>m</sup> |      |          |   |  |
|     | hG ♈                                 |      | hG ♀ Dec                                      |      |          | hG ♂ Dec                                       |      |          | hG ♃ Dec                                       |      |         | hG ♄ Dec                                       |      |          |   |  |
| h   | °                                    | '    | °                                             | °    | '        | °                                              | °    | '        | °                                              | °    | '       | °                                              | °    | '        | ° |  |
| 0   | 305                                  | 00.7 | 224                                           | 38.7 | +18 38.6 | 161                                            | 21.4 | +15 37.9 | 135                                            | 56.8 | +5 54.7 | 194                                            | 16.3 | +21 49.7 |   |  |
| 1   | 320                                  | 03.1 | 239                                           | 39.3 | 38.8     | 176                                            | 22.3 | 37.4     | 150                                            | 58.8 | 54.5    | 209                                            | 18.5 | 49.7     |   |  |
| 2   | 335                                  | 05.6 | 254                                           | 39.9 | 39.1     | 191                                            | 23.2 | 36.9     | 166                                            | 00.8 | 54.4    | 224                                            | 20.6 | 49.6     |   |  |
| 3   | 350                                  | 08.0 | 269                                           | 40.4 | 39.3     | 206                                            | 24.1 | 36.3     | 181                                            | 02.9 | 54.2    | 239                                            | 22.7 | 49.6     |   |  |
| 4   | 5                                    | 10.5 | 284                                           | 41.0 | 39.5     | 221                                            | 25.0 | 35.8     | 196                                            | 04.9 | 54.0    | 254                                            | 24.8 | 49.6     |   |  |
| 5   | 20                                   | 13.0 | 299                                           | 41.6 | +18 39.7 | 236                                            | 26.0 | +15 35.3 | 211                                            | 07.0 | +5 53.8 | 269                                            | 27.0 | +21 49.5 |   |  |
| 6   | 35                                   | 15.4 | 314                                           | 42.2 | +18 39.9 | 251                                            | 26.9 | +15 34.8 | 226                                            | 09.0 | +5 53.6 | 284                                            | 29.1 | +21 49.5 |   |  |
| 7   | 50                                   | 17.9 | 329                                           | 42.7 | 40.1     | 266                                            | 27.8 | 34.3     | 241                                            | 11.1 | 53.4    | 299                                            | 31.2 | 49.4     |   |  |
| 8   | 65                                   | 20.4 | 344                                           | 43.3 | 40.3     | 281                                            | 28.7 | 33.8     | 256                                            | 13.1 | 53.3    | 314                                            | 33.3 | 49.4     |   |  |
| 9   | 80                                   | 22.8 | 359                                           | 43.9 | 40.5     | 296                                            | 29.6 | 33.3     | 271                                            | 15.1 | 53.1    | 329                                            | 35.5 | 49.4     |   |  |
| 10  | 95                                   | 25.3 | 14                                            | 44.4 | 40.8     | 311                                            | 30.5 | 32.7     | 286                                            | 17.2 | 52.9    | 344                                            | 37.6 | 49.3     |   |  |
| 11  | 110                                  | 27.8 | 29                                            | 45.0 | +18 41.0 | 326                                            | 31.5 | +15 32.2 | 301                                            | 19.2 | +5 52.7 | 359                                            | 39.7 | +21 49.3 |   |  |
| 12  | 125                                  | 30.2 | 44                                            | 45.5 | +18 41.2 | 341                                            | 32.4 | +15 31.7 | 316                                            | 21.3 | +5 52.5 | 14                                             | 41.8 | +21 49.2 |   |  |
| 13  | 140                                  | 32.7 | 59                                            | 46.1 | 41.4     | 356                                            | 33.3 | 31.2     | 331                                            | 23.3 | 52.4    | 29                                             | 44.0 | 49.2     |   |  |
| 14  | 155                                  | 35.2 | 74                                            | 46.7 | 41.6     | 11                                             | 34.2 | 30.7     | 346                                            | 25.4 | 52.2    | 44                                             | 46.1 | 49.1     |   |  |
| 15  | 170                                  | 37.6 | 89                                            | 47.2 | 41.8     | 26                                             | 35.1 | 30.2     | 1                                              | 27.4 | 52.0    | 59                                             | 48.2 | 49.1     |   |  |
| 16  | 185                                  | 40.1 | 104                                           | 47.8 | 42.0     | 41                                             | 36.0 | 29.7     | 16                                             | 29.4 | 51.8    | 74                                             | 50.3 | 49.1     |   |  |
| 17  | 200                                  | 42.5 | 119                                           | 48.3 | +18 42.3 | 56                                             | 37.0 | +15 29.1 | 31                                             | 31.5 | +5 51.6 | 89                                             | 52.5 | +21 49.0 |   |  |
| 18  | 215                                  | 45.0 | 134                                           | 48.9 | +18 42.5 | 71                                             | 37.9 | +15 28.6 | 46                                             | 33.5 | +5 51.4 | 104                                            | 54.6 | +21 49.0 |   |  |
| 19  | 230                                  | 47.5 | 149                                           | 49.4 | 42.7     | 86                                             | 38.8 | 28.1     | 61                                             | 35.6 | 51.3    | 119                                            | 56.7 | 48.9     |   |  |
| 20  | 245                                  | 49.9 | 164                                           | 50.0 | 42.9     | 101                                            | 39.7 | 27.6     | 76                                             | 37.6 | 51.1    | 134                                            | 58.8 | 48.9     |   |  |
| 21  | 260                                  | 52.4 | 179                                           | 50.5 | 43.1     | 116                                            | 40.6 | 27.1     | 91                                             | 39.6 | 50.9    | 150                                            | 01.0 | 48.9     |   |  |
| 22  | 275                                  | 54.9 | 194                                           | 51.1 | 43.3     | 131                                            | 41.5 | 26.6     | 106                                            | 41.7 | 50.7    | 165                                            | 03.1 | 48.8     |   |  |
| 23  | 290                                  | 57.3 | 209                                           | 51.6 | 43.5     | 146                                            | 42.5 | 26.0     | 121                                            | 43.7 | 50.5    | 180                                            | 05.2 | 48.8     |   |  |
| 24  | 305                                  | 59.8 | 224                                           | 52.2 | +18 43.8 | 161                                            | 43.4 | +15 25.5 | 136                                            | 45.8 | +5 50.3 | 195                                            | 07.3 | +21 48.7 |   |  |
| Dif | —                                    |      | +6 +2                                         |      |          | +9 -5                                          |      |          | +20 -2                                         |      |         | +21 0                                          |      |          | 0 |  |

| UT | SOL                                                |      |          | LUNA                                                                                                                           |      |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|-------|----------------|----------|----------------|-------|
|    | SD: 15'8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 5 |      |          | Edad: 10 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 60'3<br>12 <sup>h</sup> : 60'4<br>20 <sup>h</sup> : 60'6<br>R°: 66 <sup>m</sup> |      |          |         |               |                      |       |                |          |                |       |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                           | Dif  | Dec      |         |               | Dif                  | Civil | Náutico        | Hora     | R°             | Hora  |
| h  | °                                                  | '    | °        | °                                                                                                                              | '    | °        | '       | °             | h m                  | h m   | h m            | h m m    | h m m          | h m m |
| 0  | 178                                                | 22.7 | +18 57.3 | 55                                                                                                                             | 04.3 | -25 15.2 | 72      | 60 N          | 20 39                | 21 42 | ** **          | 19 21 76 | 23 02 64       | 64    |
| 1  | 193                                                | 22.7 | 56.7     | 69                                                                                                                             | 27.1 | 22.4     | 72      | 58            | 26                   | 21    | 22 59          | 18 49 74 | 35 65          | 65    |
| 2  | 208                                                | 22.8 | 56.1     | 83                                                                                                                             | 49.7 | 29.5     | 71      | 56            | 15                   | 21 04 | 22 21          | 25 73    | 23 59 66       | 66    |
| 3  | 223                                                | 22.8 | 55.5     | 98                                                                                                                             | 12.3 | 36.4     | 69      | 54            | 20 05                | 20 50 | 21 55          | 18 05 72 | ** * *         | **    |
| 4  | 238                                                | 22.8 | 54.9     | 112                                                                                                                            | 34.7 | 43.1     | 67      | 52            | 19 56                | 38    | 36             | 17 49 71 | ** * *         | **    |
| 5  | 253                                                | 22.8 | +18 54.4 | 126                                                                                                                            | 57.1 | -25 49.6 | 65      | 50            | 19 48                | 20 27 | 21 19          | 17 35 71 | 0 02 48        | 48    |
| 6  | 268                                                | 22.8 | +18 53.8 | 141                                                                                                                            | 19.3 | -25 56.0 | 64      | 45            | 19 31                | 20 05 | 20 49          | 17 06 70 | 0 27 52        | 52    |
| 7  | 283                                                | 22.8 | 53.2     | 155                                                                                                                            | 41.5 | -26 02.2 | 62      | 40            | 18                   | 19 48 | 26             | 16 44 69 | 0 47 54        | 54    |
| 8  | 298                                                | 22.8 | 52.6     | 170                                                                                                                            | 03.5 | 08.2     | 60      | 35            | 19 06                | 34    | 20 08          | 25 69    | 1 04 56        | 56    |
| 9  | 313                                                | 22.9 | 52.0     | 184                                                                                                                            | 25.4 | 14.0     | 58      | 30            | 18 56                | 22    | 19 53          | 16 09 69 | 18 58          | 58    |
| 10 | 328                                                | 22.9 | 51.4     | 198                                                                                                                            | 47.3 | 19.6     | 56      | 20            | 39                   | 19 02 | 30             | 15 43 67 | 1 43 61        | 61    |
| 11 | 343                                                | 22.9 | +18 50.8 | 213                                                                                                                            | 09.0 | -26 25.1 | 55      | 10 N          | 18 24                | 18 46 | 19 12          | 15 20 66 | 2 05 62        | 62    |
| 12 | 358                                                | 22.9 | +18 50.3 | 227                                                                                                                            | 30.7 | -26 30.3 | 52      | 0             | 18 10                | 18 32 | 18 57          | 14 58 66 | 2 25 64        | 64    |
| 13 | 13                                                 | 22.9 | 49.7     | 241                                                                                                                            | 52.3 | 35.4     | 51      | 10 S          | 17 56                | 18    | 44             | 37 65    | 2 45 66        | 66    |
| 14 | 28                                                 | 22.9 | 49.1     | 256                                                                                                                            | 13.8 | 40.2     | 48      | 20            | 42                   | 18 05 | 32             | 14 14 64 | 3 07 68        | 68    |
| 15 | 43                                                 | 23.0 | 48.5     | 270                                                                                                                            | 35.2 | 44.9     | 47      | 30            | 25                   | 17 51 | 20             | 13 48 63 | 32 70          | 70    |
| 16 | 58                                                 | 23.0 | 47.9     | 284                                                                                                                            | 56.5 | 49.4     | 45      | 35            | 16                   | 43    | 13             | 33 62    | 3 47 72        | 72    |
| 17 | 73                                                 | 23.0 | +18 47.3 | 299                                                                                                                            | 17.7 | -26 53.7 | 43      | 40            | 17 05                | 17 34 | 18 07          | 13 15 61 | 4 04 73        | 73    |
| 18 | 88                                                 | 23.0 | +18 46.7 | 313                                                                                                                            | 38.9 | -26 57.8 | 41      | 45            | 16 52                | 17 24 | 18 00          | 12 53 60 | 4 25 75        | 75    |
| 19 | 103                                                | 23.0 | 46.1     | 328                                                                                                                            | 00.0 | -27 01.6 | 38      | 50            | 37                   | 12    | 17 52          | 26 58    | 4 51 78        | 78    |
| 20 | 118                                                | 23.1 | 45.6     | 342                                                                                                                            | 21.0 | 05.3     | 37      | 52            | 29                   | 07    | 48             | 12 13 56 | 5 04 80        | 80    |
| 21 | 133                                                | 23.1 | 45.0     | 356                                                                                                                            | 42.0 | 08.8     | 35      | 54            | 21                   | 17 01 | 45             | 11 58 55 | 19 81          | 81    |
| 22 | 148                                                | 23.1 | 44.4     | 11                                                                                                                             | 02.9 | 12.1     | 33      | 56            | 12                   | 16 55 | 41             | 41 52    | 36 84          | 84    |
| 23 | 163                                                | 23.1 | 43.8     | 25                                                                                                                             | 23.7 | 15.2     | 31      | 58            | 16 02                | 48    | 37             | 11 19 49 | 5 57 87        | 87    |
| 24 | 178                                                | 23.1 | +18 43.2 | 39                                                                                                                             | 44.5 | -27 18.1 | 29      | 60 S          | 15 51                | 16 40 | 17 32          | 10 53 43 | 6 23 94        | 94    |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 3 <sup>h</sup> 35 <sup>m</sup> 4 |      | Mag: -4.6<br>PMG: 9 <sup>h</sup> 00 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 12 <sup>m</sup> |     | Mag: -1.8<br>PMG: 14 <sup>h</sup> 51 <sup>m</sup> |          | Mag: +0.1<br>PMG: 10 <sup>h</sup> 58 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                     | '    | °                                                | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 305                                   | 59.8 | 224                                              | 52.2 | +18 43.8                                          | 161 | 43.4                                              | +15 25.5 | 136                                               | 45.8 | +5 50.3 | 195 | 07.3 | +21 48.7 |
| 1   | 321                                   | 02.3 | 239                                              | 52.7 | 44.0                                              | 176 | 44.3                                              | 25.0     | 151                                               | 47.8 | 50.2    | 210 | 09.5 | 48.7     |
| 2   | 336                                   | 04.7 | 254                                              | 53.2 | 44.2                                              | 191 | 45.2                                              | 24.5     | 166                                               | 49.8 | 50.0    | 225 | 11.6 | 48.7     |
| 3   | 351                                   | 07.2 | 269                                              | 53.8 | 44.4                                              | 206 | 46.1                                              | 24.0     | 181                                               | 51.9 | 49.8    | 240 | 13.7 | 48.6     |
| 4   | 6                                     | 09.7 | 284                                              | 54.3 | 44.6                                              | 221 | 47.0                                              | 23.5     | 196                                               | 53.9 | 49.6    | 255 | 15.9 | 48.6     |
| 5   | 21                                    | 12.1 | 299                                              | 54.8 | +18 44.8                                          | 236 | 48.0                                              | +15 22.9 | 211                                               | 56.0 | +5 49.4 | 270 | 18.0 | +21 48.5 |
| 6   | 36                                    | 14.6 | 314                                              | 55.4 | +18 45.0                                          | 251 | 48.9                                              | +15 22.4 | 226                                               | 58.0 | +5 49.2 | 285 | 20.1 | +21 48.5 |
| 7   | 51                                    | 17.0 | 329                                              | 55.9 | 45.2                                              | 266 | 49.8                                              | 21.9     | 242                                               | 00.0 | 49.1    | 300 | 22.2 | 48.4     |
| 8   | 66                                    | 19.5 | 344                                              | 56.4 | 45.5                                              | 281 | 50.7                                              | 21.4     | 257                                               | 02.1 | 48.9    | 315 | 24.4 | 48.4     |
| 9   | 81                                    | 22.0 | 359                                              | 56.9 | 45.7                                              | 296 | 51.6                                              | 20.9     | 272                                               | 04.1 | 48.7    | 330 | 26.5 | 48.4     |
| 10  | 96                                    | 24.4 | 14                                               | 57.5 | 45.9                                              | 311 | 52.5                                              | 20.4     | 287                                               | 06.2 | 48.5    | 345 | 28.6 | 48.3     |
| 11  | 111                                   | 26.9 | 29                                               | 58.0 | +18 46.1                                          | 326 | 53.5                                              | +15 19.8 | 302                                               | 08.2 | +5 48.3 | 0   | 30.7 | +21 48.3 |
| 12  | 126                                   | 29.4 | 44                                               | 58.5 | +18 46.3                                          | 341 | 54.4                                              | +15 19.3 | 317                                               | 10.2 | +5 48.1 | 15  | 32.9 | +21 48.2 |
| 13  | 141                                   | 31.8 | 59                                               | 59.0 | 46.5                                              | 356 | 55.3                                              | 18.8     | 332                                               | 12.3 | 48.0    | 30  | 35.0 | 48.2     |
| 14  | 156                                   | 34.3 | 74                                               | 59.5 | 46.7                                              | 11  | 56.2                                              | 18.3     | 347                                               | 14.3 | 47.8    | 45  | 37.1 | 48.2     |
| 15  | 171                                   | 36.8 | 90                                               | 00.1 | 47.0                                              | 26  | 57.1                                              | 17.8     | 2                                                 | 16.4 | 47.6    | 60  | 39.2 | 48.1     |
| 16  | 186                                   | 39.2 | 105                                              | 00.6 | 47.2                                              | 41  | 58.1                                              | 17.2     | 17                                                | 18.4 | 47.4    | 75  | 41.4 | 48.1     |
| 17  | 201                                   | 41.7 | 120                                              | 01.1 | +18 47.4                                          | 56  | 59.0                                              | +15 16.7 | 32                                                | 20.4 | +5 47.2 | 90  | 43.5 | +21 48.0 |
| 18  | 216                                   | 44.2 | 135                                              | 01.6 | +18 47.6                                          | 71  | 59.9                                              | +15 16.2 | 47                                                | 22.5 | +5 47.0 | 105 | 45.6 | +21 48.0 |
| 19  | 231                                   | 46.6 | 150                                              | 02.1 | 47.8                                              | 87  | 00.8                                              | 15.7     | 62                                                | 24.5 | 46.9    | 120 | 47.8 | 47.9     |
| 20  | 246                                   | 49.1 | 165                                              | 02.6 | 48.0                                              | 102 | 01.7                                              | 15.2     | 77                                                | 26.5 | 46.7    | 135 | 49.9 | 47.9     |
| 21  | 261                                   | 51.5 | 180                                              | 03.1 | 48.2                                              | 117 | 02.7                                              | 14.6     | 92                                                | 28.6 | 46.5    | 150 | 52.0 | 47.9     |
| 22  | 276                                   | 54.0 | 195                                              | 03.6 | 48.4                                              | 132 | 03.6                                              | 14.1     | 107                                               | 30.6 | 46.3    | 165 | 54.1 | 47.8     |
| 23  | 291                                   | 56.5 | 210                                              | 04.1 | 48.7                                              | 147 | 04.5                                              | 13.6     | 122                                               | 32.7 | 46.1    | 180 | 56.3 | 47.8     |
| 24  | 306                                   | 58.9 | 225                                              | 04.6 | +18 48.9                                          | 162 | 05.4                                              | +15 13.1 | 137                                               | 34.7 | +5 45.9 | 195 | 58.4 | +21 47.7 |
| Dif | —                                     |      | +5                                               | +2   |                                                   | +9  | -5                                                |          | +20                                               | -2   |         | +21 |      |          |

| UT | SOL                                                             |      |     | LUNA                                                                                                                                                                     |     |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |       |
|----|-----------------------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|-------|---------------|----------------|-------|----------------|-------|-------|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 4 |      |     | Edad: 11 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 60 <sup>m</sup> 7<br>12 <sup>h</sup> : 60 <sup>m</sup> 8<br>20 <sup>h</sup> : 60 <sup>m</sup> 8<br>R°: 66 <sup>m</sup> |     |      |     |      |         |                          |       |               |                |       |                |       |       |
|    | hG ☉                                                            |      | Dec | hG ☾                                                                                                                                                                     |     | Dif  | Dec | Dif  |         | Náutico                  | Civil |               | Hora           | R°    | Hora           | R°    |       |
| h  | °                                                               | '    | °   | '                                                                                                                                                                        | °   | '    | °   | '    | °       | h                        | m     | h             | m              | h     | m              | h     | m     |
| 0  | 178                                                             | 23.1 | +18 | 43.2                                                                                                                                                                     | 39  | 44.5 | 17  | 20.7 | 26      | 60 N                     | ** ** | 2 31          | 3 34           | 20 37 | 33             | ** ** | ** ** |
| 1  | 193                                                             | 23.2 |     | 42.6                                                                                                                                                                     | 54  | 05.2 | 16  | 23.2 | 25      | 58                       | 1 15  | 2 52          | 47             | 20 03 | 42             | ** ** | ** ** |
| 2  | 208                                                             | 23.2 |     | 42.0                                                                                                                                                                     | 68  | 25.8 | 16  | 25.4 | 22      | 56                       | 1 53  | 3 09          | 3 59           | 19 38 | 46             | ** ** | ** ** |
| 3  | 223                                                             | 23.2 |     | 41.4                                                                                                                                                                     | 82  | 46.4 | 16  | 25.4 | 21      | 54                       | 2 18  | 23            | 4 09           | 17 50 |                | 0 19  | 66    |
| 4  | 238                                                             | 23.2 |     | 40.8                                                                                                                                                                     | 97  | 07.0 | 16  | 27.5 | 21      | 52                       | 38    | 35            | 18             | 19 00 | 52             | 35    | 67    |
| 5  | 253                                                             | 23.2 | +18 | 40.2                                                                                                                                                                     | 111 | 27.5 | 15  | 29.3 | 18      | 50                       | 2 54  | 3 46          | 4 25           | 18 46 | 53             | 0 50  | 66    |
| 6  | 268                                                             | 23.3 | +18 | 39.6                                                                                                                                                                     | 125 | 48.0 | 15  | 31.0 | 17      | 45                       | 3 25  | 4 08          | 4 42           | 18 16 | 57             | 1 19  | 66    |
| 7  | 283                                                             | 23.3 |     | 39.0                                                                                                                                                                     | 140 | 08.4 | 14  | 32.4 | 14      | 40                       | 3 47  | 25            | 4 56           | 17 53 | 59             | 1 41  | 67    |
| 8  | 298                                                             | 23.3 |     | 38.4                                                                                                                                                                     | 154 | 28.8 | 14  | 33.6 | 12      | 35                       | 4 05  | 39            | 5 07           | 34 60 |                | 2 00  | 67    |
| 9  | 313                                                             | 23.3 |     | 37.8                                                                                                                                                                     | 168 | 49.2 | 14  | 34.6 | 10      | 30                       | 20    | 4 51          | 17             | 17 18 | 61             | 16    | 67    |
| 10 | 328                                                             | 23.4 |     | 37.2                                                                                                                                                                     | 183 | 09.6 | 14  | 35.4 | 8       | 20                       | 4 43  | 5 11          | 34             | 16 50 | 63             | 2 44  | 67    |
| 11 | 343                                                             | 23.4 | +18 | 36.6                                                                                                                                                                     | 197 | 29.9 | 13  | 36.0 | 6       | 10 N                     | 5 01  | 5 27          | 5 49           | 16 26 | 65             | 3 07  | 67    |
| 12 | 358                                                             | 23.4 | +18 | 36.0                                                                                                                                                                     | 211 | 50.2 | 13  | 36.3 | 3       | 0                        | 5 16  | 5 41          | 6 03           | 16 04 | 66             | 3 29  | 67    |
| 13 | 13                                                              | 23.4 |     | 35.4                                                                                                                                                                     | 226 | 10.5 | 13  | 36.5 | 2       | 10 S                     | 29    | 5 54          | 17             | 15 42 | 67             | 3 51  | 67    |
| 14 | 28                                                              | 23.4 |     | 34.8                                                                                                                                                                     | 240 | 30.7 | 12  | 36.4 | 1       | 20                       | 41    | 6 08          | 31             | 15 18 | 69             | 4 15  | 66    |
| 15 | 43                                                              | 23.5 |     | 34.2                                                                                                                                                                     | 254 | 51.0 | 13  | 36.1 | 3       | 30                       | 53    | 22            | 47             | 14 51 | 70             | 42    | 66    |
| 16 | 58                                                              | 23.5 |     | 33.6                                                                                                                                                                     | 269 | 11.2 | 12  | 35.6 | 5       | 35                       | 5 59  | 30            | 6 57           | 35 71 |                | 4 59  | 64    |
| 17 | 73                                                              | 23.5 | +18 | 33.0                                                                                                                                                                     | 283 | 31.5 | 13  | 34.9 | 7       | 40                       | 6 06  | 6 38          | 7 07           | 14 16 | 72             | 5 17  | 65    |
| 18 | 88                                                              | 23.5 | +18 | 32.4                                                                                                                                                                     | 297 | 51.7 | 12  | 34.0 | 9       | 45                       | 6 13  | 6 48          | 7 20           | 13 53 | 73             | 5 40  | 64    |
| 19 | 103                                                             | 23.6 |     | 31.8                                                                                                                                                                     | 312 | 12.0 | 13  | 32.9 | 11      | 50                       | 20    | 7 00          | 35             | 24 75 |                | 6 09  | 63    |
| 20 | 118                                                             | 23.6 |     | 31.2                                                                                                                                                                     | 326 | 32.2 | 12  | 31.5 | 14      | 52                       | 24    | 05            | 42             | 13 09 | 76             | 24    | 61    |
| 21 | 133                                                             | 23.6 |     | 30.6                                                                                                                                                                     | 340 | 52.5 | 13  | 30.0 | 15      | 54                       | 27    | 11            | 50             | 12 53 | 77             | 6 40  | 61    |
| 22 | 148                                                             | 23.6 |     | 30.0                                                                                                                                                                     | 355 | 12.7 | 12  | 28.2 | 18      | 56                       | 31    | 17            | 7 59           | 33 79 |                | 7 00  | 59    |
| 23 | 163                                                             | 23.7 |     | 29.4                                                                                                                                                                     | 9   | 33.0 | 13  | 26.2 | 20      | 58                       | 35    | 24            | 8 09           | 12 08 | 82             | 24    | 58    |
| 24 | 178                                                             | 23.7 | +18 | 28.8                                                                                                                                                                     | 23  | 53.3 | 13  | 27   | 22      | 60 S                     | 6 40  | 7 32          | 8 21           | 11 36 | 85             | 7 57  | 54    |

| UT  | ARIES                                |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                           |    |      |     |      |     |      |
|-----|--------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|---------------------------------------------------|----|------|-----|------|-----|------|
|     | PMG 3 <sup>h</sup> 31 <sup>m</sup> 5 |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 59 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 11 <sup>m</sup> |     |      | Mag: -1.8<br>PMG: 14 <sup>h</sup> 48 <sup>m</sup> |      |     | Mag: +0.1<br>PMG: 10 <sup>h</sup> 55 <sup>m</sup> |    |      |     |      |     |      |
|     | hG ♂                                 |      | hG ♀                                             |      | Dec | hG ♂                                              |     | Dec  |                                                   | hG ♀ |     | Dec                                               |    | hG ♀ |     | Dec  |     |      |
| h   | °                                    | '    | °                                                | '    | °   | '                                                 | °   | '    | °                                                 | '    | °   | '                                                 | °  | '    | °   | '    |     |      |
| 0   | 306                                  | 58.9 | 225                                              | 04.6 | +18 | 48.9                                              | 162 | 05.4 | +15                                               | 13.1 | 137 | 34.7                                              | +5 | 45.9 | 195 | 58.4 | +21 | 47.7 |
| 1   | 322                                  | 01.4 | 240                                              | 05.1 |     | 49.1                                              | 177 | 06.3 |                                                   | 12.6 | 152 | 36.7                                              |    | 45.7 | 211 | 00.5 |     | 47.7 |
| 2   | 337                                  | 03.9 | 255                                              | 05.6 |     | 49.3                                              | 192 | 07.3 |                                                   | 12.0 | 167 | 38.8                                              |    | 45.6 | 226 | 02.6 |     | 47.7 |
| 3   | 352                                  | 06.3 | 270                                              | 06.1 |     | 49.5                                              | 207 | 08.2 |                                                   | 11.5 | 182 | 40.8                                              |    | 45.4 | 241 | 04.8 |     | 47.6 |
| 4   | 7                                    | 08.8 | 285                                              | 06.6 |     | 49.7                                              | 222 | 09.1 |                                                   | 11.0 | 197 | 42.8                                              |    | 45.2 | 256 | 06.9 |     | 47.6 |
| 5   | 22                                   | 11.3 | 300                                              | 07.1 | +18 | 49.9                                              | 237 | 10.0 | +15                                               | 10.5 | 212 | 44.9                                              | +5 | 45.0 | 271 | 09.0 | +21 | 47.5 |
| 6   | 37                                   | 13.7 | 315                                              | 07.6 | +18 | 50.1                                              | 252 | 10.9 | +15                                               | 10.0 | 227 | 46.9                                              | +5 | 44.8 | 286 | 11.2 | +21 | 47.5 |
| 7   | 52                                   | 16.2 | 330                                              | 08.1 |     | 50.3                                              | 267 | 11.9 |                                                   | 09.4 | 242 | 49.0                                              |    | 44.6 | 301 | 13.3 |     | 47.4 |
| 8   | 67                                   | 18.6 | 345                                              | 08.5 |     | 50.6                                              | 282 | 12.8 |                                                   | 08.9 | 257 | 51.0                                              |    | 44.5 | 316 | 15.4 |     | 47.4 |
| 9   | 82                                   | 21.1 | 0                                                | 09.0 |     | 50.8                                              | 297 | 13.7 |                                                   | 08.4 | 272 | 53.0                                              |    | 44.3 | 331 | 17.5 |     | 47.4 |
| 10  | 97                                   | 23.6 | 15                                               | 09.5 |     | 51.0                                              | 312 | 14.6 |                                                   | 07.9 | 287 | 55.1                                              |    | 44.1 | 346 | 19.7 |     | 47.3 |
| 11  | 112                                  | 26.0 | 30                                               | 10.0 | +18 | 51.2                                              | 327 | 15.5 | +15                                               | 07.3 | 302 | 57.1                                              | +5 | 43.9 | 1   | 21.8 | +21 | 47.3 |
| 12  | 127                                  | 28.5 | 45                                               | 10.5 | +18 | 51.4                                              | 342 | 16.5 | +15                                               | 06.8 | 317 | 59.1                                              | +5 | 43.7 | 16  | 23.9 | +21 | 47.2 |
| 13  | 142                                  | 31.0 | 60                                               | 11.0 |     | 51.6                                              | 357 | 17.4 |                                                   | 06.3 | 333 | 01.2                                              |    | 43.5 | 31  | 26.0 |     | 47.2 |
| 14  | 157                                  | 33.4 | 75                                               | 11.4 |     | 51.8                                              | 12  | 18.3 |                                                   | 05.8 | 348 | 03.2                                              |    | 43.3 | 46  | 28.2 |     | 47.1 |
| 15  | 172                                  | 35.9 | 90                                               | 11.9 |     | 52.0                                              | 27  | 19.2 |                                                   | 05.3 | 3   | 05.3                                              |    | 43.2 | 61  | 30.3 |     | 47.1 |
| 16  | 187                                  | 38.4 | 105                                              | 12.4 |     | 52.2                                              | 42  | 20.2 |                                                   | 04.7 | 18  | 07.3                                              |    | 43.0 | 76  | 32.4 |     | 47.1 |
| 17  | 202                                  | 40.8 | 120                                              | 12.9 | +18 | 52.5                                              | 57  | 21.1 | +15                                               | 04.2 | 33  | 09.3                                              | +5 | 42.8 | 91  | 34.6 | +21 | 47.0 |
| 18  | 217                                  | 43.3 | 135                                              | 13.3 | +18 | 52.7                                              | 72  | 22.0 | +15                                               | 03.7 | 48  | 11.4                                              | +5 | 42.6 | 106 | 36.7 | +21 | 47.0 |
| 19  | 232                                  | 45.8 | 150                                              | 13.8 |     | 52.9                                              | 87  | 22.9 |                                                   | 03.2 | 63  | 13.4                                              |    | 42.4 | 121 | 38.8 |     | 46.9 |
| 20  | 247                                  | 48.2 | 165                                              | 14.3 |     | 53.1                                              | 102 | 23.8 |                                                   | 02.6 | 78  | 15.4                                              |    | 42.2 | 136 | 40.9 |     | 46.9 |
| 21  | 262                                  | 50.7 | 180                                              | 14.7 |     | 53.3                                              | 117 | 24.8 |                                                   | 02.1 | 93  | 17.5                                              |    | 42.1 | 151 | 43.1 |     | 46.9 |
| 22  | 277                                  | 53.1 | 195                                              | 15.2 |     | 53.5                                              | 132 | 25.7 |                                                   | 01.6 | 108 | 19.5                                              |    | 41.9 | 166 | 45.2 |     | 46.8 |
| 23  | 292                                  | 55.6 | 210                                              | 15.6 |     | 53.7                                              | 147 | 26.6 |                                                   | 01.1 | 123 | 21.5                                              |    | 41.7 | 181 | 47.3 |     | 46.8 |
| 24  | 307                                  | 58.1 | 225                                              | 16.1 | +18 | 53.9                                              | 162 | 27.5 | +15                                               | 00.5 | 138 | 23.6                                              | +5 | 41.5 | 196 | 49.5 | +21 | 46.7 |
| Dif | —                                    |      | +5                                               |      | +2  |                                                   | +9  |      | -5                                                |      | +20 |                                                   | -2 |      | +21 |      |     |      |

| UT  | SOL                                                |      |                                                  | LUNA                                                                                                                           |                                                   |      | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |       | Puesta de Luna |          |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|---------------------------------------------------|---------------|---------------------------------------------------|-------|----------------|-------|----------------|----------|----|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 4 |      |                                                  | Edad: 12 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 60'9<br>12 <sup>h</sup> : 60'8<br>20 <sup>h</sup> : 60'8<br>R°: 61 <sup>m</sup> |                                                   |      |                                                   |               |                                                   |       |                |       |                |          |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                           | Dif                                               | Dec  |                                                   |               | Dif                                               | Civil | Náutico        | Hora  | R°             | Hora     | R° |
| h   | °                                                  | '    | °                                                | '                                                                                                                              | °                                                 | '    | °                                                 | h             | m                                                 | h     | m              | h     | m              | h        | m  |
| 0   | 178                                                | 23.7 | +18                                              | 28.8                                                                                                                           | 23                                                | 53.3 | -27                                               | 24.0          | 60 N                                              | 20 35 | 21 36          | ** ** | 21 10 13       | 0 06 104 |    |
| 1   | 193                                                | 23.7 |                                                  | 28.2                                                                                                                           | 38                                                | 13.7 | 14                                                | 21.6          | 58                                                | 22    | 16             | 22 47 | 20 45 21       | 0 40 95  |    |
| 2   | 208                                                | 23.8 |                                                  | 27.6                                                                                                                           | 52                                                | 34.0 | 13                                                | 19.0          | 56                                                | 11    | 21 00          | 22 13 | 24 27          | 1 05 90  |    |
| 3   | 223                                                | 23.8 |                                                  | 27.0                                                                                                                           | 66                                                | 54.4 | 14                                                | 16.2          | 54                                                | 20 01 | 20 46          | 21 49 | 20 07 31       | 25 87    |    |
| 4   | 238                                                | 23.8 |                                                  | 26.4                                                                                                                           | 81                                                | 14.8 | 14                                                | 13.2          | 52                                                | 19 53 | 34             | 31    | 19 52 35       | 42 84    |    |
| 5   | 253                                                | 23.8 | +18                                              | 25.8                                                                                                                           | 95                                                | 35.3 | 15                                                | -27 09.9      | 50                                                | 19 45 | 20 24          | 21 15 | 19 39 38       | 1 56 82  |    |
| 6   | 268                                                | 23.9 | +18                                              | 25.2                                                                                                                           | 109                                               | 55.8 | 15                                                | -27 06.5      | 45                                                | 19 29 | 20 03          | 20 45 | 19 13 43       | 2 25 79  |    |
| 7   | 283                                                | 23.9 |                                                  | 24.5                                                                                                                           | 124                                               | 16.3 | 15                                                | -27 02.8      | 40                                                | 16    | 19 46          | 23    | 18 52 47       | 2 48 76  |    |
| 8   | 298                                                | 23.9 |                                                  | 23.9                                                                                                                           | 138                                               | 36.9 | 16                                                | -26 58.9      | 35                                                | 19 04 | 32             | 20 06 | 34 50          | 3 07 74  |    |
| 9   | 313                                                | 24.0 |                                                  | 23.3                                                                                                                           | 152                                               | 57.5 | 16                                                | 54.8          | 30                                                | 18 55 | 21             | 19 52 | 18 19 52       | 23 73    |    |
| 10  | 328                                                | 24.0 |                                                  | 22.7                                                                                                                           | 167                                               | 18.2 | 17                                                | 50.6          | 20                                                | 38    | 19 01          | 29    | 17 53 57       | 3 51 69  |    |
| 11  | 343                                                | 24.0 | +18                                              | 22.1                                                                                                                           | 181                                               | 38.9 | 17                                                | -26 46.1      | 10 N                                              | 18 23 | 18 46          | 19 12 | 17 31 60       | 4 14 67  |    |
| 12  | 358                                                | 24.0 | +18                                              | 21.5                                                                                                                           | 195                                               | 59.7 | 18                                                | -26 41.4      | 0                                                 | 18 10 | 18 32          | 18 57 | 17 10 63       | 4 36 65  |    |
| 13  | 13                                                 | 24.1 |                                                  | 20.9                                                                                                                           | 210                                               | 20.6 | 19                                                | 36.5          | 10 S                                              | 17 57 | 19             | 44    | 16 49 66       | 4 58 62  |    |
| 14  | 28                                                 | 24.1 |                                                  | 20.3                                                                                                                           | 224                                               | 41.5 | 19                                                | 31.4          | 20                                                | 42    | 18 06          | 32    | 27 69          | 5 21 60  |    |
| 15  | 43                                                 | 24.1 |                                                  | 19.7                                                                                                                           | 239                                               | 02.5 | 20                                                | 26.1          | 30                                                | 26    | 17 52          | 21    | 16 01 73       | 5 48 57  |    |
| 16  | 58                                                 | 24.2 |                                                  | 19.0                                                                                                                           | 253                                               | 23.6 | 21                                                | 20.6          | 35                                                | 17    | 44             | 15    | 15 46 75       | 6 03 55  |    |
| 17  | 73                                                 | 24.2 | +18                                              | 18.4                                                                                                                           | 267                                               | 44.7 | 21                                                | -26 14.9      | 40                                                | 17 07 | 17 36          | 18 08 | 15 28 78       | 6 22 52  |    |
| 18  | 88                                                 | 24.2 | +18                                              | 17.8                                                                                                                           | 282                                               | 05.9 | 22                                                | -26 09.0      | 45                                                | 16 54 | 17 26          | 18 02 | 15 06 82       | 6 44 49  |    |
| 19  | 103                                                | 24.3 |                                                  | 17.2                                                                                                                           | 296                                               | 27.2 | 23                                                | -26 02.9      | 50                                                | 39    | 15             | 17 54 | 14 39 87       | 7 12 45  |    |
| 20  | 118                                                | 24.3 |                                                  | 16.6                                                                                                                           | 310                                               | 48.5 | 23                                                | -25 56.6      | 52                                                | 32    | 10             | 51    | 25 90          | 25 43    |    |
| 21  | 133                                                | 24.3 |                                                  | 16.0                                                                                                                           | 325                                               | 10.0 | 25                                                | 50.2          | 54                                                | 25    | 17 04          | 47    | 14 10 93       | 41 40    |    |
| 22  | 148                                                | 24.4 |                                                  | 15.4                                                                                                                           | 339                                               | 31.5 | 25                                                | 43.5          | 56                                                | 16    | 16 58          | 44    | 13 52 97       | 7 59 37  |    |
| 23  | 163                                                | 24.4 |                                                  | 14.7                                                                                                                           | 353                                               | 53.1 | 26                                                | 36.7          | 58                                                | 16 06 | 51             | 40    | 30 102         | 8 22 31  |    |
| 24  | 178                                                | 24.4 | +18                                              | 14.1                                                                                                                           | 8                                                 | 14.8 | 27                                                | -25 29.6      | 60 S                                              | 15 55 | 16 44          | 17 35 | 13 01 111      | 8 51 22  |    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                | MARTE                                             |      | JÚPITER                                           |               | SATURNO                                           |       |                |       |                |          |    |
|     | PMG: 3 <sup>h</sup> 27 <sup>m</sup> 6              |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 59 <sup>m</sup> |                                                                                                                                | Mag: +1.8<br>PMG: 13 <sup>h</sup> 09 <sup>m</sup> |      | Mag: -1.8<br>PMG: 14 <sup>h</sup> 44 <sup>m</sup> |               | Mag: +0.1<br>PMG: 10 <sup>h</sup> 51 <sup>m</sup> |       |                |       |                |          |    |
|     | hG ♈                                               |      | hG ♀                                             |                                                                                                                                | hG ♂                                              |      | hG ♃                                              |               | hG ♄                                              |       |                |       |                |          |    |
| h   | °                                                  | '    | °                                                | '                                                                                                                              | °                                                 | '    | °                                                 | '             | °                                                 | '     |                |       |                |          |    |
| 0   | 307                                                | 58.1 | 225                                              | 16.1                                                                                                                           | +18                                               | 53.9 | 162                                               | 27.5          | +15                                               | 00.5  |                |       |                |          |    |
| 1   | 323                                                | 00.5 | 240                                              | 16.6                                                                                                                           |                                                   | 54.1 | 177                                               | 28.5          | +15                                               | 00.0  |                |       |                |          |    |
| 2   | 338                                                | 03.0 | 255                                              | 17.0                                                                                                                           |                                                   | 54.3 | 192                                               | 29.4          | +14                                               | 59.5  |                |       |                |          |    |
| 3   | 353                                                | 05.5 | 270                                              | 17.5                                                                                                                           |                                                   | 54.5 | 207                                               | 30.3          |                                                   | 59.0  |                |       |                |          |    |
| 4   | 8                                                  | 07.9 | 285                                              | 17.9                                                                                                                           |                                                   | 54.8 | 222                                               | 31.2          |                                                   | 58.4  |                |       |                |          |    |
| 5   | 23                                                 | 10.4 | 300                                              | 18.4                                                                                                                           | +18                                               | 55.0 | 237                                               | 32.1          | +14                                               | 57.9  |                |       |                |          |    |
| 6   | 38                                                 | 12.9 | 315                                              | 18.8                                                                                                                           | +18                                               | 55.2 | 252                                               | 33.1          | +14                                               | 57.4  |                |       |                |          |    |
| 7   | 53                                                 | 15.3 | 330                                              | 19.3                                                                                                                           |                                                   | 55.4 | 267                                               | 34.0          |                                                   | 56.9  |                |       |                |          |    |
| 8   | 68                                                 | 17.8 | 345                                              | 19.7                                                                                                                           |                                                   | 55.6 | 282                                               | 34.9          |                                                   | 56.3  |                |       |                |          |    |
| 9   | 83                                                 | 20.3 | 0                                                | 20.2                                                                                                                           |                                                   | 55.8 | 297                                               | 35.8          |                                                   | 55.8  |                |       |                |          |    |
| 10  | 98                                                 | 22.7 | 15                                               | 20.6                                                                                                                           |                                                   | 56.0 | 312                                               | 36.8          |                                                   | 55.3  |                |       |                |          |    |
| 11  | 113                                                | 25.2 | 30                                               | 21.1                                                                                                                           | +18                                               | 56.2 | 327                                               | 37.7          | +14                                               | 54.8  |                |       |                |          |    |
| 12  | 128                                                | 27.6 | 45                                               | 21.5                                                                                                                           | +18                                               | 56.4 | 342                                               | 38.6          | +14                                               | 54.2  |                |       |                |          |    |
| 13  | 143                                                | 30.1 | 60                                               | 21.9                                                                                                                           |                                                   | 56.6 | 357                                               | 39.5          |                                                   | 53.7  |                |       |                |          |    |
| 14  | 158                                                | 32.6 | 75                                               | 22.4                                                                                                                           |                                                   | 56.8 | 372                                               | 40.5          |                                                   | 53.2  |                |       |                |          |    |
| 15  | 173                                                | 35.0 | 90                                               | 22.8                                                                                                                           |                                                   | 57.0 | 387                                               | 41.4          |                                                   | 52.7  |                |       |                |          |    |
| 16  | 188                                                | 37.5 | 105                                              | 23.2                                                                                                                           |                                                   | 57.3 | 402                                               | 42.3          |                                                   | 52.1  |                |       |                |          |    |
| 17  | 203                                                | 40.0 | 120                                              | 23.7                                                                                                                           | +18                                               | 57.5 | 417                                               | 43.2          | +14                                               | 51.6  |                |       |                |          |    |
| 18  | 218                                                | 42.4 | 135                                              | 24.1                                                                                                                           | +18                                               | 57.7 | 432                                               | 44.2          | +14                                               | 51.1  |                |       |                |          |    |
| 19  | 233                                                | 44.9 | 150                                              | 24.5                                                                                                                           |                                                   | 57.9 | 447                                               | 45.1          |                                                   | 50.5  |                |       |                |          |    |
| 20  | 248                                                | 47.4 | 165                                              | 25.0                                                                                                                           |                                                   | 58.1 | 462                                               | 46.0          |                                                   | 50.0  |                |       |                |          |    |
| 21  | 263                                                | 49.8 | 180                                              | 25.4                                                                                                                           |                                                   | 58.3 | 477                                               | 46.9          |                                                   | 49.5  |                |       |                |          |    |
| 22  | 278                                                | 52.3 | 195                                              | 25.8                                                                                                                           |                                                   | 58.5 | 492                                               | 47.9          |                                                   | 49.0  |                |       |                |          |    |
| 23  | 293                                                | 54.8 | 210                                              | 26.2                                                                                                                           |                                                   | 58.7 | 507                                               | 48.8          |                                                   | 48.4  |                |       |                |          |    |
| 24  | 308                                                | 57.2 | 225                                              | 26.7                                                                                                                           | +18                                               | 58.9 | 522                                               | 49.7          | +14                                               | 47.9  |                |       |                |          |    |
| Dif | —                                                  |      | +4                                               |                                                                                                                                | +2                                                |      | +9                                                |               | -5                                                |       |                |       |                |          |    |
|     |                                                    |      |                                                  |                                                                                                                                |                                                   |      | +20                                               |               | -2                                                |       |                |       |                |          |    |
|     |                                                    |      |                                                  |                                                                                                                                |                                                   |      |                                                   |               | +21                                               |       |                |       |                |          |    |
|     |                                                    |      |                                                  |                                                                                                                                |                                                   |      |                                                   |               | 0                                                 |       |                |       |                |          |    |

| UT | SOL                                                |      |     |      | LUNA                                                                                                                  |      |         |          | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |     | Puesta de Luna |     |   |
|----|----------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------|------|---------|----------|---------|--------------------------|-------|---------------|----------------|-----|----------------|-----|---|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 3 |      |     |      | Edad: 13 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 60/7<br>12 <sup>h</sup> : 60/6<br>20 <sup>h</sup> : 60/5<br>R°: **m |      |         |          |         |                          |       |               |                |     |                |     |   |
|    | hG ☉                                               |      | Dec |      | hG ☾ Dif                                                                                                              |      | Dec Dif |          |         | Náutico                  | Civil |               | Hora           | R°  | Hora           | R°  |   |
| h  | °                                                  | '    | °   | '    | °                                                                                                                     | '    | °       | '        | °       | h                        | m     | h             | m              | h   | m              | h   | m |
| 0  | 178                                                | 24.4 | +18 | 14.1 | 8                                                                                                                     | 14.8 | -25     | 29.6     | 60 N    | ** **                    | 2 38  | 3 39          | 21 23          | 5   | 1 50           | 115 |   |
| 1  | 193                                                | 24.5 |     | 13.5 | 22                                                                                                                    | 36.6 | 28      | 22.4     | 58      | 1 26                     | 2 57  | 3 52          | 21 06          | 11  | 2 15           | 107 |   |
| 2  | 208                                                | 24.5 |     | 12.9 | 36                                                                                                                    | 58.5 | 29      | 15.0     | 56      | 2 00                     | 3 14  | 4 02          | 20 51          | 16  | 35             | 101 |   |
| 3  | 223                                                | 24.5 |     | 12.3 | 51                                                                                                                    | 20.5 | 30      | -25 07.4 | 54      | 24                       | 27    | 12            | 38             | 20  | 2 52           | 96  |   |
| 4  | 238                                                | 24.6 |     | 11.6 | 65                                                                                                                    | 42.5 | 30      | -24 59.6 | 52      | 43                       | 39    | 21            | 27             | 23  | 3 06           | 93  |   |
| 5  | 253                                                | 24.6 | +18 | 11.0 | 80                                                                                                                    | 04.7 | 32      | -24 51.7 | 50      | 2 58                     | 3 49  | 4 28          | 20 17          | 26  | 3 18           | 90  |   |
| 6  | 268                                                | 24.6 | +18 | 10.4 | 94                                                                                                                    | 27.0 | 33      | -24 43.5 | 45      | 3 28                     | 4 11  | 4 44          | 19 56          | 32  | 3 44           | 84  |   |
| 7  | 283                                                | 24.7 |     | 09.8 | 108                                                                                                                   | 49.4 | 34      | 35.2     | 40      | 3 50                     | 27    | 4 58          | 39             | 36  | 4 04           | 80  |   |
| 8  | 298                                                | 24.7 |     | 09.2 | 123                                                                                                                   | 11.9 | 35      | 26.8     | 35      | 4 07                     | 41    | 5 09          | 24             | 41  | 21             | 76  |   |
| 9  | 313                                                | 24.7 |     | 08.5 | 137                                                                                                                   | 34.5 | 36      | 18.1     | 30      | 21                       | 4 53  | 19            | 19 11          | 44  | 4 36           | 73  |   |
| 10 | 328                                                | 24.8 |     | 07.9 | 151                                                                                                                   | 57.2 | 37      | 09.3     | 20      | 4 44                     | 5 12  | 35            | 18 50          | 49  | 5 00           | 68  |   |
| 11 | 343                                                | 24.8 | +18 | 07.3 | 166                                                                                                                   | 20.0 | 38      | -24 00.3 | 10 N    | 5 01                     | 5 27  | 5 50          | 18 31          | 53  | 5 21           | 64  |   |
| 12 | 358                                                | 24.8 | +18 | 06.7 | 180                                                                                                                   | 42.9 | 39      | -23 51.2 | 0       | 5 16                     | 5 41  | 6 03          | 18 13          | 58  | 5 41           | 60  |   |
| 13 | 13                                                 | 24.9 |     | 06.0 | 195                                                                                                                   | 05.9 | 40      | 41.8     | 10 S    | 29                       | 5 54  | 16            | 17 55          | 62  | 6 00           | 57  |   |
| 14 | 28                                                 | 24.9 |     | 05.4 | 209                                                                                                                   | 29.1 | 42      | 32.4     | 20      | 40                       | 6 07  | 30            | 36             | 67  | 21             | 53  |   |
| 15 | 43                                                 | 24.9 |     | 04.8 | 223                                                                                                                   | 52.4 | 43      | 22.7     | 30      | 52                       | 21    | 46            | 14             | 72  | 45             | 48  |   |
| 16 | 58                                                 | 25.0 |     | 04.2 | 238                                                                                                                   | 15.7 | 43      | 12.9     | 35      | 5 58                     | 28    | 6 55          | 17 01          | 75  | 6 58           | 46  |   |
| 17 | 73                                                 | 25.0 | +18 | 03.5 | 252                                                                                                                   | 39.2 | 45      | -23 03.0 | 40      | 6 04                     | 6 37  | 7 06          | 16 46          | 79  | 7 14           | 42  |   |
| 18 | 88                                                 | 25.1 | +18 | 02.9 | 267                                                                                                                   | 02.9 | 47      | -22 52.9 | 45      | 6 11                     | 6 46  | 7 18          | 16 28          | 83  | 7 33           | 38  |   |
| 19 | 103                                                | 25.1 |     | 02.3 | 281                                                                                                                   | 26.6 | 47      | 42.6     | 50      | 18                       | 6 57  | 32            | 16 06          | 89  | 7 57           | 32  |   |
| 20 | 118                                                | 25.1 |     | 01.7 | 295                                                                                                                   | 50.4 | 48      | 32.2     | 52      | 21                       | 7 02  | 39            | 15 55          | 92  | 8 08           | 29  |   |
| 21 | 133                                                | 25.2 |     | 01.0 | 310                                                                                                                   | 14.4 | 50      | 21.7     | 54      | 25                       | 08    | 47            | 43             | 96  | 21             | 25  |   |
| 22 | 148                                                | 25.2 | +18 | 00.4 | 324                                                                                                                   | 38.5 | 51      | 11.0     | 56      | 28                       | 14    | 7 56          | 29             | 100 | 36             | 21  |   |
| 23 | 163                                                | 25.3 | +17 | 59.8 | 339                                                                                                                   | 02.7 | 52      | -22 00.1 | 58      | 32                       | 20    | 8 05          | 15 12          | 106 | 8 53           | 16  |   |
| 24 | 178                                                | 25.3 | +17 | 59.1 | 353                                                                                                                   | 27.1 | 54      | -21 49.1 | 60 S    | 6 36                     | 7 28  | 8 16          | 14 52          | 113 | 9 13           | 10  |   |

| UT  | ARIES                                   |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |  |    |  |     |  |   |
|-----|-----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|--|----|--|-----|--|---|
|     | PMG<br>3 <sup>h</sup> 23 <sup>m</sup> 6 |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 58 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 08 <sup>m</sup> |      | Mag: -1.8<br>PMG: 14 <sup>h</sup> 41 <sup>m</sup> |      | Mag: +0.1<br>PMG: 10 <sup>h</sup> 48 <sup>m</sup> |      |     |  |    |  |     |  |   |
|     | hG ♈                                    |      | hG ♀ Dec                                         |      | hG ♂ Dec                                          |      | hG ♃ Dec                                          |      | hG ♄ Dec                                          |      |     |  |    |  |     |  |   |
| h   | °                                       | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |  |    |  |     |  |   |
| 0   | 308                                     | 57.2 | 225                                              | 26.7 | +18                                               | 58.9 | 162                                               | 49.7 | +14                                               | 47.9 |     |  |    |  |     |  |   |
| 1   | 323                                     | 59.7 | 240                                              | 27.1 |                                                   | 59.1 | 177                                               | 50.6 |                                                   | 47.4 |     |  |    |  |     |  |   |
| 2   | 339                                     | 02.1 | 255                                              | 27.5 |                                                   | 59.3 | 192                                               | 51.6 |                                                   | 46.8 |     |  |    |  |     |  |   |
| 3   | 354                                     | 04.6 | 270                                              | 27.9 |                                                   | 59.5 | 207                                               | 52.5 |                                                   | 46.3 |     |  |    |  |     |  |   |
| 4   | 9                                       | 07.1 | 285                                              | 28.3 |                                                   | 59.7 | 222                                               | 53.4 |                                                   | 45.8 |     |  |    |  |     |  |   |
| 5   | 24                                      | 09.5 | 300                                              | 28.7 | +18                                               | 59.9 | 237                                               | 54.3 | +14                                               | 45.3 |     |  |    |  |     |  |   |
| 6   | 39                                      | 12.0 | 315                                              | 29.1 | +19                                               | 00.1 | 252                                               | 55.3 | +14                                               | 44.7 |     |  |    |  |     |  |   |
| 7   | 54                                      | 14.5 | 330                                              | 29.6 |                                                   | 00.3 | 267                                               | 56.2 |                                                   | 44.2 |     |  |    |  |     |  |   |
| 8   | 69                                      | 16.9 | 345                                              | 30.0 |                                                   | 00.6 | 282                                               | 57.1 |                                                   | 43.7 |     |  |    |  |     |  |   |
| 9   | 84                                      | 19.4 | 0                                                | 30.4 |                                                   | 00.8 | 297                                               | 58.0 |                                                   | 43.1 |     |  |    |  |     |  |   |
| 10  | 99                                      | 21.9 | 15                                               | 30.8 |                                                   | 01.0 | 312                                               | 59.0 |                                                   | 42.6 |     |  |    |  |     |  |   |
| 11  | 114                                     | 24.3 | 30                                               | 31.2 | +19                                               | 01.2 | 327                                               | 59.9 | +14                                               | 42.1 |     |  |    |  |     |  |   |
| 12  | 129                                     | 26.8 | 45                                               | 31.6 | +19                                               | 01.4 | 343                                               | 00.8 | +14                                               | 41.5 |     |  |    |  |     |  |   |
| 13  | 144                                     | 29.3 | 60                                               | 32.0 |                                                   | 01.6 | 358                                               | 01.7 |                                                   | 41.0 |     |  |    |  |     |  |   |
| 14  | 159                                     | 31.7 | 75                                               | 32.4 |                                                   | 01.8 | 13                                                | 02.7 |                                                   | 40.5 |     |  |    |  |     |  |   |
| 15  | 174                                     | 34.2 | 90                                               | 32.8 |                                                   | 02.0 | 28                                                | 03.6 |                                                   | 40.0 |     |  |    |  |     |  |   |
| 16  | 189                                     | 36.6 | 105                                              | 33.2 |                                                   | 02.2 | 43                                                | 04.5 |                                                   | 39.4 |     |  |    |  |     |  |   |
| 17  | 204                                     | 39.1 | 120                                              | 33.6 | +19                                               | 02.4 | 58                                                | 05.5 | +14                                               | 38.9 |     |  |    |  |     |  |   |
| 18  | 219                                     | 41.6 | 135                                              | 34.0 | +19                                               | 02.6 | 73                                                | 06.4 | +14                                               | 38.4 |     |  |    |  |     |  |   |
| 19  | 234                                     | 44.0 | 150                                              | 34.4 |                                                   | 02.8 | 88                                                | 07.3 |                                                   | 37.8 |     |  |    |  |     |  |   |
| 20  | 249                                     | 46.5 | 165                                              | 34.7 |                                                   | 03.0 | 103                                               | 08.2 |                                                   | 37.3 |     |  |    |  |     |  |   |
| 21  | 264                                     | 49.0 | 180                                              | 35.1 |                                                   | 03.2 | 118                                               | 09.2 |                                                   | 36.8 |     |  |    |  |     |  |   |
| 22  | 279                                     | 51.4 | 195                                              | 35.5 |                                                   | 03.4 | 133                                               | 10.1 |                                                   | 36.2 |     |  |    |  |     |  |   |
| 23  | 294                                     | 53.9 | 210                                              | 35.9 |                                                   | 03.6 | 148                                               | 11.0 |                                                   | 35.7 |     |  |    |  |     |  |   |
| 24  | 309                                     | 56.4 | 225                                              | 36.3 | +19                                               | 03.8 | 163                                               | 11.9 | +14                                               | 35.2 |     |  |    |  |     |  |   |
| Dif | —                                       |      | +4                                               |      | +2                                                |      | +9                                                |      | -5                                                |      | +20 |  | -2 |  | +21 |  | 0 |



| UT | SOL                                    |      |          | ☉ LUNA                                                                                                  |      |          | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |           | Puesta de Luna |       |
|----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|---------|----------------|-----------|----------------|-------|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 14 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 60'3<br>12 <sup>h</sup> : 60'2<br>20 <sup>h</sup> : 59'9 |      |          |         |               |                      |         |                |           |                |       |
|    | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 3 |      |          | SD: 16'5<br>PMG: 0 <sup>h</sup> 27 <sup>m</sup> R°: 57 <sup>m</sup>                                     |      |          |         |               |                      |         |                |           |                |       |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                    | Dif  | Dec      | Dif     |               | Civil                | Náutico | Hora           | R°        | Hora           | R°    |
| h  | °                                      | '    | °        | °                                                                                                       | '    | °        | '       | °             | h m                  | h m     | h m            | h m m     | h m m          | h m m |
| 0  | 178                                    | 25.3 | +17 59.1 | 353                                                                                                     | 27.1 | -21 49.1 | 55      | 60 N          | 20 30                | 21 29   | ** **          | 21 28 3   | 3 45 111       |       |
| 1  | 193                                    | 25.3 | 58.5     | 7                                                                                                       | 51.6 | 38.0     | 111     | 58            | 17                   | 21 10   | 22 36          | 17 7      | 4 02 105       |       |
| 2  | 208                                    | 25.4 | 57.9     | 22                                                                                                      | 16.1 | 26.8     | 112     | 56            | 20 07                | 20 55   | 22 06          | 21 07 11  | 16 100         |       |
| 3  | 223                                    | 25.4 | 57.2     | 36                                                                                                      | 40.9 | 15.4     | 114     | 54            | 19 58                | 42      | 21 43          | 20 58 14  | 28 95          |       |
| 4  | 238                                    | 25.5 | 56.6     | 51                                                                                                      | 05.7 | 03.9     | 115     | 52            | 49                   | 30      | 26             | 50 18     | 39 91          |       |
| 5  | 253                                    | 25.5 | +17 56.0 | 65                                                                                                      | 30.7 | 52.2     | 117     | 50            | 19 42                | 20 20   | 21 11          | 20 43 20  | 4 48 89        |       |
| 6  | 268                                    | 25.5 | +17 55.3 | 79                                                                                                      | 55.8 | 40.4     | 118     | 45            | 19 26                | 20 00   | 20 42          | 20 28 26  | 5 08 82        |       |
| 7  | 283                                    | 25.6 | 54.7     | 94                                                                                                      | 21.0 | 28.5     | 119     | 40            | 13                   | 19 44   | 21             | 15 30     | 24 77          |       |
| 8  | 298                                    | 25.6 | 54.1     | 108                                                                                                     | 46.3 | 16.5     | 120     | 35            | 19 03                | 30      | 20 04          | 20 05 34  | 37 74          |       |
| 9  | 313                                    | 25.7 | 53.4     | 123                                                                                                     | 11.8 | 04.4     | 121     | 30            | 18 53                | 19      | 19 50          | 19 55 37  | 5 49 70        |       |
| 10 | 328                                    | 25.7 | 52.8     | 137                                                                                                     | 37.4 | 52.1     | 123     | 20            | 37                   | 19 00   | 28             | 39 43     | 6 08 65        |       |
| 11 | 343                                    | 25.7 | +17 52.2 | 152                                                                                                     | 03.1 | 39.7     | 124     | 10 N          | 18 23                | 18 45   | 19 11          | 19 24 48  | 6 25 60        |       |
| 12 | 358                                    | 25.8 | +17 51.5 | 166                                                                                                     | 29.0 | 27.2     | 125     | 0             | 18 10                | 18 31   | 18 57          | 19 11 52  | 6 41 55        |       |
| 13 | 13                                     | 25.8 | 50.9     | 180                                                                                                     | 54.9 | 14.6     | 126     | 10 S          | 17 57                | 19      | 44             | 18 57 58  | 6 57 51        |       |
| 14 | 28                                     | 25.9 | 50.3     | 195                                                                                                     | 21.0 | 01.9     | 127     | 20            | 43                   | 18 06   | 33             | 43 62     | 7 14 45        |       |
| 15 | 43                                     | 25.9 | 49.6     | 209                                                                                                     | 47.3 | 49.1     | 128     | 30            | 28                   | 17 53   | 22             | 26 68     | 33 40          |       |
| 16 | 58                                     | 26.0 | 49.0     | 224                                                                                                     | 13.6 | 36.2     | 129     | 35            | 19                   | 45      | 16             | 16 72     | 44 37          |       |
| 17 | 73                                     | 26.0 | +17 48.3 | 238                                                                                                     | 40.1 | 23.1     | 131     | 40            | 17 08                | 17 37   | 18 10          | 18 05 75  | 7 56 33        |       |
| 18 | 88                                     | 26.0 | +17 47.7 | 253                                                                                                     | 06.7 | 10.0     | 131     | 45            | 16 57                | 17 28   | 18 03          | 17 51 81  | 8 11 29        |       |
| 19 | 103                                    | 26.1 | 47.1     | 267                                                                                                     | 33.4 | 56.8     | 132     | 50            | 42                   | 17      | 17 56          | 35 87     | 29 23          |       |
| 20 | 118                                    | 26.1 | 46.4     | 282                                                                                                     | 00.3 | 43.4     | 134     | 52            | 35                   | 12      | 53             | 27 90     | 37 20          |       |
| 21 | 133                                    | 26.2 | 45.8     | 296                                                                                                     | 27.2 | 30.0     | 134     | 54            | 28                   | 07      | 50             | 19 93     | 46 18          |       |
| 22 | 148                                    | 26.2 | 45.1     | 310                                                                                                     | 54.3 | 16.5     | 135     | 56            | 20                   | 17 01   | 47             | 17 09 97  | 8 57 13        |       |
| 23 | 163                                    | 26.3 | 44.5     | 325                                                                                                     | 21.5 | 02.9     | 136     | 58            | 16 10                | 16 55   | 43             | 16 58 101 | 9 09 9         |       |
| 24 | 178                                    | 26.3 | +17 43.9 | 339                                                                                                     | 48.9 | 49.2     | 137     | 60 S          | 15 59                | 16 48   | 17 39          | 16 45 107 | 9 23 4         |       |

| UT  | ARIES                                 |      | VENUS                                            |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                           |          |
|-----|---------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|----------|
|     | PMG: 3 <sup>h</sup> 19 <sup>m</sup> 7 |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 57 <sup>m</sup> |          | Mag: +1.8<br>PMG: 13 <sup>h</sup> 06 <sup>m</sup> |          | Mag: -1.8<br>PMG: 14 <sup>h</sup> 38 <sup>m</sup> |         | Mag: +0.2<br>PMG: 10 <sup>h</sup> 44 <sup>m</sup> |          |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec      | hG ♂                                              | Dec      | hG ♃                                              | Dec     | hG ♄                                              | Dec      |
| h   | °                                     | '    | °                                                | '        | °                                                 | '        | °                                                 | '       | °                                                 | '        |
| 0   | 309                                   | 56.4 | 225 36.3                                         | +19 03.8 | 163 11.9                                          | +14 35.2 | 140 01.2                                          | +5 32.5 | 198 31.7                                          | +21 44.7 |
| 1   | 324                                   | 58.8 | 240 36.7                                         | 04.0     | 178 12.9                                          | 34.6     | 155 03.2                                          | 32.4    | 213 33.8                                          | 44.7     |
| 2   | 340                                   | 01.3 | 255 37.1                                         | 04.2     | 193 13.8                                          | 34.1     | 170 05.2                                          | 32.2    | 228 35.9                                          | 44.6     |
| 3   | 355                                   | 03.8 | 270 37.4                                         | 04.4     | 208 14.7                                          | 33.6     | 185 07.2                                          | 32.0    | 243 38.1                                          | 44.6     |
| 4   | 10                                    | 06.2 | 285 37.8                                         | 04.6     | 223 15.7                                          | 33.0     | 200 09.3                                          | 31.8    | 258 40.2                                          | 44.5     |
| 5   | 25                                    | 08.7 | 300 38.2                                         | +19 04.8 | 238 16.6                                          | +14 32.5 | 215 11.3                                          | +5 31.6 | 273 42.3                                          | +21 44.5 |
| 6   | 40                                    | 11.1 | 315 38.6                                         | +19 05.0 | 253 17.5                                          | +14 32.0 | 230 13.3                                          | +5 31.4 | 288 44.4                                          | +21 44.5 |
| 7   | 55                                    | 13.6 | 330 38.9                                         | 05.2     | 268 18.4                                          | 31.4     | 245 15.4                                          | 31.2    | 303 46.6                                          | 44.4     |
| 8   | 70                                    | 16.1 | 345 39.3                                         | 05.4     | 283 19.4                                          | 30.9     | 260 17.4                                          | 31.0    | 318 48.7                                          | 44.4     |
| 9   | 85                                    | 18.5 | 0 39.7                                           | 05.6     | 298 20.3                                          | 30.4     | 275 19.4                                          | 30.9    | 333 50.8                                          | 44.3     |
| 10  | 100                                   | 21.0 | 15 40.0                                          | 05.8     | 313 21.2                                          | 29.8     | 290 21.4                                          | 30.7    | 348 53.0                                          | 44.3     |
| 11  | 115                                   | 23.5 | 30 40.4                                          | +19 06.0 | 328 22.2                                          | +14 29.3 | 305 23.5                                          | +5 30.5 | 3 55.1                                            | +21 44.3 |
| 12  | 130                                   | 25.9 | 45 40.8                                          | +19 06.2 | 343 23.1                                          | +14 28.8 | 320 25.5                                          | +5 30.3 | 18 57.2                                           | +21 44.2 |
| 13  | 145                                   | 28.4 | 60 41.1                                          | 06.4     | 358 24.0                                          | 28.2     | 335 27.5                                          | 30.1    | 33 59.4                                           | 44.2     |
| 14  | 160                                   | 30.9 | 75 41.5                                          | 06.6     | 13 24.9                                           | 27.7     | 350 29.6                                          | 29.9    | 49 01.5                                           | 44.1     |
| 15  | 175                                   | 33.3 | 90 41.9                                          | 06.8     | 28 25.9                                           | 27.2     | 5 31.6                                            | 29.7    | 64 03.6                                           | 44.1     |
| 16  | 190                                   | 35.8 | 105 42.2                                         | 07.0     | 43 26.8                                           | 26.6     | 20 33.6                                           | 29.5    | 79 05.8                                           | 44.0     |
| 17  | 205                                   | 38.2 | 120 42.6                                         | +19 07.2 | 58 27.7                                           | +14 26.1 | 35 35.7                                           | +5 29.4 | 94 07.9                                           | +21 44.0 |
| 18  | 220                                   | 40.7 | 135 42.9                                         | +19 07.4 | 73 28.7                                           | +14 25.6 | 50 37.7                                           | +5 29.2 | 109 10.0                                          | +21 44.0 |
| 19  | 235                                   | 43.2 | 150 43.3                                         | 07.6     | 88 29.6                                           | 25.0     | 65 39.7                                           | 29.0    | 124 12.1                                          | 43.9     |
| 20  | 250                                   | 45.6 | 165 43.6                                         | 07.8     | 103 30.5                                          | 24.5     | 80 41.7                                           | 28.8    | 139 14.3                                          | 43.9     |
| 21  | 265                                   | 48.1 | 180 44.0                                         | 08.0     | 118 31.5                                          | 23.9     | 95 43.8                                           | 28.6    | 154 16.4                                          | 43.8     |
| 22  | 280                                   | 50.6 | 195 44.3                                         | 08.2     | 133 32.4                                          | 23.4     | 110 45.8                                          | 28.4    | 169 18.5                                          | 43.8     |
| 23  | 295                                   | 53.0 | 210 44.7                                         | 08.4     | 148 33.3                                          | 22.9     | 125 47.8                                          | 28.2    | 184 20.7                                          | 43.7     |
| 24  | 310                                   | 55.5 | 225 45.0                                         | +19 08.6 | 163 34.2                                          | +14 22.3 | 140 49.9                                          | +5 28.0 | 199 22.8                                          | +21 43.7 |
| Dif | —                                     |      | +4                                               | +2       | +9                                                | -5       | +20                                               | -2      | +21                                               | 0        |

| UT | SOL                                                             |      |     | LUNA                    |                                                                                                                              |                                                              |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |      |     |     |
|----|-----------------------------------------------------------------|------|-----|-------------------------|------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------|---------|--------------------------|-------|---------------|----------------|-------|----------------|------|-----|-----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 2 |      |     | Edad: 15 <sup>d</sup> 5 | PHE {<br>4 <sup>h</sup> : 59 <sup>m</sup> /7<br>12 <sup>h</sup> : 59 <sup>m</sup> /5<br>20 <sup>h</sup> : 59 <sup>m</sup> /2 | SD: 16 <sup>h</sup> 3<br>PMG: 1 <sup>h</sup> 24 <sup>m</sup> | R°: 51 <sup>m</sup> |         | Náutico                  | Civil |               | Hora           | R°    | Hora           | R°   |     |     |
|    | hG ☉                                                            | Dec  |     | hG ☾                    |                                                                                                                              |                                                              |                     |         |                          |       |               |                |       |                |      | Dif | Dec |
| h  | °                                                               | '    | °   | '                       | °                                                                                                                            | '                                                            | °                   | '       | °                        | h     | m             | h              | m     | h              | m    | h   | m   |
| 0  | 178                                                             | 26.3 | +17 | 43.9                    | 339                                                                                                                          | 48.9                                                         | -16                 | 49.2    | 60 N                     | 0 38  | 2 44          | 3 44           | 21 31 | 0              | 5 36 | 103 |     |
| 1  | 193                                                             | 26.4 |     | 43.2                    | 354                                                                                                                          | 16.3                                                         | 84                  | 35.4    | 58                       | 1 37  | 3 03          | 3 56           | 24 5  |                | 47   | 98  |     |
| 2  | 208                                                             | 26.4 |     | 42.6                    | 8                                                                                                                            | 43.9                                                         | 86                  | 21.6    | 56                       | 2 07  | 18            | 4 06           | 18 8  |                | 5 56 | 94  |     |
| 3  | 223                                                             | 26.5 |     | 41.9                    | 23                                                                                                                           | 11.6                                                         | 87                  | -16     | 54                       | 30    | 31            | 15             | 12 11 |                | 6 03 | 91  |     |
| 4  | 238                                                             | 26.5 |     | 41.3                    | 37                                                                                                                           | 39.4                                                         | 88                  | -15     | 52                       | 2 47  | 43            | 24             | 08 13 |                | 10   | 88  |     |
| 5  | 253                                                             | 26.5 | +17 | 40.6                    | 52                                                                                                                           | 07.3                                                         | 89                  | -15     | 50                       | 3 02  | 3 53          | 4 31           | 21 03 | 16             | 6 17 | 84  |     |
| 6  | 268                                                             | 26.6 | +17 | 40.0                    | 66                                                                                                                           | 35.4                                                         | 91                  | -15     | 45                       | 3 31  | 4 13          | 4 47           | 20 54 | 21             | 6 30 | 79  |     |
| 7  | 283                                                             | 26.6 |     | 39.4                    | 81                                                                                                                           | 03.5                                                         | 91                  | -15     | 40                       | 3 52  | 29            | 4 59           | 45 26 |                | 41   | 74  |     |
| 8  | 298                                                             | 26.7 |     | 38.7                    | 95                                                                                                                           | 31.8                                                         | 93                  | -14     | 35                       | 4 09  | 43            | 5 10           | 39 29 |                | 51   | 69  |     |
| 9  | 313                                                             | 26.7 |     | 38.1                    | 110                                                                                                                          | 00.2                                                         | 94                  | 42.4    | 30                       | 23    | 4 54          | 20             | 32 33 |                | 6 59 | 66  |     |
| 10 | 328                                                             | 26.8 |     | 37.4                    | 124                                                                                                                          | 28.7                                                         | 95                  | 28.0    | 20                       | 4 45  | 5 12          | 36             | 22 38 |                | 7 13 | 60  |     |
| 11 | 343                                                             | 26.8 | +17 | 36.8                    | 138                                                                                                                          | 57.3                                                         | 96                  | -14     | 10 N                     | 5 02  | 5 28          | 5 50           | 20 12 | 44             | 7 25 | 55  |     |
| 12 | 358                                                             | 26.9 | +17 | 36.1                    | 153                                                                                                                          | 26.1                                                         | 98                  | -13     | 0                        | 5 16  | 5 41          | 6 03           | 20 03 | 49             | 7 36 | 51  |     |
| 13 | 13                                                              | 26.9 |     | 35.5                    | 167                                                                                                                          | 54.9                                                         | 98                  | 44.2    | 10 S                     | 28    | 5 54          | 16             | 19 55 | 53             | 48   | 45  |     |
| 14 | 28                                                              | 27.0 |     | 34.8                    | 182                                                                                                                          | 23.8                                                         | 99                  | 29.5    | 20                       | 40    | 6 06          | 29             | 45 58 |                | 7 59 | 41  |     |
| 15 | 43                                                              | 27.0 |     | 34.2                    | 196                                                                                                                          | 52.9                                                         | 101                 | -13     | 30                       | 51    | 19            | 44             | 34 64 |                | 8 13 | 35  |     |
| 16 | 58                                                              | 27.1 |     | 33.5                    | 211                                                                                                                          | 22.1                                                         | 102                 | -13     | 35                       | 5 56  | 27            | 6 53           | 28 67 |                | 21   | 31  |     |
| 17 | 73                                                              | 27.1 | +17 | 32.9                    | 225                                                                                                                          | 51.3                                                         | 102                 | -12     | 40                       | 6 02  | 6 35          | 7 03           | 19 20 | 72             | 8 29 | 28  |     |
| 18 | 88                                                              | 27.2 | +17 | 32.2                    | 240                                                                                                                          | 20.7                                                         | 104                 | -12     | 45                       | 6 08  | 6 44          | 7 15           | 19 12 | 76             | 8 40 | 23  |     |
| 19 | 103                                                             | 27.2 |     | 31.6                    | 254                                                                                                                          | 50.2                                                         | 105                 | 15.2    | 50                       | 15    | 54            | 30             | 19 02 | 82             | 52   | 18  |     |
| 20 | 118                                                             | 27.3 |     | 30.9                    | 269                                                                                                                          | 19.8                                                         | 106                 | -12     | 52                       | 18    | 6 59          | 36             | 18 57 | 85             | 8 57 | 16  |     |
| 21 | 133                                                             | 27.3 |     | 30.3                    | 283                                                                                                                          | 49.5                                                         | 107                 | -11     | 54                       | 22    | 7 04          | 44             | 52 87 |                | 9 04 | 12  |     |
| 22 | 148                                                             | 27.4 |     | 29.6                    | 298                                                                                                                          | 19.2                                                         | 107                 | 30.1    | 56                       | 25    | 10            | 7 52           | 46 91 |                | 10   | 10  |     |
| 23 | 163                                                             | 27.4 |     | 29.0                    | 312                                                                                                                          | 49.1                                                         | 109                 | -11     | 58                       | 29    | 17            | 8 01           | 39 95 |                | 18   | 6   |     |
| 24 | 178                                                             | 27.5 | +17 | 28.3                    | 327                                                                                                                          | 19.1                                                         | 110                 | -10     | 60 S                     | 6 33  | 7 24          | 8 12           | 18 32 | 99             | 9 27 | 2   |     |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 3 <sup>h</sup> 15 <sup>m</sup> 8 |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 57 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 05 <sup>m</sup> |      | Mag: -1.8<br>PMG: 14 <sup>h</sup> 35 <sup>m</sup> |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 41 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 310                                   | 55.5 | 225                                              | 45.0 | +19                                               | 08.6 | 163                                               | 34.2 | +14                                               | 22.3 | 140 | 49.9 | +5 | 28.0 | 199 | 22.8 | +21 | 43.7 |
| 1   | 325                                   | 58.0 | 240                                              | 45.4 |                                                   | 08.8 | 178                                               | 35.2 |                                                   | 21.8 | 155 | 51.9 |    | 27.8 | 214 | 24.9 |     | 43.7 |
| 2   | 341                                   | 00.4 | 255                                              | 45.7 |                                                   | 09.0 | 193                                               | 36.1 |                                                   | 21.3 | 170 | 53.9 |    | 27.7 | 229 | 27.1 |     | 43.6 |
| 3   | 356                                   | 02.9 | 270                                              | 46.1 |                                                   | 09.2 | 208                                               | 37.0 |                                                   | 20.7 | 185 | 55.9 |    | 27.5 | 244 | 29.2 |     | 43.6 |
| 4   | 11                                    | 05.4 | 285                                              | 46.4 |                                                   | 09.4 | 223                                               | 38.0 |                                                   | 20.2 | 200 | 58.0 |    | 27.3 | 259 | 31.3 |     | 43.5 |
| 5   | 26                                    | 07.8 | 300                                              | 46.8 | +19                                               | 09.6 | 238                                               | 38.9 | +14                                               | 19.7 | 216 | 00.0 | +5 | 27.1 | 274 | 33.5 | +21 | 43.5 |
| 6   | 41                                    | 10.3 | 315                                              | 47.1 | +19                                               | 09.8 | 253                                               | 39.8 | +14                                               | 19.1 | 231 | 02.0 | +5 | 26.9 | 289 | 35.6 | +21 | 43.5 |
| 7   | 56                                    | 12.7 | 330                                              | 47.4 |                                                   | 10.0 | 268                                               | 40.8 |                                                   | 18.6 | 246 | 04.0 |    | 26.7 | 304 | 37.7 |     | 43.4 |
| 8   | 71                                    | 15.2 | 345                                              | 47.8 |                                                   | 10.2 | 283                                               | 41.7 |                                                   | 18.0 | 261 | 06.1 |    | 26.5 | 319 | 39.9 |     | 43.4 |
| 9   | 86                                    | 17.7 | 0                                                | 48.1 |                                                   | 10.3 | 298                                               | 42.6 |                                                   | 17.5 | 276 | 08.1 |    | 26.3 | 334 | 42.0 |     | 43.3 |
| 10  | 101                                   | 20.1 | 15                                               | 48.4 |                                                   | 10.5 | 313                                               | 43.6 |                                                   | 17.0 | 291 | 10.1 |    | 26.1 | 349 | 44.1 |     | 43.3 |
| 11  | 116                                   | 22.6 | 30                                               | 48.8 | +19                                               | 10.7 | 328                                               | 44.5 | +14                                               | 16.4 | 306 | 12.2 | +5 | 26.0 | 4   | 46.3 | +21 | 43.2 |
| 12  | 131                                   | 25.1 | 45                                               | 49.1 | +19                                               | 10.9 | 343                                               | 45.4 | +14                                               | 15.9 | 321 | 14.2 | +5 | 25.8 | 19  | 48.4 | +21 | 43.2 |
| 13  | 146                                   | 27.5 | 60                                               | 49.4 |                                                   | 11.1 | 358                                               | 46.4 |                                                   | 15.4 | 336 | 16.2 |    | 25.6 | 34  | 50.5 |     | 43.2 |
| 14  | 161                                   | 30.0 | 75                                               | 49.7 |                                                   | 11.3 | 13                                                | 47.3 |                                                   | 14.8 | 351 | 18.2 |    | 25.4 | 49  | 52.7 |     | 43.1 |
| 15  | 176                                   | 32.5 | 90                                               | 50.1 |                                                   | 11.5 | 28                                                | 48.2 |                                                   | 14.3 | 6   | 20.3 |    | 25.2 | 64  | 54.8 |     | 43.1 |
| 16  | 191                                   | 34.9 | 105                                              | 50.4 |                                                   | 11.7 | 43                                                | 49.2 |                                                   | 13.7 | 21  | 22.3 |    | 25.0 | 79  | 56.9 |     | 43.0 |
| 17  | 206                                   | 37.4 | 120                                              | 50.7 | +19                                               | 11.9 | 58                                                | 50.1 | +14                                               | 13.2 | 36  | 24.3 | +5 | 24.8 | 94  | 59.1 | +21 | 43.0 |
| 18  | 221                                   | 39.9 | 135                                              | 51.0 | +19                                               | 12.1 | 73                                                | 51.0 | +14                                               | 12.7 | 51  | 26.3 | +5 | 24.6 | 110 | 01.2 | +21 | 42.9 |
| 19  | 236                                   | 42.3 | 150                                              | 51.4 |                                                   | 12.3 | 88                                                | 51.9 |                                                   | 12.1 | 66  | 28.4 |    | 24.4 | 125 | 03.3 |     | 42.9 |
| 20  | 251                                   | 44.8 | 165                                              | 51.7 |                                                   | 12.5 | 103                                               | 52.9 |                                                   | 11.6 | 81  | 30.4 |    | 24.3 | 140 | 05.5 |     | 42.9 |
| 21  | 266                                   | 47.2 | 180                                              | 52.0 |                                                   | 12.7 | 118                                               | 53.8 |                                                   | 11.0 | 96  | 32.4 |    | 24.1 | 155 | 07.6 |     | 42.8 |
| 22  | 281                                   | 49.7 | 195                                              | 52.3 |                                                   | 12.8 | 133                                               | 54.7 |                                                   | 10.5 | 111 | 34.4 |    | 23.9 | 170 | 09.7 |     | 42.8 |
| 23  | 296                                   | 52.2 | 210                                              | 52.6 |                                                   | 13.0 | 148                                               | 55.7 |                                                   | 10.0 | 126 | 36.5 |    | 23.7 | 185 | 11.8 |     | 42.7 |
| 24  | 311                                   | 54.6 | 225                                              | 52.9 | +19                                               | 13.2 | 163                                               | 56.6 | +14                                               | 09.4 | 141 | 38.5 | +5 | 23.5 | 200 | 14.0 | +21 | 42.7 |
| Dif | —                                     |      | +3                                               |      | +2                                                |      | +9                                                |      | -5                                                |      | +20 |      | -2 |      | +21 |      | 0   |      |

| UT  | SOL                                    |      |                                                  | ☾ LUNA                                                                                                  |     |                                                   | Latitud | Puesta de Sol       | Final del crepúsculo                              |       |         | Salida de Luna                                    |          | Puesta de Luna |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|---------------------|---------------------------------------------------|-------|---------|---------------------------------------------------|----------|----------------|-----|------|-----|------|
|     | SD: 15 <sup>h</sup> 8                  |      |                                                  | Edad: 16 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 58/9<br>12 <sup>h</sup> : 58/6<br>20 <sup>h</sup> : 58/3 |     |                                                   |         |                     | Final del crepúsculo                              |       |         | Salida de Luna                                    |          | Puesta de Luna |     |      |     |      |
|     | PMG: 12 <sup>h</sup> 06 <sup>m</sup> 1 |      |                                                  | SD: 16/1<br>PMG: 2 <sup>h</sup> 15 <sup>m</sup> R°: 48 <sup>m</sup>                                     |     |                                                   |         |                     | Final del crepúsculo                              |       |         | Salida de Luna                                    |          | Puesta de Luna |     |      |     |      |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                    | Dif | Dec                                               |         |                     | Dif                                               | Civil | Náutico | Hora                                              | R°       | Hora           | R°  |      |     |      |
| h   | °                                      | '    | °                                                | '                                                                                                       | °   | '                                                 | °       | '                   | h m                                               | h m   | h m     | h m m                                             | h m m    | h m m          |     |      |     |      |
| 0   | 178                                    | 27.5 | +17                                              | 28.3                                                                                                    | 327 | 19.1                                              | -10     | 59.7                | 60 N                                              | 20 25 | 21 23   | 23 12                                             | 21 31 1  | 7 19 96        |     |      |     |      |
| 1   | 193                                    | 27.5 |                                                  | 27.6                                                                                                    | 341 | 49.2 <sup>111</sup>                               |         | 44.5 <sup>152</sup> | 58                                                | 13    | 21 05   | 22 26                                             | 29 3     | 25 92          |     |      |     |      |
| 2   | 208                                    | 27.6 |                                                  | 27.0                                                                                                    | 356 | 19.3 <sup>111</sup>                               |         | 29.3 <sup>152</sup> | 56                                                | 20 03 | 20 50   | 21 59                                             | 26 7     | 30 88          |     |      |     |      |
| 3   | 223                                    | 27.6 |                                                  | 26.3                                                                                                    | 10  | 49.6 <sup>113</sup>                               | -10     | 14.0 <sup>153</sup> | 54                                                | 19 54 | 37      | 38                                                | 23 10    | 34 85          |     |      |     |      |
| 4   | 238                                    | 27.7 |                                                  | 25.7                                                                                                    | 25  | 20.0 <sup>114</sup>                               | -9      | 58.6 <sup>154</sup> | 52                                                | 46    | 27      | 21                                                | 21 12    | 38 82          |     |      |     |      |
| 5   | 253                                    | 27.8 | +17                                              | 25.0                                                                                                    | 39  | 50.4 <sup>114</sup>                               | -9      | 43.3 <sup>153</sup> | 50                                                | 19 39 | 20 17   | 21 07                                             | 21 19 14 | 7 41 80        |     |      |     |      |
| 6   | 268                                    | 27.8 | +17                                              | 24.4                                                                                                    | 54  | 21.0 <sup>116</sup>                               | -9      | 27.9 <sup>154</sup> | 45                                                | 19 24 | 19 57   | 20 39                                             | 21 15 19 | 7 49 74        |     |      |     |      |
| 7   | 283                                    | 27.9 |                                                  | 23.7                                                                                                    | 68  | 51.6 <sup>116</sup>                               | -9      | 12.5 <sup>154</sup> | 40                                                | 11    | 41      | 18                                                | 11 23    | 7 55 70        |     |      |     |      |
| 8   | 298                                    | 27.9 |                                                  | 23.0                                                                                                    | 83  | 22.3 <sup>117</sup>                               | -8      | 57.0 <sup>155</sup> | 35                                                | 19 01 | 28      | 20 02                                             | 08 27    | 8 00 66        |     |      |     |      |
| 9   | 313                                    | 28.0 |                                                  | 22.4                                                                                                    | 97  | 53.1 <sup>118</sup>                               |         | 41.6 <sup>154</sup> | 30                                                | 18 52 | 19 17   | 19 48                                             | 05 30    | 05 63          |     |      |     |      |
| 10  | 328                                    | 28.0 |                                                  | 21.7                                                                                                    | 112 | 24.0 <sup>119</sup>                               |         | 26.1 <sup>155</sup> | 20                                                | 36    | 18 59   | 27                                                | 21 00 36 | 13 57          |     |      |     |      |
| 11  | 343                                    | 28.1 | +17                                              | 21.1                                                                                                    | 126 | 55.0 <sup>120</sup>                               | -8      | 10.6 <sup>155</sup> | 10 N                                              | 18 22 | 18 44   | 19 10                                             | 20 56 40 | 8 20 52        |     |      |     |      |
| 12  | 358                                    | 28.1 | +17                                              | 20.4                                                                                                    | 141 | 26.1 <sup>121</sup>                               | -7      | 55.0 <sup>156</sup> | 0                                                 | 18 10 | 18 31   | 18 56                                             | 20 52 45 | 8 27 47        |     |      |     |      |
| 13  | 13                                     | 28.2 |                                                  | 19.7                                                                                                    | 155 | 57.2 <sup>121</sup>                               |         | 39.5 <sup>155</sup> | 10 S                                              | 17 57 | 19      | 44                                                | 48 50    | 33 42          |     |      |     |      |
| 14  | 28                                     | 28.2 |                                                  | 19.1                                                                                                    | 170 | 28.4 <sup>122</sup>                               |         | 23.9 <sup>156</sup> | 20                                                | 44    | 18 07   | 33                                                | 43 55    | 40 37          |     |      |     |      |
| 15  | 43                                     | 28.3 |                                                  | 18.4                                                                                                    | 184 | 59.7 <sup>123</sup>                               | -7      | 08.3 <sup>156</sup> | 30                                                | 29    | 17 54   | 23                                                | 38 61    | 48 31          |     |      |     |      |
| 16  | 58                                     | 28.4 |                                                  | 17.8                                                                                                    | 199 | 31.1 <sup>124</sup>                               | -6      | 52.7 <sup>156</sup> | 35                                                | 20    | 47      | 17                                                | 35 65    | 52 28          |     |      |     |      |
| 17  | 73                                     | 28.4 | +17                                              | 17.1                                                                                                    | 214 | 02.6 <sup>125</sup>                               | -6      | 37.1 <sup>156</sup> | 40                                                | 17 10 | 17 39   | 18 11                                             | 20 32 68 | 8 57 25        |     |      |     |      |
| 18  | 88                                     | 28.5 | +17                                              | 16.4                                                                                                    | 228 | 34.1 <sup>125</sup>                               | -6      | 21.5 <sup>156</sup> | 45                                                | 16 59 | 17 30   | 18 05                                             | 20 28 73 | 9 03 20        |     |      |     |      |
| 19  | 103                                    | 28.5 |                                                  | 15.8                                                                                                    | 243 | 05.7 <sup>126</sup>                               | -6      | 05.9 <sup>156</sup> | 50                                                | 45    | 20      | 17 59                                             | 24 77    | 10 15          |     |      |     |      |
| 20  | 118                                    | 28.6 |                                                  | 15.1                                                                                                    | 257 | 37.4 <sup>127</sup>                               | -5      | 50.2 <sup>157</sup> | 52                                                | 38    | 15      | 56                                                | 22 80    | 13 13          |     |      |     |      |
| 21  | 133                                    | 28.6 |                                                  | 14.4                                                                                                    | 272 | 09.1 <sup>127</sup>                               |         | 34.6 <sup>156</sup> | 54                                                | 31    | 10      | 53                                                | 19 83    | 16 10          |     |      |     |      |
| 22  | 148                                    | 28.7 |                                                  | 13.8                                                                                                    | 286 | 40.9 <sup>128</sup>                               |         | 18.9 <sup>157</sup> | 56                                                | 23    | 17 05   | 50                                                | 17 86    | 20 7           |     |      |     |      |
| 23  | 163                                    | 28.7 |                                                  | 13.1                                                                                                    | 301 | 12.8 <sup>129</sup>                               | -5      | 03.3 <sup>156</sup> | 58                                                | 14    | 16 58   | 46                                                | 14 89    | 24 4           |     |      |     |      |
| 24  | 178                                    | 28.8 | +17                                              | 12.5                                                                                                    | 315 | 44.8 <sup>130</sup>                               | -4      | 47.6 <sup>157</sup> | 60 S                                              | 16 04 | 16 51   | 17 42                                             | 20 11 93 | 9 29 1         |     |      |     |      |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                         |     | MARTE                                             |         |                     | JÚPITER                                           |       |         | SATURNO                                           |          |                |     |      |     |      |
|     | PMG: 3 <sup>h</sup> 11 <sup>m</sup> 8  |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 56 <sup>m</sup> |                                                                                                         |     | Mag: +1.8<br>PMG: 13 <sup>h</sup> 03 <sup>m</sup> |         |                     | Mag: -1.8<br>PMG: 14 <sup>h</sup> 31 <sup>m</sup> |       |         | Mag: +0.2<br>PMG: 10 <sup>h</sup> 38 <sup>m</sup> |          |                |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec                                                                                                     |     | hG ♂                                              | Dec     |                     | hG ♃                                              | Dec   |         | hG ♄                                              | Dec      |                |     |      |     |      |
| h   | °                                      | '    | °                                                | '                                                                                                       | °   | '                                                 | °       | '                   | °                                                 | '     | °       | '                                                 | °        | '              |     |      |     |      |
| 0   | 311                                    | 54.6 | 225                                              | 52.9                                                                                                    | +19 | 13.2                                              | 163     | 56.6                | +14                                               | 09.4  | 141     | 38.5                                              | +5       | 23.5           | 200 | 14.0 | +21 | 42.7 |
| 1   | 326                                    | 57.1 | 240                                              | 53.2                                                                                                    |     | 13.4                                              | 178     | 57.5                |                                                   | 08.9  | 156     | 40.5                                              |          | 23.3           | 215 | 16.1 |     | 42.6 |
| 2   | 341                                    | 59.6 | 255                                              | 53.6                                                                                                    |     | 13.6                                              | 193     | 58.5                |                                                   | 08.3  | 171     | 42.5                                              |          | 23.1           | 230 | 18.2 |     | 42.6 |
| 3   | 357                                    | 02.0 | 270                                              | 53.9                                                                                                    |     | 13.8                                              | 208     | 59.4                |                                                   | 07.8  | 186     | 44.6                                              |          | 22.9           | 245 | 20.4 |     | 42.6 |
| 4   | 12                                     | 04.5 | 285                                              | 54.2                                                                                                    |     | 14.0                                              | 224     | 00.3                |                                                   | 07.3  | 201     | 46.6                                              |          | 22.7           | 260 | 22.5 |     | 42.5 |
| 5   | 27                                     | 07.0 | 300                                              | 54.5                                                                                                    | +19 | 14.2                                              | 239     | 01.3                | +14                                               | 06.7  | 216     | 48.6                                              | +5       | 22.6           | 275 | 24.6 | +21 | 42.5 |
| 6   | 42                                     | 09.4 | 315                                              | 54.8                                                                                                    | +19 | 14.4                                              | 254     | 02.2                | +14                                               | 06.2  | 231     | 50.6                                              | +5       | 22.4           | 290 | 26.8 | +21 | 42.4 |
| 7   | 57                                     | 11.9 | 330                                              | 55.1                                                                                                    |     | 14.6                                              | 269     | 03.1                |                                                   | 05.6  | 246     | 52.7                                              |          | 22.2           | 305 | 28.9 |     | 42.4 |
| 8   | 72                                     | 14.3 | 345                                              | 55.4                                                                                                    |     | 14.7                                              | 284     | 04.1                |                                                   | 05.1  | 261     | 54.7                                              |          | 22.0           | 320 | 31.0 |     | 42.4 |
| 9   | 87                                     | 16.8 | 0                                                | 55.7                                                                                                    |     | 14.9                                              | 299     | 05.0                |                                                   | 04.6  | 276     | 56.7                                              |          | 21.8           | 335 | 33.2 |     | 42.3 |
| 10  | 102                                    | 19.3 | 15                                               | 56.0                                                                                                    |     | 15.1                                              | 314     | 05.9                |                                                   | 04.0  | 291     | 58.7                                              |          | 21.6           | 350 | 35.3 |     | 42.3 |
| 11  | 117                                    | 21.7 | 30                                               | 56.3                                                                                                    | +19 | 15.3                                              | 329     | 06.9                | +14                                               | 03.5  | 307     | 00.8                                              | +5       | 21.4           | 5   | 37.4 | +21 | 42.2 |
| 12  | 132                                    | 24.2 | 45                                               | 56.6                                                                                                    | +19 | 15.5                                              | 344     | 07.8                | +14                                               | 02.9  | 322     | 02.8                                              | +5       | 21.2           | 20  | 39.6 | +21 | 42.2 |
| 13  | 147                                    | 26.7 | 60                                               | 56.9                                                                                                    |     | 15.7                                              | 359     | 08.8                |                                                   | 02.4  | 337     | 04.8                                              |          | 21.0           | 35  | 41.7 |     | 42.1 |
| 14  | 162                                    | 29.1 | 75                                               | 57.2                                                                                                    |     | 15.9                                              | 14      | 09.7                |                                                   | 01.8  | 352     | 06.8                                              |          | 20.8           | 50  | 43.8 |     | 42.1 |
| 15  | 177                                    | 31.6 | 90                                               | 57.4                                                                                                    |     | 16.1                                              | 29      | 10.6                |                                                   | 01.3  | 7       | 08.9                                              |          | 20.7           | 65  | 46.0 |     | 42.1 |
| 16  | 192                                    | 34.1 | 105                                              | 57.7                                                                                                    |     | 16.2                                              | 44      | 11.6                |                                                   | 00.8  | 22      | 10.9                                              |          | 20.5           | 80  | 48.1 |     | 42.0 |
| 17  | 207                                    | 36.5 | 120                                              | 58.0                                                                                                    | +19 | 16.4                                              | 59      | 12.5                | +14                                               | 00.2  | 37      | 12.9                                              | +5       | 20.3           | 95  | 50.2 | +21 | 42.0 |
| 18  | 222                                    | 39.0 | 135                                              | 58.3                                                                                                    | +19 | 16.6                                              | 74      | 13.4                | +13                                               | 59.7  | 52      | 14.9                                              | +5       | 20.1           | 110 | 52.4 | +21 | 41.9 |
| 19  | 237                                    | 41.5 | 150                                              | 58.6                                                                                                    |     | 16.8                                              | 89      | 14.4                |                                                   | 59.1  | 67      | 17.0                                              |          | 19.9           | 125 | 54.5 |     | 41.9 |
| 20  | 252                                    | 43.9 | 165                                              | 58.9                                                                                                    |     | 17.0                                              | 104     | 15.3                |                                                   | 58.6  | 82      | 19.0                                              |          | 19.7           | 140 | 56.6 |     | 41.8 |
| 21  | 267                                    | 46.4 | 180                                              | 59.2                                                                                                    |     | 17.2                                              | 119     | 16.2                |                                                   | 58.0  | 97      | 21.0                                              |          | 19.5           | 155 | 58.8 |     | 41.8 |
| 22  | 282                                    | 48.8 | 195                                              | 59.4                                                                                                    |     | 17.4                                              | 134     | 17.2                |                                                   | 57.5  | 112     | 23.0                                              |          | 19.3           | 171 | 00.9 |     | 41.8 |
| 23  | 297                                    | 51.3 | 210                                              | 59.7                                                                                                    |     | 17.5                                              | 149     | 18.1                |                                                   | 57.0  | 127     | 25.1                                              |          | 19.1           | 186 | 03.1 |     | 41.7 |
| 24  | 312                                    | 53.8 | 226                                              | 00.0                                                                                                    | +19 | 17.7                                              | 164     | 19.0                | +13                                               | 56.4  | 142     | 27.1                                              | +5       | 18.9           | 201 | 05.2 | +21 | 41.7 |
| Dif | —                                      |      | +3                                               |                                                                                                         | +2  |                                                   | +9      |                     | -5                                                |       | +20     |                                                   | -2       |                | +21 |      | 0   |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                              |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |      |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|------|----|
|    | SD: 15'8<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> 0 |      |     | Edad: 17 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 58'0<br>12 <sup>h</sup> : 57'7<br>20 <sup>h</sup> : 57'4<br>SD: 15'8<br>PMG: 3 <sup>h</sup> 03 <sup>m</sup> R°: 45 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |      |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°   |    |
| h  | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m    | h    | m  |
| 0  | 178                                                | 28.8 | +17 | 12.5                                                                                                                                                                              | 315 | 44.8                | -4      | 47.6                     | 60 N    | 1 01          | 2 50           | 3 48 | 21 32          | 0    | 8 55 | 92 |
| 1  | 193                                                | 28.9 |     | 11.8                                                                                                                                                                              | 330 | 16.8 <sup>130</sup> |         | 32.0 <sup>156</sup>      | 58      | 1 46          | 3 08           | 4 00 | 32             | 4    | 57   | 87 |
| 2  | 208                                                | 28.9 |     | 11.1                                                                                                                                                                              | 344 | 48.8 <sup>130</sup> |         | 16.3 <sup>157</sup>      | 56      | 2 14          | 23             | 10   | 33             | 6    | 58   | 84 |
| 3  | 223                                                | 29.0 |     | 10.5                                                                                                                                                                              | 359 | 21.0 <sup>132</sup> | -4      | 00.6 <sup>157</sup>      | 54      | 35            | 35             | 19   | 33             | 9    | 8 59 | 82 |
| 4  | 238                                                | 29.0 |     | 09.8                                                                                                                                                                              | 13  | 53.2 <sup>132</sup> | -3      | 45.0 <sup>156</sup>      | 52      | 2 52          | 46             | 27   | 33             | 12   | 9 00 | 79 |
| 5  | 253                                                | 29.1 | +17 | 09.1                                                                                                                                                                              | 28  | 25.5 <sup>133</sup> | -3      | 29.3 <sup>157</sup>      | 50      | 3 06          | 3 56           | 4 34 | 21 33          | 14   | 9 01 | 77 |
| 6  | 268                                                | 29.2 | +17 | 08.4                                                                                                                                                                              | 42  | 57.8 <sup>133</sup> | -3      | 13.7 <sup>156</sup>      | 45      | 3 34          | 4 16           | 4 49 | 21 34          | 18   | 9 03 | 71 |
| 7  | 283                                                | 29.2 |     | 07.8                                                                                                                                                                              | 57  | 30.2 <sup>134</sup> | -2      | 58.1 <sup>156</sup>      | 40      | 3 54          | 31             | 5 01 | 34             | 23   | 05   | 67 |
| 8  | 298                                                | 29.3 |     | 07.1                                                                                                                                                                              | 72  | 02.6 <sup>134</sup> |         | 42.4 <sup>157</sup>      | 35      | 4 11          | 44             | 12   | 35             | 26   | 06   | 63 |
| 9  | 313                                                | 29.3 |     | 06.4                                                                                                                                                                              | 86  | 35.1 <sup>135</sup> |         | 26.8 <sup>156</sup>      | 30      | 24            | 4 55           | 21   | 35             | 29   | 08   | 59 |
| 10 | 328                                                | 29.4 |     | 05.8                                                                                                                                                                              | 101 | 07.6 <sup>135</sup> | -2      | 11.2 <sup>156</sup>      | 20      | 4 46          | 5 13           | 37   | 36             | 34   | 10   | 54 |
| 11 | 343                                                | 29.5 | +17 | 05.1                                                                                                                                                                              | 115 | 40.2 <sup>136</sup> | -1      | 55.6 <sup>156</sup>      | 10 N    | 5 02          | 5 28           | 5 50 | 21 36          | 40   | 9 12 | 49 |
| 12 | 358                                                | 29.5 | +17 | 04.4                                                                                                                                                                              | 130 | 12.9 <sup>137</sup> | -1      | 40.0 <sup>156</sup>      | 0       | 5 16          | 5 41           | 6 03 | 21 37          | 44   | 9 14 | 44 |
| 13 | 13                                                 | 29.6 |     | 03.8                                                                                                                                                                              | 144 | 45.6 <sup>137</sup> |         | 24.4 <sup>156</sup>      | 10 S    | 28            | 5 53           | 15   | 38             | 48   | 15   | 40 |
| 14 | 28                                                 | 29.6 |     | 03.1                                                                                                                                                                              | 159 | 18.3 <sup>137</sup> | -1      | 08.9 <sup>155</sup>      | 20      | 39            | 6 05           | 28   | 38             | 53   | 17   | 35 |
| 15 | 43                                                 | 29.7 |     | 02.4                                                                                                                                                                              | 173 | 51.1 <sup>138</sup> | -0      | 53.3 <sup>156</sup>      | 30      | 49            | 18             | 43   | 39             | 59   | 19   | 30 |
| 16 | 58                                                 | 29.8 |     | 01.7                                                                                                                                                                              | 188 | 24.0 <sup>139</sup> |         | 37.8 <sup>155</sup>      | 35      | 5 55          | 25             | 6 52 | 40             | 61   | 20   | 27 |
| 17 | 73                                                 | 29.8 | +17 | 01.1                                                                                                                                                                              | 202 | 56.8 <sup>138</sup> | -0      | 22.3 <sup>155</sup>      | 40      | 6 00          | 6 33           | 7 01 | 21 40          | 66   | 9 22 | 22 |
| 18 | 88                                                 | 29.9 | +17 | 00.4                                                                                                                                                                              | 217 | 29.8 <sup>140</sup> | -0      | 06.8 <sup>155</sup>      | 45      | 6 06          | 6 41           | 7 13 | 21 41          | 70   | 9 23 | 19 |
| 19 | 103                                                | 30.0 | +16 | 59.7                                                                                                                                                                              | 232 | 02.7 <sup>139</sup> | +0      | 08.6 <sup>154</sup>      | 50      | 13            | 52             | 26   | 41             | 75   | 25   | 14 |
| 20 | 118                                                | 30.0 |     | 59.0                                                                                                                                                                              | 246 | 35.7 <sup>140</sup> |         | 24.1 <sup>155</sup>      | 52      | 16            | 6 56           | 33   | 42             | 77   | 26   | 11 |
| 21 | 133                                                | 30.1 |     | 58.4                                                                                                                                                                              | 261 | 08.8 <sup>141</sup> |         | 39.5 <sup>154</sup>      | 54      | 18            | 7 01           | 40   | 42             | 80   | 26   | 10 |
| 22 | 148                                                | 30.1 |     | 57.7                                                                                                                                                                              | 275 | 41.9 <sup>141</sup> | +0      | 54.9 <sup>154</sup>      | 56      | 22            | 07             | 48   | 43             | 83   | 27   | 7  |
| 23 | 163                                                | 30.2 |     | 57.0                                                                                                                                                                              | 290 | 15.0 <sup>141</sup> | +1      | 10.3 <sup>154</sup>      | 58      | 25            | 13             | 7 57 | 43             | 86   | 28   | 4  |
| 24 | 178                                                | 30.3 | +16 | 56.3                                                                                                                                                                              | 304 | 48.1 <sup>141</sup> | +1      | 25.6 <sup>153</sup>      | 60 S    | 6 29          | 7 19           | 8 07 | 21 44          | 89   | 9 30 | 0  |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 3 <sup>h</sup> 07 <sup>m</sup> 9 |      | Mag: -4.6<br>PMG: 8 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.8<br>PMG: 13 <sup>h</sup> 02 <sup>m</sup> |      | Mag: -1.7<br>PMG: 14 <sup>h</sup> 28 <sup>m</sup> |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 34 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 312                                   | 53.8 | 226                                              | 00.0 | +19                                               | 17.7 | 164                                               | 19.0 | +13                                               | 56.4 | 142 | 27.1 | +5 | 18.9 | 201 | 05.2 | +21 | 41.7 |
| 1   | 327                                   | 56.2 | 241                                              | 00.3 |                                                   | 17.9 | 179                                               | 20.0 |                                                   | 55.9 | 157 | 29.1 |    | 18.7 | 216 | 07.3 |     | 41.6 |
| 2   | 342                                   | 58.7 | 256                                              | 00.5 |                                                   | 18.1 | 194                                               | 20.9 |                                                   | 55.3 | 172 | 31.1 |    | 18.6 | 231 | 09.5 |     | 41.6 |
| 3   | 358                                   | 01.2 | 271                                              | 00.8 |                                                   | 18.3 | 209                                               | 21.8 |                                                   | 54.8 | 187 | 33.2 |    | 18.4 | 246 | 11.6 |     | 41.5 |
| 4   | 13                                    | 03.6 | 286                                              | 01.1 |                                                   | 18.4 | 224                                               | 22.8 |                                                   | 54.2 | 202 | 35.2 |    | 18.2 | 261 | 13.7 |     | 41.5 |
| 5   | 28                                    | 06.1 | 301                                              | 01.4 | +19                                               | 18.6 | 239                                               | 23.7 | +13                                               | 53.7 | 217 | 37.2 | +5 | 18.0 | 276 | 15.9 | +21 | 41.5 |
| 6   | 43                                    | 08.6 | 316                                              | 01.6 | +19                                               | 18.8 | 254                                               | 24.6 | +13                                               | 53.1 | 232 | 39.2 | +5 | 17.8 | 291 | 18.0 | +21 | 41.4 |
| 7   | 58                                    | 11.0 | 331                                              | 01.9 |                                                   | 19.0 | 269                                               | 25.6 |                                                   | 52.6 | 247 | 41.2 |    | 17.6 | 306 | 20.1 |     | 41.4 |
| 8   | 73                                    | 13.5 | 346                                              | 02.2 |                                                   | 19.2 | 284                                               | 26.5 |                                                   | 52.1 | 262 | 43.3 |    | 17.4 | 321 | 22.3 |     | 41.3 |
| 9   | 88                                    | 16.0 | 1                                                | 02.4 |                                                   | 19.4 | 299                                               | 27.5 |                                                   | 51.5 | 277 | 45.3 |    | 17.2 | 336 | 24.4 |     | 41.3 |
| 10  | 103                                   | 18.4 | 16                                               | 02.7 |                                                   | 19.5 | 314                                               | 28.4 |                                                   | 51.0 | 292 | 47.3 |    | 17.0 | 351 | 26.5 |     | 41.2 |
| 11  | 118                                   | 20.9 | 31                                               | 03.0 | +19                                               | 19.7 | 329                                               | 29.3 | +13                                               | 50.4 | 307 | 49.3 | +5 | 16.8 | 6   | 28.7 | +21 | 41.2 |
| 12  | 133                                   | 23.3 | 46                                               | 03.2 | +19                                               | 19.9 | 344                                               | 30.3 | +13                                               | 49.9 | 322 | 51.4 | +5 | 16.6 | 21  | 30.8 | +21 | 41.2 |
| 13  | 148                                   | 25.8 | 61                                               | 03.5 |                                                   | 20.1 | 359                                               | 31.2 |                                                   | 49.3 | 337 | 53.4 |    | 16.5 | 36  | 32.9 |     | 41.1 |
| 14  | 163                                   | 28.3 | 76                                               | 03.7 |                                                   | 20.3 | 14                                                | 32.1 |                                                   | 48.8 | 352 | 55.4 |    | 16.3 | 51  | 35.1 |     | 41.1 |
| 15  | 178                                   | 30.7 | 91                                               | 04.0 |                                                   | 20.4 | 29                                                | 33.1 |                                                   | 48.2 | 7   | 57.4 |    | 16.1 | 66  | 37.2 |     | 41.0 |
| 16  | 193                                   | 33.2 | 106                                              | 04.3 |                                                   | 20.6 | 44                                                | 34.0 |                                                   | 47.7 | 22  | 59.4 |    | 15.9 | 81  | 39.3 |     | 41.0 |
| 17  | 208                                   | 35.7 | 121                                              | 04.5 | +19                                               | 20.8 | 59                                                | 35.0 | +13                                               | 47.1 | 38  | 01.5 | +5 | 15.7 | 96  | 41.5 | +21 | 41.0 |
| 18  | 223                                   | 38.1 | 136                                              | 04.8 | +19                                               | 21.0 | 74                                                | 35.9 | +13                                               | 46.6 | 53  | 03.5 | +5 | 15.5 | 111 | 43.6 | +21 | 40.9 |
| 19  | 238                                   | 40.6 | 151                                              | 05.0 |                                                   | 21.1 | 89                                                | 36.8 |                                                   | 46.0 | 68  | 05.5 |    | 15.3 | 126 | 45.7 |     | 40.9 |
| 20  | 253                                   | 43.1 | 166                                              | 05.3 |                                                   | 21.3 | 104                                               | 37.8 |                                                   | 45.5 | 83  | 07.5 |    | 15.1 | 141 | 47.9 |     | 40.8 |
| 21  | 268                                   | 45.5 | 181                                              | 05.5 |                                                   | 21.5 | 119                                               | 38.7 |                                                   | 45.0 | 98  | 09.6 |    | 14.9 | 156 | 50.0 |     | 40.8 |
| 22  | 283                                   | 48.0 | 196                                              | 05.8 |                                                   | 21.7 | 134                                               | 39.6 |                                                   | 44.4 | 113 | 11.6 |    | 14.7 | 171 | 52.1 |     | 40.7 |
| 23  | 298                                   | 50.4 | 211                                              | 06.0 |                                                   | 21.9 | 149                                               | 40.6 |                                                   | 43.9 | 128 | 13.6 |    | 14.5 | 186 | 54.3 |     | 40.7 |
| 24  | 313                                   | 52.9 | 226                                              | 06.3 | +19                                               | 22.0 | 164                                               | 41.5 | +13                                               | 43.3 | 143 | 15.6 | +5 | 14.4 | 201 | 56.4 | +21 | 40.7 |
| Dif | —                                     |      | +3                                               |      | +2                                                |      | +9                                                |      | -5                                                |      | +20 |      | -2 |      | +21 |      |     |      |

| UT  | SOL                                                |      |                                                  | LUNA                                                                                                                                                                                   |                                                   |                        | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna |          | Puesta de Luna |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------|---------------------------------------------------|---------------|---------------------------------------------------|----------|----------------|----------|----------------|------|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 9 |      |                                                  | Edad: 18 <sup>d</sup> 5 PHE {<br>SD: 15'6<br>PMG: 3 <sup>h</sup> 48 <sup>m</sup> {<br>4 <sup>h</sup> : 57'1<br>12 <sup>h</sup> : 56'8<br>20 <sup>h</sup> : 56'5<br>R°: 43 <sup>m</sup> |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                                   | Dif                                               | Dec                    |                                                   |               | Dif                                               | Civil    | Náutico        | Hora     | R°             | Hora |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                      | °                                                 | '                      | °                                                 | h m           | h m                                               | h m      | h m m          | h m m    | h m m          |      |
| 0   | 178                                                | 30.3 | +16 56.3                                         | 304                                                                                                                                                                                    | 48.1                                              | +1 25.6                | 60 N                                              | 20 19         | 21 16                                             | 22 55    | 21 32 1        | 10 27 89 |                |      |
| 1   | 193                                                | 30.3 | 55.6                                             | 319                                                                                                                                                                                    | 21.3 <sup>142</sup>                               | 40.9 <sup>153</sup>    | 58                                                | 20 08         | 20 59                                             | 22 17    | 36 4           | 24 86    |                |      |
| 2   | 208                                                | 30.4 | 55.0                                             | 333                                                                                                                                                                                    | 54.6 <sup>143</sup>                               | +1 56.2 <sup>153</sup> | 56                                                | 19 59         | 45                                                | 21 51    | 39 7           | 22 83    |                |      |
| 3   | 223                                                | 30.5 | 54.3                                             | 348                                                                                                                                                                                    | 27.8 <sup>142</sup>                               | +2 11.5 <sup>153</sup> | 54                                                | 50            | 33                                                | 32       | 42 10          | 21 77    |                |      |
| 4   | 238                                                | 30.5 | 53.6                                             | 3                                                                                                                                                                                      | 01.1 <sup>143</sup>                               | 26.7 <sup>152</sup>    | 52                                                | 42            | 23                                                | 16       | 45 12          | 19 77    |                |      |
| 5   | 253                                                | 30.6 | +16 52.9                                         | 17                                                                                                                                                                                     | 34.4 <sup>143</sup>                               | +2 41.9 <sup>152</sup> | 50                                                | 19 36         | 20 13                                             | 21 02    | 21 47 15       | 10 18 74 |                |      |
| 6   | 268                                                | 30.7 | +16 52.3                                         | 32                                                                                                                                                                                     | 07.7 <sup>143</sup>                               | +2 57.1 <sup>152</sup> | 45                                                | 19 21         | 19 54                                             | 20 35    | 21 52 20       | 10 14 70 |                |      |
| 7   | 283                                                | 30.7 | 51.6                                             | 46                                                                                                                                                                                     | 41.1 <sup>144</sup>                               | +3 12.2 <sup>151</sup> | 40                                                | 19 09         | 39                                                | 20 15    | 21 57 23       | 12 65    |                |      |
| 8   | 298                                                | 30.8 | 50.9                                             | 61                                                                                                                                                                                     | 14.5 <sup>144</sup>                               | 27.3 <sup>151</sup>    | 35                                                | 18 59         | 26                                                | 19 59    | 22 01 26       | 09 62    |                |      |
| 9   | 313                                                | 30.9 | 50.2                                             | 75                                                                                                                                                                                     | 47.9 <sup>144</sup>                               | 42.4 <sup>151</sup>    | 30                                                | 50            | 19 16                                             | 46       | 04 30          | 07 59    |                |      |
| 10  | 328                                                | 30.9 | 49.5                                             | 90                                                                                                                                                                                     | 21.4 <sup>145</sup>                               | +3 57.4 <sup>150</sup> | 20                                                | 35            | 18 58                                             | 25       | 10 35          | 04 53    |                |      |
| 11  | 343                                                | 31.0 | +16 48.8                                         | 104                                                                                                                                                                                    | 54.8 <sup>144</sup>                               | +4 12.4 <sup>150</sup> | 10 N                                              | 18 22         | 18 44                                             | 19 09    | 22 16 39       | 10 01 48 |                |      |
| 12  | 358                                                | 31.1 | +16 48.2                                         | 119                                                                                                                                                                                    | 28.3 <sup>145</sup>                               | +4 27.3 <sup>149</sup> | 0                                                 | 18 09         | 18 31                                             | 18 56    | 22 21 43       | 9 58 44  |                |      |
| 13  | 13                                                 | 31.1 | 47.5                                             | 134                                                                                                                                                                                    | 01.8 <sup>145</sup>                               | 42.3 <sup>150</sup>    | 10 S                                              | 17 57         | 19                                                | 44       | 26 48          | 55 39    |                |      |
| 14  | 28                                                 | 31.2 | 46.8                                             | 148                                                                                                                                                                                    | 35.3 <sup>145</sup>                               | +4 57.1 <sup>148</sup> | 20                                                | 44            | 18 07                                             | 34       | 31 53          | 52 35    |                |      |
| 15  | 43                                                 | 31.3 | 46.1                                             | 163                                                                                                                                                                                    | 08.9 <sup>146</sup>                               | +5 12.0 <sup>149</sup> | 30                                                | 30            | 17 55                                             | 24       | 38 57          | 49 29    |                |      |
| 16  | 58                                                 | 31.3 | 45.4                                             | 177                                                                                                                                                                                    | 42.4 <sup>145</sup>                               | 26.8 <sup>148</sup>    | 35                                                | 22            | 48                                                | 18       | 41 61          | 47 26    |                |      |
| 17  | 73                                                 | 31.4 | +16 44.7                                         | 192                                                                                                                                                                                    | 16.0 <sup>146</sup>                               | +5 41.5 <sup>147</sup> | 40                                                | 17 12         | 17 41                                             | 18 13    | 22 46 64       | 9 44 23  |                |      |
| 18  | 88                                                 | 31.5 | +16 44.1                                         | 206                                                                                                                                                                                    | 49.5 <sup>145</sup>                               | +5 56.2 <sup>147</sup> | 45                                                | 17 01         | 17 32                                             | 18 07    | 22 51 68       | 9 42 19  |                |      |
| 19  | 103                                                | 31.5 | 43.4                                             | 221                                                                                                                                                                                    | 23.1 <sup>146</sup>                               | +6 10.9 <sup>147</sup> | 50                                                | 16 48         | 22                                                | 18 01    | 56 74          | 39 14    |                |      |
| 20  | 118                                                | 31.6 | 42.7                                             | 235                                                                                                                                                                                    | 56.7 <sup>146</sup>                               | 25.5 <sup>146</sup>    | 52                                                | 41            | 18                                                | 17 59    | 22 59 76       | 37 12    |                |      |
| 21  | 133                                                | 31.7 | 42.0                                             | 250                                                                                                                                                                                    | 30.3 <sup>146</sup>                               | 40.1 <sup>146</sup>    | 54                                                | 34            | 13                                                | 56       | 23 02 79       | 36 9     |                |      |
| 22  | 148                                                | 31.7 | 41.3                                             | 265                                                                                                                                                                                    | 04.0 <sup>147</sup>                               | +6 54.6 <sup>145</sup> | 56                                                | 27            | 08                                                | 53       | 06 81          | 34 7     |                |      |
| 23  | 163                                                | 31.8 | 40.6                                             | 279                                                                                                                                                                                    | 37.6 <sup>146</sup>                               | +7 09.1 <sup>145</sup> | 58                                                | 18            | 17 02                                             | 49       | 09 85          | 32 4     |                |      |
| 24  | 178                                                | 31.9 | +16 39.9                                         | 294                                                                                                                                                                                    | 11.2 <sup>146</sup>                               | +7 23.5 <sup>144</sup> | 60 S                                              | 16 08         | 16 55                                             | 17 46    | 23 13 89       | 9 30 1   |                |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                                        | MARTE                                             |                        | JÚPITER                                           |               | SATURNO                                           |          |                |          |                |      |
|     | PMG: 3 <sup>h</sup> 04 <sup>m</sup> 0              |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |                                                                                                                                                                                        | Mag: +1.8<br>PMG: 13 <sup>h</sup> 00 <sup>m</sup> |                        | Mag: -1.7<br>PMG: 14 <sup>h</sup> 25 <sup>m</sup> |               | Mag: +0.2<br>PMG: 10 <sup>h</sup> 31 <sup>m</sup> |          |                |          |                |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                                    | hG ♂                                              | Dec                    | hG ♃                                              | Dec           | hG ♄                                              | Dec      |                |          |                |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                      | °                                                 | '                      | °                                                 | '             | °                                                 | '        |                |          |                |      |
| 0   | 313                                                | 52.9 | 226 06.3                                         | +19 22.0                                                                                                                                                                               | 164 41.5                                          | +13 43.3               | 143 15.6                                          | +5 14.4       | 201 56.4                                          | +21 40.7 |                |          |                |      |
| 1   | 328                                                | 55.4 | 241 06.5                                         | 22.2                                                                                                                                                                                   | 179 42.5                                          | 42.8                   | 158 17.6                                          | 14.2          | 216 58.6                                          | 40.6     |                |          |                |      |
| 2   | 343                                                | 57.8 | 256 06.7                                         | 22.4                                                                                                                                                                                   | 194 43.4                                          | 42.2                   | 173 19.7                                          | 14.0          | 232 00.7                                          | 40.6     |                |          |                |      |
| 3   | 359                                                | 00.3 | 271 07.0                                         | 22.6                                                                                                                                                                                   | 209 44.3                                          | 41.7                   | 188 21.7                                          | 13.8          | 247 02.8                                          | 40.5     |                |          |                |      |
| 4   | 14                                                 | 02.8 | 286 07.2                                         | 22.7                                                                                                                                                                                   | 224 45.3                                          | 41.1                   | 203 23.7                                          | 13.6          | 262 05.0                                          | 40.5     |                |          |                |      |
| 5   | 29                                                 | 05.2 | 301 07.5                                         | +19 22.9                                                                                                                                                                               | 239 46.2                                          | +13 40.6               | 218 25.7                                          | +5 13.4       | 277 07.1                                          | +21 40.4 |                |          |                |      |
| 6   | 44                                                 | 07.7 | 316 07.7                                         | +19 23.1                                                                                                                                                                               | 254 47.1                                          | +13 40.0               | 233 27.7                                          | +5 13.2       | 292 09.2                                          | +21 40.4 |                |          |                |      |
| 7   | 59                                                 | 10.2 | 331 07.9                                         | 23.2                                                                                                                                                                                   | 269 48.1                                          | 39.5                   | 248 29.8                                          | 13.0          | 307 11.4                                          | 40.4     |                |          |                |      |
| 8   | 74                                                 | 12.6 | 346 08.2                                         | 23.4                                                                                                                                                                                   | 284 49.0                                          | 38.9                   | 263 31.8                                          | 12.8          | 322 13.5                                          | 40.3     |                |          |                |      |
| 9   | 89                                                 | 15.1 | 1 08.4                                           | 23.6                                                                                                                                                                                   | 299 50.0                                          | 38.4                   | 278 33.8                                          | 12.6          | 337 15.6                                          | 40.3     |                |          |                |      |
| 10  | 104                                                | 17.6 | 16 08.6                                          | 23.8                                                                                                                                                                                   | 314 50.9                                          | 37.8                   | 293 35.8                                          | 12.4          | 352 17.8                                          | 40.2     |                |          |                |      |
| 11  | 119                                                | 20.0 | 31 08.9                                          | +19 23.9                                                                                                                                                                               | 329 51.8                                          | +13 37.3               | 308 37.8                                          | +5 12.2       | 7 19.9                                            | +21 40.2 |                |          |                |      |
| 12  | 134                                                | 22.5 | 46 09.1                                          | +19 24.1                                                                                                                                                                               | 344 52.8                                          | +13 36.7               | 323 39.9                                          | +5 12.0       | 22 22.0                                           | +21 40.1 |                |          |                |      |
| 13  | 149                                                | 24.9 | 61 09.3                                          | 24.3                                                                                                                                                                                   | 359 53.7                                          | 36.2                   | 338 41.9                                          | 11.9          | 37 24.2                                           | 40.1     |                |          |                |      |
| 14  | 164                                                | 27.4 | 76 09.5                                          | 24.5                                                                                                                                                                                   | 14 54.7                                           | 35.6                   | 353 43.9                                          | 11.7          | 52 26.3                                           | 40.1     |                |          |                |      |
| 15  | 179                                                | 29.9 | 91 09.8                                          | 24.6                                                                                                                                                                                   | 29 55.6                                           | 35.1                   | 8 45.9                                            | 11.5          | 67 28.5                                           | 40.0     |                |          |                |      |
| 16  | 194                                                | 32.3 | 106 10.0                                         | 24.8                                                                                                                                                                                   | 44 56.5                                           | 34.5                   | 23 47.9                                           | 11.3          | 82 30.6                                           | 40.0     |                |          |                |      |
| 17  | 209                                                | 34.8 | 121 10.2                                         | +19 25.0                                                                                                                                                                               | 59 57.5                                           | +13 34.0               | 38 50.0                                           | +5 11.1       | 97 32.7                                           | +21 39.9 |                |          |                |      |
| 18  | 224                                                | 37.3 | 136 10.4                                         | +19 25.1                                                                                                                                                                               | 74 58.4                                           | +13 33.4               | 53 52.0                                           | +5 10.9       | 112 34.9                                          | +21 39.9 |                |          |                |      |
| 19  | 239                                                | 39.7 | 151 10.7                                         | 25.3                                                                                                                                                                                   | 89 59.4                                           | 32.9                   | 68 54.0                                           | 10.7          | 127 37.0                                          | 39.8     |                |          |                |      |
| 20  | 254                                                | 42.2 | 166 10.9                                         | 25.5                                                                                                                                                                                   | 105 00.3                                          | 32.3                   | 83 56.0                                           | 10.5          | 142 39.1                                          | 39.8     |                |          |                |      |
| 21  | 269                                                | 44.7 | 181 11.1                                         | 25.6                                                                                                                                                                                   | 120 01.2                                          | 31.8                   | 98 58.0                                           | 10.3          | 157 41.3                                          | 39.8     |                |          |                |      |
| 22  | 284                                                | 47.1 | 196 11.3                                         | 25.8                                                                                                                                                                                   | 135 02.2                                          | 31.2                   | 114 00.1                                          | 10.1          | 172 43.4                                          | 39.7     |                |          |                |      |
| 23  | 299                                                | 49.6 | 211 11.5                                         | 26.0                                                                                                                                                                                   | 150 03.1                                          | 30.7                   | 129 02.1                                          | 09.9          | 187 45.5                                          | 39.7     |                |          |                |      |
| 24  | 314                                                | 52.0 | 226 11.7                                         | +19 26.1                                                                                                                                                                               | 165 04.1                                          | +13 30.1               | 144 04.1                                          | +5 09.7       | 202 47.7                                          | +21 39.6 |                |          |                |      |
| Dif | —                                                  |      | +2                                               |                                                                                                                                                                                        | +9                                                |                        | +20                                               |               | +21                                               |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |
|     |                                                    |      |                                                  |                                                                                                                                                                                        |                                                   |                        |                                                   |               |                                                   |          |                |          |                |      |

| UT  | SOL                                                             |      |     | LUNA                                                                                                                                                                                                                                  |     |                     | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                     | Salida de Luna |      | Puesta de Luna                                    |      |       |      |     |      |     |  |  |
|-----|-----------------------------------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|--------------------------|---------|---------------------------------------------------|----------------|------|---------------------------------------------------|------|-------|------|-----|------|-----|--|--|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 8 |      |     | Edad: 19 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 56 <sup>m</sup> 3<br>12 <sup>h</sup> : 56 <sup>m</sup> 0<br>20 <sup>h</sup> : 55 <sup>m</sup> 7<br>SD: 15 <sup>h</sup> 4<br>PMG: 4 <sup>h</sup> 31 <sup>m</sup> R°: 44 <sup>m</sup> |     |                     |                                                   |                          |         |                                                   |                |      |                                                   |      |       |      |     |      |     |  |  |
|     | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                                                                                  | Dif | Dec                 |                                                   | Dif                      | Náutico |                                                   | Civil          | Hora | R°                                                | Hora | R°    |      |     |      |     |  |  |
| h   | °                                                               | '    | °   | '                                                                                                                                                                                                                                     | °   | '                   | °                                                 | '                        | h       | m                                                 | h              | m    | h                                                 | m    | h     | m    | h   | m    |     |  |  |
| 0   | 178                                                             | 31.9 | +16 | 39.9                                                                                                                                                                                                                                  | 294 | 11.2                | +7                                                | 23.5                     | 60 N    | 1 17                                              | 2 56           | 3 53 | 21 33                                             | 2    | 11 56 | 89   |     |      |     |  |  |
| 1   | 193                                                             | 32.0 |     | 39.2                                                                                                                                                                                                                                  | 308 | 44.9 <sup>147</sup> |                                                   | 37.9 <sup>144</sup>      | 58      | 1 55                                              | 3 13           | 4 04 | 40                                                | 6    | 50    | 85   |     |      |     |  |  |
| 2   | 208                                                             | 32.0 |     | 38.5                                                                                                                                                                                                                                  | 323 | 18.5 <sup>146</sup> | +7                                                | 52.2 <sup>143</sup>      | 56      | 2 21                                              | 27             | 14   | 46                                                | 9    | 45    | 81   |     |      |     |  |  |
| 3   | 223                                                             | 32.1 |     | 37.9                                                                                                                                                                                                                                  | 337 | 52.1 <sup>146</sup> | +8                                                | 06.5 <sup>143</sup>      | 54      | 41                                                | 39             | 22   | 52                                                | 12   | 40    | 78   |     |      |     |  |  |
| 4   | 238                                                             | 32.2 |     | 37.2                                                                                                                                                                                                                                  | 352 | 25.8 <sup>147</sup> |                                                   | 20.8 <sup>143</sup>      | 52      | 2 57                                              | 50             | 30   | 21 57                                             | 14   | 36    | 75   |     |      |     |  |  |
| 5   | 253                                                             | 32.2 | +16 | 36.5                                                                                                                                                                                                                                  | 6   | 59.4 <sup>146</sup> | +8                                                | 34.9 <sup>141</sup>      | 50      | 3 10                                              | 3 59           | 4 37 | 22 02                                             | 16   | 11 32 | 73   |     |      |     |  |  |
| 6   | 268                                                             | 32.3 | +16 | 35.8                                                                                                                                                                                                                                  | 21  | 33.1 <sup>147</sup> | +8                                                | 49.1 <sup>142</sup>      | 45      | 3 37                                              | 4 18           | 4 51 | 22 12                                             | 21   | 11 24 | 68   |     |      |     |  |  |
| 7   | 283                                                             | 32.4 |     | 35.1                                                                                                                                                                                                                                  | 36  | 06.7 <sup>146</sup> | +9                                                | 03.1 <sup>140</sup>      | 40      | 3 57                                              | 33             | 5 03 | 20                                                | 25   | 17    | 64   |     |      |     |  |  |
| 8   | 298                                                             | 32.5 |     | 34.4                                                                                                                                                                                                                                  | 50  | 40.4 <sup>147</sup> |                                                   | 17.2 <sup>141</sup>      | 35      | 4 13                                              | 46             | 13   | 27                                                | 29   | 11    | 60   |     |      |     |  |  |
| 9   | 313                                                             | 32.5 |     | 33.7                                                                                                                                                                                                                                  | 65  | 14.0 <sup>146</sup> |                                                   | 31.1 <sup>139</sup>      | 30      | 26                                                | 4 56           | 22   | 34                                                | 31   | 11 06 | 57   |     |      |     |  |  |
| 10  | 328                                                             | 32.6 |     | 33.0                                                                                                                                                                                                                                  | 79  | 47.7 <sup>147</sup> |                                                   | 45.0 <sup>139</sup>      | 20      | 4 46                                              | 5 14           | 37   | 45                                                | 36   | 10 57 | 52   |     |      |     |  |  |
| 11  | 343                                                             | 32.7 | +16 | 32.3                                                                                                                                                                                                                                  | 94  | 21.3 <sup>146</sup> | +9                                                | 58.9 <sup>139</sup>      | 10 N    | 5 03                                              | 5 28           | 5 50 | 22 55                                             | 40   | 10 49 | 48   |     |      |     |  |  |
| 12  | 358                                                             | 32.7 | +16 | 31.6                                                                                                                                                                                                                                  | 108 | 54.9 <sup>146</sup> | +10                                               | 12.7 <sup>138</sup>      | 0       | 5 16                                              | 5 41           | 6 02 | 23 04                                             | 45   | 10 42 | 43   |     |      |     |  |  |
| 13  | 13                                                              | 32.8 |     | 30.9                                                                                                                                                                                                                                  | 123 | 28.5 <sup>146</sup> |                                                   | 26.4 <sup>137</sup>      | 10 S    | 27                                                | 5 53           | 14   | 14                                                | 48   | 34    | 40   |     |      |     |  |  |
| 14  | 28                                                              | 32.9 |     | 30.2                                                                                                                                                                                                                                  | 138 | 02.1 <sup>146</sup> |                                                   | 40.1 <sup>137</sup>      | 20      | 38                                                | 6 04           | 27   | 24                                                | 52   | 27    | 35   |     |      |     |  |  |
| 15  | 43                                                              | 33.0 |     | 29.5                                                                                                                                                                                                                                  | 152 | 35.7 <sup>146</sup> | +10                                               | 53.7 <sup>136</sup>      | 30      | 48                                                | 16             | 41   | 35                                                | 58   | 18    | 30   |     |      |     |  |  |
| 16  | 58                                                              | 33.0 |     | 28.8                                                                                                                                                                                                                                  | 167 | 09.3 <sup>146</sup> | +11                                               | 07.3 <sup>136</sup>      | 35      | 53                                                | 23             | 50   | 42                                                | 60   | 13    | 27   |     |      |     |  |  |
| 17  | 73                                                              | 33.1 | +16 | 28.1                                                                                                                                                                                                                                  | 181 | 42.9 <sup>146</sup> | +11                                               | 20.8 <sup>135</sup>      | 40      | 5 58                                              | 6 31           | 6 59 | 23 50                                             | 64   | 10 07 | 24   |     |      |     |  |  |
| 18  | 88                                                              | 33.2 | +16 | 27.4                                                                                                                                                                                                                                  | 196 | 16.4 <sup>145</sup> | +11                                               | 34.2 <sup>134</sup>      | 45      | 6 04                                              | 6 39           | 7 10 | 23 59                                             | 68   | 10 01 | 20   |     |      |     |  |  |
| 19  | 103                                                             | 33.3 |     | 26.8                                                                                                                                                                                                                                  | 210 | 50.0 <sup>146</sup> | +11                                               | 47.6 <sup>134</sup>      | 50      | 10                                                | 49             | 23   | ** ** *                                           | **   | 9 53  | 15   |     |      |     |  |  |
| 20  | 118                                                             | 33.3 |     | 26.1                                                                                                                                                                                                                                  | 225 | 23.5 <sup>145</sup> | +12                                               | 00.9 <sup>133</sup>      | 52      | 13                                                | 53             | 29   | ** ** *                                           | **   | 49    | 13   |     |      |     |  |  |
| 21  | 133                                                             | 33.4 |     | 25.4                                                                                                                                                                                                                                  | 239 | 57.1 <sup>146</sup> |                                                   | 14.1 <sup>132</sup>      | 54      | 15                                                | 6 58           | 36   | ** ** *                                           | **   | 45    | 11   |     |      |     |  |  |
| 22  | 148                                                             | 33.5 |     | 24.7                                                                                                                                                                                                                                  | 254 | 30.6 <sup>145</sup> |                                                   | 27.3 <sup>132</sup>      | 56      | 18                                                | 7 03           | 44   | ** ** *                                           | **   | 41    | 8    |     |      |     |  |  |
| 23  | 163                                                             | 33.6 |     | 24.0                                                                                                                                                                                                                                  | 269 | 04.0 <sup>144</sup> |                                                   | 40.4 <sup>131</sup>      | 58      | 21                                                | 09             | 7 52 | ** ** *                                           | **   | 36    | 5    |     |      |     |  |  |
| 24  | 178                                                             | 33.6 | +16 | 23.3                                                                                                                                                                                                                                  | 283 | 37.5 <sup>145</sup> | +12                                               | 53.4 <sup>130</sup>      | 60 S    | 6 25                                              | 7 15           | 8 02 | ** ** *                                           | **   | 9 31  | 1    |     |      |     |  |  |
| UT  | ARIES                                                           |      |     | VENUS                                                                                                                                                                                                                                 |     |                     | MARTE                                             |                          |         | JÚPITER                                           |                |      | SATURNO                                           |      |       |      |     |      |     |  |  |
|     | PMG 3 <sup>h</sup> 00 <sup>m</sup> 0                            |      |     | Mag: -4.5<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup>                                                                                                                                                                                      |     |                     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 59 <sup>m</sup> |                          |         | Mag: -1.7<br>PMG: 14 <sup>h</sup> 22 <sup>m</sup> |                |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 27 <sup>m</sup> |      |       |      |     |      |     |  |  |
|     | hG ♈                                                            | hG ♀ | Dec | hG ♂                                                                                                                                                                                                                                  | Dec | hG ♃                | Dec                                               | hG ♄                     | Dec     | hG ♅                                              | Dec            |      |                                                   |      |       |      |     |      |     |  |  |
| h   | °                                                               | '    | °   | '                                                                                                                                                                                                                                     | °   | '                   | °                                                 | '                        | °       | '                                                 | °              | '    | °                                                 | '    | °     | '    |     |      |     |  |  |
| 0   | 314                                                             | 52.0 | 226 | 11.7                                                                                                                                                                                                                                  | +19 | 26.1                | 165                                               | 04.1                     | +13     | 30.1                                              | 144            | 04.1 | +5                                                | 09.7 | 202   | 47.7 | +21 | 39.6 |     |  |  |
| 1   | 329                                                             | 54.5 | 241 | 11.9                                                                                                                                                                                                                                  |     | 26.3                | 180                                               | 05.0                     |         | 29.6                                              | 159            | 06.1 |                                                   | 09.5 | 217   | 49.8 |     | 39.6 |     |  |  |
| 2   | 344                                                             | 57.0 | 256 | 12.2                                                                                                                                                                                                                                  |     | 26.5                | 195                                               | 05.9                     |         | 29.0                                              | 174            | 08.1 |                                                   | 09.4 | 232   | 52.0 |     | 39.5 |     |  |  |
| 3   | 359                                                             | 59.4 | 271 | 12.4                                                                                                                                                                                                                                  |     | 26.6                | 210                                               | 06.9                     |         | 28.5                                              | 189            | 10.2 |                                                   | 09.2 | 247   | 54.1 |     | 39.5 |     |  |  |
| 4   | 15                                                              | 01.9 | 286 | 12.6                                                                                                                                                                                                                                  |     | 26.8                | 225                                               | 07.8                     |         | 27.9                                              | 204            | 12.2 |                                                   | 09.0 | 262   | 56.2 |     | 39.5 |     |  |  |
| 5   | 30                                                              | 04.4 | 301 | 12.8                                                                                                                                                                                                                                  | +19 | 27.0                | 240                                               | 08.8                     | +13     | 27.4                                              | 219            | 14.2 | +5                                                | 08.8 | 277   | 58.4 | +21 | 39.4 |     |  |  |
| 6   | 45                                                              | 06.8 | 316 | 13.0                                                                                                                                                                                                                                  | +19 | 27.1                | 255                                               | 09.7                     | +13     | 26.8                                              | 234            | 16.2 | +5                                                | 08.6 | 293   | 00.5 | +21 | 39.4 |     |  |  |
| 7   | 60                                                              | 09.3 | 331 | 13.2                                                                                                                                                                                                                                  |     | 27.3                | 270                                               | 10.6                     |         | 26.3                                              | 249            | 18.2 |                                                   | 08.4 | 308   | 02.6 |     | 39.3 |     |  |  |
| 8   | 75                                                              | 11.8 | 346 | 13.4                                                                                                                                                                                                                                  |     | 27.5                | 285                                               | 11.6                     |         | 25.7                                              | 264            | 20.2 |                                                   | 08.2 | 323   | 04.8 |     | 39.3 |     |  |  |
| 9   | 90                                                              | 14.2 | 1   | 13.6                                                                                                                                                                                                                                  |     | 27.6                | 300                                               | 12.5                     |         | 25.2                                              | 279            | 22.3 |                                                   | 08.0 | 338   | 06.9 |     | 39.2 |     |  |  |
| 10  | 105                                                             | 16.7 | 16  | 13.8                                                                                                                                                                                                                                  |     | 27.8                | 315                                               | 13.5                     |         | 24.6                                              | 294            | 24.3 |                                                   | 07.8 | 353   | 09.1 |     | 39.2 |     |  |  |
| 11  | 120                                                             | 19.2 | 31  | 14.0                                                                                                                                                                                                                                  | +19 | 28.0                | 330                                               | 14.4                     | +13     | 24.1                                              | 309            | 26.3 | +5                                                | 07.6 | 8     | 11.2 | +21 | 39.2 |     |  |  |
| 12  | 135                                                             | 21.6 | 46  | 14.2                                                                                                                                                                                                                                  | +19 | 28.1                | 345                                               | 15.3                     | +13     | 23.5                                              | 324            | 28.3 | +5                                                | 07.4 | 23    | 13.3 | +21 | 39.1 |     |  |  |
| 13  | 150                                                             | 24.1 | 61  | 14.4                                                                                                                                                                                                                                  |     | 28.3                | 0                                                 | 16.3                     |         | 22.9                                              | 339            | 30.3 |                                                   | 07.2 | 38    | 15.5 |     | 39.1 |     |  |  |
| 14  | 165                                                             | 26.5 | 76  | 14.6                                                                                                                                                                                                                                  |     | 28.4                | 15                                                | 17.2                     |         | 22.4                                              | 354            | 32.4 |                                                   | 07.0 | 53    | 17.6 |     | 39.0 |     |  |  |
| 15  | 180                                                             | 29.0 | 91  | 14.8                                                                                                                                                                                                                                  |     | 28.6                | 30                                                | 18.2                     |         | 21.8                                              | 9              | 34.4 |                                                   | 06.8 | 68    | 19.7 |     | 39.0 |     |  |  |
| 16  | 195                                                             | 31.5 | 106 | 15.0                                                                                                                                                                                                                                  |     | 28.8                | 45                                                | 19.1                     |         | 21.3                                              | 24             | 36.4 |                                                   | 06.7 | 83    | 21.9 |     | 38.9 |     |  |  |
| 17  | 210                                                             | 33.9 | 121 | 15.2                                                                                                                                                                                                                                  | +19 | 28.9                | 60                                                | 20.0                     | +13     | 20.7                                              | 39             | 38.4 | +5                                                | 06.5 | 98    | 24.0 | +21 | 38.9 |     |  |  |
| 18  | 225                                                             | 36.4 | 136 | 15.3                                                                                                                                                                                                                                  | +19 | 29.1                | 75                                                | 21.0                     | +13     | 20.2                                              | 54             | 40.4 | +5                                                | 06.3 | 113   | 26.2 | +21 | 38.9 |     |  |  |
| 19  | 240                                                             | 38.9 | 151 | 15.5                                                                                                                                                                                                                                  |     | 29.2                | 90                                                | 21.9                     |         | 19.6                                              | 69             | 42.4 |                                                   | 06.1 | 128   | 28.3 |     | 38.8 |     |  |  |
| 20  | 255                                                             | 41.3 | 166 | 15.7                                                                                                                                                                                                                                  |     | 29.4                | 105                                               | 22.9                     |         | 19.1                                              | 84             | 44.5 |                                                   | 05.9 | 143   | 30.4 |     | 38.8 |     |  |  |
| 21  | 270                                                             | 43.8 | 181 | 15.9                                                                                                                                                                                                                                  |     | 29.6                | 120                                               | 23.8                     |         | 18.5                                              | 99             | 46.5 |                                                   | 05.7 | 158   | 32.6 |     | 38.7 |     |  |  |
| 22  | 285                                                             | 46.3 | 196 | 16.1                                                                                                                                                                                                                                  |     | 29.7                | 135                                               | 24.8                     |         | 18.0                                              | 114            | 48.5 |                                                   | 05.5 | 173   | 34.7 |     | 38.7 |     |  |  |
| 23  | 300                                                             | 48.7 | 211 | 16.3                                                                                                                                                                                                                                  |     | 29.9                | 150                                               | 25.7                     |         | 17.4                                              | 129            | 50.5 |                                                   | 05.3 | 188   | 36.8 |     | 38.6 |     |  |  |
| 24  | 315                                                             | 51.2 | 226 | 16.5                                                                                                                                                                                                                                  | +19 | 30.0                | 165                                               | 26.6                     | +13     | 16.9                                              | 144            | 52.5 | +5                                                | 05.1 | 203   | 39.0 | +21 | 38.6 |     |  |  |
| Dif | —                                                               |      |     | +2                                                                                                                                                                                                                                    |     |                     | +9                                                |                          |         | -6                                                |                |      | +20                                               |      |       | -2   |     |      | +21 |  |  |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                             |                     |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna                                    |          | Puesta de Luna |       |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|---------------------------------------------------|----------|----------------|-------|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 7 |      |                                                  | Edad: 20 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 55'5<br>12 <sup>h</sup> : 55'3<br>20 <sup>h</sup> : 55'1<br>PMG: 5 <sup>h</sup> 15 <sup>m</sup> R°: 44 <sup>m</sup> |                     |                                                   |          |               |                                                   |          |                                                   |          |                |       |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                               | Dif                 | Dec                                               |          |               | Dif                                               | Civil    | Náutico                                           | Hora     | R°             | Hora  |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                  | '                   | °                                                 | °        | h m           | h m                                               | h m      | h m m                                             | h m m    | h m m          | h m m |
| 0   | 178                                                | 33.6 | +16 23.3                                         | 283                                                                                                                                                                | 37.5                | +12 53.4                                          | 60 N     | 20 14         | 21 09                                             | 22 42    | 21 35 3                                           | 13 25 90 |                |       |
| 1   | 193                                                | 33.7 | 22.6                                             | 298                                                                                                                                                                | 11.0 <sup>145</sup> | +13 06.4 <sup>130</sup>                           | 58       | 20 04         | 20 53                                             | 22 08    | 46 8                                              | 15 85    |                |       |
| 2   | 208                                                | 33.8 | 21.9                                             | 312                                                                                                                                                                | 44.4 <sup>144</sup> | 19.3 <sup>129</sup>                               | 56       | 19 54         | 40                                                | 21 44    | 21 55 12                                          | 13 06 81 |                |       |
| 3   | 223                                                | 33.9 | 21.2                                             | 327                                                                                                                                                                | 17.8 <sup>144</sup> | 32.2 <sup>129</sup>                               | 54       | 46            | 28                                                | 26       | 22 04 15                                          | 12 58 78 |                |       |
| 4   | 238                                                | 34.0 | 20.5                                             | 341                                                                                                                                                                | 51.2 <sup>144</sup> | 44.9 <sup>127</sup>                               | 52       | 39            | 18                                                | 21 10    | 11 18                                             | 51 75    |                |       |
| 5   | 253                                                | 34.0 | +16 19.7                                         | 356                                                                                                                                                                | 24.5 <sup>143</sup> | +13 57.6 <sup>127</sup>                           | 50       | 19 32         | 20 09                                             | 20 58    | 22 18 20                                          | 12 45 72 |                |       |
| 6   | 268                                                | 34.1 | +16 19.0                                         | 10                                                                                                                                                                 | 57.9 <sup>144</sup> | +14 10.3 <sup>127</sup>                           | 45       | 19 18         | 19 51                                             | 20 32    | 22 33 25                                          | 12 32 67 |                |       |
| 7   | 283                                                | 34.2 | 18.3                                             | 25                                                                                                                                                                 | 31.2 <sup>143</sup> | 22.8 <sup>125</sup>                               | 40       | 19 07         | 36                                                | 20 12    | 45 29                                             | 21 63    |                |       |
| 8   | 298                                                | 34.3 | 17.6                                             | 40                                                                                                                                                                 | 04.5 <sup>143</sup> | 35.3 <sup>125</sup>                               | 35       | 18 57         | 24                                                | 19 57    | 22 56 32                                          | 11 60    |                |       |
| 9   | 313                                                | 34.3 | 16.9                                             | 54                                                                                                                                                                 | 37.7 <sup>142</sup> | +14 47.7 <sup>124</sup>                           | 30       | 48            | 19 14                                             | 44       | 23 05 34                                          | 12 03 57 |                |       |
| 10  | 328                                                | 34.4 | 16.2                                             | 69                                                                                                                                                                 | 11.0 <sup>143</sup> | +15 00.1 <sup>124</sup>                           | 20       | 34            | 18 57                                             | 24       | 21 39                                             | 11 49 53 |                |       |
| 11  | 343                                                | 34.5 | +16 15.5                                         | 83                                                                                                                                                                 | 44.2 <sup>142</sup> | +15 12.4 <sup>123</sup>                           | 10 N     | 18 21         | 18 43                                             | 19 09    | 23 35 43                                          | 11 37 48 |                |       |
| 12  | 358                                                | 34.6 | +16 14.8                                         | 98                                                                                                                                                                 | 17.4 <sup>142</sup> | +15 24.6 <sup>122</sup>                           | 0        | 18 09         | 18 31                                             | 18 56    | 23 49 45                                          | 11 25 45 |                |       |
| 13  | 13                                                 | 34.7 | 14.1                                             | 112                                                                                                                                                                | 50.5 <sup>141</sup> | 36.7 <sup>121</sup>                               | 10 S     | 17 57         | 19                                                | 45       | *** ** *                                          | 14 41    |                |       |
| 14  | 28                                                 | 34.7 | 13.4                                             | 127                                                                                                                                                                | 23.6 <sup>141</sup> | +15 48.7 <sup>120</sup>                           | 20       | 45            | 18 08                                             | 34       | *** ** *                                          | 11 02 37 |                |       |
| 15  | 43                                                 | 34.8 | 12.7                                             | 141                                                                                                                                                                | 56.7 <sup>141</sup> | +16 00.7 <sup>120</sup>                           | 30       | 31            | 17 56                                             | 25       | *** ** *                                          | 10 48 33 |                |       |
| 16  | 58                                                 | 34.9 | 12.0                                             | 156                                                                                                                                                                | 29.8 <sup>141</sup> | 12.6 <sup>119</sup>                               | 35       | 23            | 50                                                | 20       | *** ** *                                          | 40 30    |                |       |
| 17  | 73                                                 | 35.0 | +16 11.3                                         | 171                                                                                                                                                                | 02.8 <sup>140</sup> | +16 24.4 <sup>118</sup>                           | 40       | 17 14         | 17 42                                             | 18 15    | *** ** *                                          | 10 31 27 |                |       |
| 18  | 88                                                 | 35.1 | +16 10.6                                         | 185                                                                                                                                                                | 35.8 <sup>140</sup> | +16 36.1 <sup>117</sup>                           | 45       | 17 03         | 17 34                                             | 18 09    | *** ** *                                          | 10 21 23 |                |       |
| 19  | 103                                                | 35.1 | 09.9                                             | 200                                                                                                                                                                | 08.7 <sup>139</sup> | 47.8 <sup>117</sup>                               | 50       | 16 50         | 25                                                | 04       | 0 10 73                                           | 08 18    |                |       |
| 20  | 118                                                | 35.2 | 09.2                                             | 214                                                                                                                                                                | 41.7 <sup>140</sup> | +16 59.3 <sup>115</sup>                           | 52       | 44            | 21                                                | 18 01    | 15 75                                             | 10 02 16 |                |       |
| 21  | 133                                                | 35.3 | 08.5                                             | 229                                                                                                                                                                | 14.6 <sup>139</sup> | +17 10.8 <sup>115</sup>                           | 54       | 38            | 16                                                | 17 59    | 21 78                                             | 9 56 13  |                |       |
| 22  | 148                                                | 35.4 | 07.7                                             | 243                                                                                                                                                                | 47.4 <sup>138</sup> | 22.2 <sup>114</sup>                               | 56       | 30            | 11                                                | 56       | 27 81                                             | 49 10    |                |       |
| 23  | 163                                                | 35.5 | 07.0                                             | 258                                                                                                                                                                | 20.2 <sup>138</sup> | 33.6 <sup>114</sup>                               | 58       | 22            | 17 06                                             | 53       | 34 85                                             | 41 6     |                |       |
| 24  | 178                                                | 35.5 | +16 06.3                                         | 272                                                                                                                                                                | 53.0 <sup>138</sup> | +17 44.8 <sup>112</sup>                           | 60 S     | 16 13         | 16 59                                             | 17 50    | 0 42 90                                           | 9 32 2   |                |       |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                    |                     | MARTE                                             |          |               | JÚPITER                                           |          | SATURNO                                           |          |                |       |
|     | PMG: 2 <sup>h</sup> 56 <sup>m</sup> 1              |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |                                                                                                                                                                    |                     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 57 <sup>m</sup> |          |               | Mag: -1.7<br>PMG: 14 <sup>h</sup> 19 <sup>m</sup> |          | Mag: +0.2<br>PMG: 10 <sup>h</sup> 24 <sup>m</sup> |          |                |       |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                |                     | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      |                                                   | hG ♄     | Dec            |       |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                  | '                   | °                                                 | °        | °             | °                                                 | '        | °                                                 | °        | '              |       |
| 0   | 315                                                | 51.2 | 226 16.5                                         | +19 30.0                                                                                                                                                           | 165 26.6            | +13 16.9                                          | 144 52.5 | +5 05.1       | 203 39.0                                          | +21 38.6 |                                                   |          |                |       |
| 1   | 330                                                | 53.7 | 241 16.6                                         | 30.2                                                                                                                                                               | 180 27.6            | 16.3                                              | 159 54.5 | 04.9          | 218 41.1                                          | 38.6     |                                                   |          |                |       |
| 2   | 345                                                | 56.1 | 256 16.8                                         | 30.4                                                                                                                                                               | 195 28.5            | 15.7                                              | 174 56.6 | 04.7          | 233 43.3                                          | 38.5     |                                                   |          |                |       |
| 3   | 0                                                  | 58.6 | 271 17.0                                         | 30.5                                                                                                                                                               | 210 29.5            | 15.2                                              | 189 58.6 | 04.5          | 248 45.4                                          | 38.5     |                                                   |          |                |       |
| 4   | 16                                                 | 01.0 | 286 17.2                                         | 30.7                                                                                                                                                               | 225 30.4            | 14.6                                              | 205 00.6 | 04.3          | 263 47.5                                          | 38.4     |                                                   |          |                |       |
| 5   | 31                                                 | 03.5 | 301 17.3                                         | +19 30.8                                                                                                                                                           | 240 31.4            | +13 14.1                                          | 220 02.6 | +5 04.1       | 278 49.7                                          | +21 38.4 |                                                   |          |                |       |
| 6   | 46                                                 | 06.0 | 316 17.5                                         | +19 31.0                                                                                                                                                           | 255 32.3            | +13 13.5                                          | 235 04.6 | +5 03.9       | 293 51.8                                          | +21 38.3 |                                                   |          |                |       |
| 7   | 61                                                 | 08.4 | 331 17.7                                         | 31.1                                                                                                                                                               | 270 33.2            | 13.0                                              | 250 06.6 | 03.8          | 308 54.0                                          | 38.3     |                                                   |          |                |       |
| 8   | 76                                                 | 10.9 | 346 17.9                                         | 31.3                                                                                                                                                               | 285 34.2            | 12.4                                              | 265 08.7 | 03.6          | 323 56.1                                          | 38.3     |                                                   |          |                |       |
| 9   | 91                                                 | 13.4 | 1 18.0                                           | 31.4                                                                                                                                                               | 300 35.1            | 11.9                                              | 280 10.7 | 03.4          | 338 58.2                                          | 38.2     |                                                   |          |                |       |
| 10  | 106                                                | 15.8 | 16 18.2                                          | 31.6                                                                                                                                                               | 315 36.1            | 11.3                                              | 295 12.7 | 03.2          | 354 00.4                                          | 38.2     |                                                   |          |                |       |
| 11  | 121                                                | 18.3 | 31 18.4                                          | +19 31.8                                                                                                                                                           | 330 37.0            | +13 10.7                                          | 310 14.7 | +5 03.0       | 9 02.5                                            | +21 38.1 |                                                   |          |                |       |
| 12  | 136                                                | 20.8 | 46 18.5                                          | +19 31.9                                                                                                                                                           | 345 38.0            | +13 10.2                                          | 325 16.7 | +5 02.8       | 24 04.6                                           | +21 38.1 |                                                   |          |                |       |
| 13  | 151                                                | 23.2 | 61 18.7                                          | 32.1                                                                                                                                                               | 0 38.9              | 09.6                                              | 340 18.7 | 02.6          | 39 06.8                                           | 38.0     |                                                   |          |                |       |
| 14  | 166                                                | 25.7 | 76 18.9                                          | 32.2                                                                                                                                                               | 15 39.8             | 09.1                                              | 355 20.8 | 02.4          | 54 08.9                                           | 38.0     |                                                   |          |                |       |
| 15  | 181                                                | 28.1 | 91 19.0                                          | 32.4                                                                                                                                                               | 30 40.8             | 08.5                                              | 10 22.8  | 02.2          | 69 11.1                                           | 38.0     |                                                   |          |                |       |
| 16  | 196                                                | 30.6 | 106 19.2                                         | 32.5                                                                                                                                                               | 45 41.7             | 08.0                                              | 25 24.8  | 02.0          | 84 13.2                                           | 37.9     |                                                   |          |                |       |
| 17  | 211                                                | 33.1 | 121 19.4                                         | +19 32.7                                                                                                                                                           | 60 42.7             | +13 07.4                                          | 40 26.8  | +5 01.8       | 99 15.3                                           | +21 37.9 |                                                   |          |                |       |
| 18  | 226                                                | 35.5 | 136 19.5                                         | +19 32.8                                                                                                                                                           | 75 43.6             | +13 06.8                                          | 55 28.8  | +5 01.6       | 114 17.5                                          | +21 37.8 |                                                   |          |                |       |
| 19  | 241                                                | 38.0 | 151 19.7                                         | 33.0                                                                                                                                                               | 90 44.6             | 06.3                                              | 70 30.8  | 01.4          | 129 19.6                                          | 37.8     |                                                   |          |                |       |
| 20  | 256                                                | 40.5 | 166 19.8                                         | 33.1                                                                                                                                                               | 105 45.5            | 05.7                                              | 85 32.8  | 01.2          | 144 21.8                                          | 37.7     |                                                   |          |                |       |
| 21  | 271                                                | 42.9 | 181 20.0                                         | 33.3                                                                                                                                                               | 120 46.5            | 05.2                                              | 100 34.9 | 01.0          | 159 23.9                                          | 37.7     |                                                   |          |                |       |
| 22  | 286                                                | 45.4 | 196 20.1                                         | 33.4                                                                                                                                                               | 135 47.4            | 04.6                                              | 115 36.9 | 00.8          | 174 26.0                                          | 37.7     |                                                   |          |                |       |
| 23  | 301                                                | 47.9 | 211 20.3                                         | 33.6                                                                                                                                                               | 150 48.3            | 04.0                                              | 130 38.9 | 00.6          | 189 28.2                                          | 37.6     |                                                   |          |                |       |
| 24  | 316                                                | 50.3 | 226 20.5                                         | +19 33.7                                                                                                                                                           | 165 49.3            | +13 03.5                                          | 145 40.9 | +5 00.4       | 204 30.3                                          | +21 37.6 |                                                   |          |                |       |
| Dif | —                                                  |      | +2                                               | +2                                                                                                                                                                 | +9                  | -6                                                | +20      | -2            | +21                                               | 0        |                                                   |          |                |       |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                                            |     |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                   | Puesta de Luna |      |       |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|---------------------------------------------------|----------------|------|-------|------|-----|------|
|     | SD: 15/8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 6 |      |                                                  | Edad: 21 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 54/9<br>12 <sup>h</sup> : 54/8<br>20 <sup>h</sup> : 54/6<br>SD: 15/0<br>PMG: 5 <sup>h</sup> 59 <sup>m</sup> R°: 47 <sup>m</sup> |     |                                                   |         |                          |                                                   |               |                |                                                   |                |      |       |      |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                              | Dif | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                              | R°             | Hora | R°    |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                 | °   | '                                                 | °       | '                        | h                                                 | m             | h              | m                                                 | h              | m    | h     | m    |     |      |
| 0   | 178                                                | 35.5 | +16                                              | 06.3                                                                                                                                                                              | 272 | 53.0                                              | +17     | 44.8                     | 60 N                                              | 1 30          | 3 03           | 3 58                                              | 21 38          | 7    | 14 55 | 90   |     |      |
| 1   | 193                                                | 35.6 |                                                  | 05.6                                                                                                                                                                              | 287 | 25.8 <sup>138</sup>                               | +17     | 56.0 <sup>112</sup>      | 58                                                | 2 04          | 19             | 4 08                                              | 21 54          | 13   | 40    | 84   |     |      |
| 2   | 208                                                | 35.7 |                                                  | 04.9                                                                                                                                                                              | 301 | 58.5 <sup>137</sup>                               | +18     | 07.0 <sup>110</sup>      | 56                                                | 28            | 32             | 18                                                | 22 07          | 18   | 27    | 80   |     |      |
| 3   | 223                                                | 35.8 |                                                  | 04.2                                                                                                                                                                              | 316 | 31.1 <sup>136</sup>                               |         | 18.0 <sup>110</sup>      | 54                                                | 2 46          | 43             | 26                                                | 19 21          |      | 16    | 76   |     |      |
| 4   | 238                                                | 35.9 |                                                  | 03.5                                                                                                                                                                              | 331 | 03.8 <sup>137</sup>                               |         | 28.9 <sup>109</sup>      | 52                                                | 3 01          | 3 53           | 33                                                | 29 24          |      | 14 06 | 74   |     |      |
| 5   | 253                                                | 36.0 | +16                                              | 02.8                                                                                                                                                                              | 345 | 36.3 <sup>135</sup>                               | +18     | 39.7 <sup>108</sup>      | 50                                                | 3 14          | 4 02           | 4 40                                              | 22 38          | 26   | 13 57 | 71   |     |      |
| 6   | 268                                                | 36.0 | +16                                              | 02.0                                                                                                                                                                              | 0   | 08.9 <sup>136</sup>                               | +18     | 50.5 <sup>108</sup>      | 45                                                | 3 40          | 4 21           | 4 54                                              | 22 58          | 30   | 13 39 | 66   |     |      |
| 7   | 283                                                | 36.1 |                                                  | 01.3                                                                                                                                                                              | 14  | 41.4 <sup>135</sup>                               | +19     | 01.1 <sup>106</sup>      | 40                                                | 3 59          | 35             | 5 05                                              | 23 14          | 34   | 24    | 63   |     |      |
| 8   | 298                                                | 36.2 | +16                                              | 00.6                                                                                                                                                                              | 29  | 13.9 <sup>135</sup>                               |         | 11.7 <sup>106</sup>      | 35                                                | 4 15          | 48             | 15                                                | 28             | 36   | 11    | 60   |     |      |
| 9   | 313                                                | 36.3 | +15                                              | 59.9                                                                                                                                                                              | 43  | 46.3 <sup>134</sup>                               |         | 22.1 <sup>104</sup>      | 30                                                | 27            | 4 58           | 23                                                | 23 39          | 39   | 13 00 | 58   |     |      |
| 10  | 328                                                | 36.4 |                                                  | 59.2                                                                                                                                                                              | 58  | 18.7 <sup>134</sup>                               |         | 32.5 <sup>104</sup>      | 20                                                | 4 47          | 5 15           | 38                                                | ** ** *        | **   | 12 42 | 53   |     |      |
| 11  | 343                                                | 36.5 | +15                                              | 58.5                                                                                                                                                                              | 72  | 51.0 <sup>133</sup>                               | +19     | 42.8 <sup>103</sup>      | 10 N                                              | 5 03          | 5 29           | 5 50                                              | ** ** *        | **   | 12 25 | 50   |     |      |
| 12  | 358                                                | 36.6 | +15                                              | 57.8                                                                                                                                                                              | 87  | 23.3 <sup>133</sup>                               | +19     | 53.0 <sup>102</sup>      | 0                                                 | 5 16          | 5 41           | 6 02                                              | ** ** *        | **   | 12 10 | 47   |     |      |
| 13  | 13                                                 | 36.6 |                                                  | 57.0                                                                                                                                                                              | 101 | 55.5 <sup>132</sup>                               | +20     | 03.1 <sup>101</sup>      | 10 S                                              | 27            | 5 52           | 14                                                | 0 02           | 49   | 11 55 | 44   |     |      |
| 14  | 28                                                 | 36.7 |                                                  | 56.3                                                                                                                                                                              | 116 | 27.7 <sup>132</sup>                               |         | 13.1 <sup>100</sup>      | 20                                                | 37            | 6 03           | 26                                                | 16             | 53   | 39    | 40   |     |      |
| 15  | 43                                                 | 36.8 |                                                  | 55.6                                                                                                                                                                              | 130 | 59.9 <sup>132</sup>                               |         | 23.0 <sup>99</sup>       | 30                                                | 46            | 15             | 40                                                | 33             | 57   | 21    | 36   |     |      |
| 16  | 58                                                 | 36.9 |                                                  | 54.9                                                                                                                                                                              | 145 | 32.0 <sup>131</sup>                               |         | 32.8 <sup>98</sup>       | 35                                                | 51            | 21             | 48                                                | 42             | 61   | 11 10 | 34   |     |      |
| 17  | 73                                                 | 37.0 | +15                                              | 54.2                                                                                                                                                                              | 160 | 04.1 <sup>131</sup>                               | +20     | 42.6 <sup>98</sup>       | 40                                                | 5 56          | 6 28           | 6 57                                              | 0 54           | 63   | 10 58 | 31   |     |      |
| 18  | 88                                                 | 37.1 | +15                                              | 53.4                                                                                                                                                                              | 174 | 36.1 <sup>130</sup>                               | +20     | 52.2 <sup>96</sup>       | 45                                                | 6 01          | 6 36           | 7 07                                              | 1 07           | 67   | 10 44 | 27   |     |      |
| 19  | 103                                                | 37.2 |                                                  | 52.7                                                                                                                                                                              | 189 | 08.1 <sup>130</sup>                               | +21     | 01.7 <sup>95</sup>       | 50                                                | 07            | 45             | 20                                                | 23             | 72   | 26    | 23   |     |      |
| 20  | 118                                                | 37.2 |                                                  | 52.0                                                                                                                                                                              | 203 | 40.0 <sup>129</sup>                               |         | 11.2 <sup>95</sup>       | 52                                                | 09            | 50             | 26                                                | 30             | 75   | 18    | 20   |     |      |
| 21  | 133                                                | 37.3 |                                                  | 51.3                                                                                                                                                                              | 218 | 11.9 <sup>129</sup>                               |         | 20.5 <sup>93</sup>       | 54                                                | 12            | 54             | 32                                                | 39             | 77   | 10 09 | 18   |     |      |
| 22  | 148                                                | 37.4 |                                                  | 50.6                                                                                                                                                                              | 232 | 43.7 <sup>128</sup>                               |         | 29.8 <sup>93</sup>       | 56                                                | 15            | 6 59           | 40                                                | 48             | 81   | 9 59  | 14   |     |      |
| 23  | 163                                                | 37.5 |                                                  | 49.8                                                                                                                                                                              | 247 | 15.5 <sup>128</sup>                               |         | 38.9 <sup>91</sup>       | 58                                                | 17            | 7 05           | 48                                                | 1 59           | 85   | 47    | 10   |     |      |
| 24  | 178                                                | 37.6 | +15                                              | 49.1                                                                                                                                                                              | 261 | 47.3 <sup>128</sup>                               | +21     | 48.0 <sup>91</sup>       | 60 S                                              | 6 21          | 7 11           | 7 57                                              | 2 12           | 91   | 9 34  | 5    |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                                   |     | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                           |                |      |       |      |     |      |
|     | PMG: 2 <sup>h</sup> 52 <sup>m</sup> 2              |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |                                                                                                                                                                                   |     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 56 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 14 <sup>h</sup> 15 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 10 <sup>h</sup> 21 <sup>m</sup> |                |      |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                               |     | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                              | Dec            |      |       |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                 | °   | '                                                 | °       | '                        | °                                                 | '             | °              | '                                                 | °              | '    |       |      |     |      |
| 0   | 316                                                | 50.3 | 226                                              | 20.5                                                                                                                                                                              | +19 | 33.7                                              | 165     | 49.3                     | +13                                               | 03.5          | 145            | 40.9                                              | +5             | 00.4 | 204   | 30.3 | +21 | 37.6 |
| 1   | 331                                                | 52.8 | 241                                              | 20.6                                                                                                                                                                              |     | 33.9                                              | 180     | 50.2                     |                                                   | 02.9          | 160            | 42.9                                              |                | 00.3 | 219   | 32.5 |     | 37.5 |
| 2   | 346                                                | 55.3 | 256                                              | 20.8                                                                                                                                                                              |     | 34.0                                              | 195     | 51.2                     |                                                   | 02.4          | 175            | 44.9                                              | +5             | 00.1 | 234   | 34.6 |     | 37.5 |
| 3   | 1                                                  | 57.7 | 271                                              | 20.9                                                                                                                                                                              |     | 34.1                                              | 210     | 52.1                     |                                                   | 01.8          | 190            | 46.9                                              | +4             | 59.9 | 249   | 36.7 |     | 37.4 |
| 4   | 17                                                 | 00.2 | 286                                              | 21.0                                                                                                                                                                              |     | 34.3                                              | 225     | 53.1                     |                                                   | 01.3          | 205            | 49.0                                              |                | 59.7 | 264   | 38.9 |     | 37.4 |
| 5   | 32                                                 | 02.6 | 301                                              | 21.2                                                                                                                                                                              | +19 | 34.4                                              | 240     | 54.0                     | +13                                               | 00.7          | 220            | 51.0                                              | +4             | 59.5 | 279   | 41.0 | +21 | 37.4 |
| 6   | 47                                                 | 05.1 | 316                                              | 21.3                                                                                                                                                                              | +19 | 34.6                                              | 255     | 55.0                     | +13                                               | 00.1          | 235            | 53.0                                              | +4             | 59.3 | 294   | 43.2 | +21 | 37.3 |
| 7   | 62                                                 | 07.6 | 331                                              | 21.5                                                                                                                                                                              |     | 34.7                                              | 270     | 55.9                     | +12                                               | 59.6          | 250            | 55.0                                              |                | 59.1 | 309   | 45.3 |     | 37.3 |
| 8   | 77                                                 | 10.0 | 346                                              | 21.6                                                                                                                                                                              |     | 34.9                                              | 285     | 56.8                     |                                                   | 59.0          | 265            | 57.0                                              |                | 58.9 | 324   | 47.4 |     | 37.2 |
| 9   | 92                                                 | 12.5 | 1                                                | 21.8                                                                                                                                                                              |     | 35.0                                              | 300     | 57.8                     |                                                   | 58.5          | 280            | 59.0                                              |                | 58.7 | 339   | 49.6 |     | 37.2 |
| 10  | 107                                                | 15.0 | 16                                               | 21.9                                                                                                                                                                              |     | 35.2                                              | 315     | 58.7                     |                                                   | 57.9          | 296            | 01.0                                              |                | 58.5 | 354   | 51.7 |     | 37.1 |
| 11  | 122                                                | 17.4 | 31                                               | 22.0                                                                                                                                                                              | +19 | 35.3                                              | 330     | 59.7                     | +12                                               | 57.3          | 311            | 03.1                                              | +4             | 58.3 | 9     | 53.9 | +21 | 37.1 |
| 12  | 137                                                | 19.9 | 46                                               | 22.2                                                                                                                                                                              | +19 | 35.4                                              | 346     | 00.6                     | +12                                               | 56.8          | 326            | 05.1                                              | +4             | 58.1 | 24    | 56.0 | +21 | 37.1 |
| 13  | 152                                                | 22.4 | 61                                               | 22.3                                                                                                                                                                              |     | 35.6                                              | 1       | 01.6                     |                                                   | 56.2          | 341            | 07.1                                              |                | 57.9 | 39    | 58.1 |     | 37.0 |
| 14  | 167                                                | 24.8 | 76                                               | 22.5                                                                                                                                                                              |     | 35.7                                              | 16      | 02.5                     |                                                   | 55.7          | 356            | 09.1                                              |                | 57.7 | 55    | 00.3 |     | 37.0 |
| 15  | 182                                                | 27.3 | 91                                               | 22.6                                                                                                                                                                              |     | 35.9                                              | 31      | 03.5                     |                                                   | 55.1          | 11             | 11.1                                              |                | 57.5 | 70    | 02.4 |     | 36.9 |
| 16  | 197                                                | 29.8 | 106                                              | 22.7                                                                                                                                                                              |     | 36.0                                              | 46      | 04.4                     |                                                   | 54.5          | 26             | 13.1                                              |                | 57.3 | 85    | 04.6 |     | 36.9 |
| 17  | 212                                                | 32.2 | 121                                              | 22.9                                                                                                                                                                              | +19 | 36.2                                              | 61      | 05.4                     | +12                                               | 54.0          | 41             | 15.1                                              | +4             | 57.1 | 100   | 06.7 | +21 | 36.8 |
| 18  | 227                                                | 34.7 | 136                                              | 23.0                                                                                                                                                                              | +19 | 36.3                                              | 76      | 06.3                     | +12                                               | 53.4          | 56             | 17.2                                              | +4             | 56.9 | 115   | 08.8 | +21 | 36.8 |
| 19  | 242                                                | 37.1 | 151                                              | 23.1                                                                                                                                                                              |     | 36.4                                              | 91      | 07.3                     |                                                   | 52.9          | 71             | 19.2                                              |                | 56.7 | 130   | 11.0 |     | 36.8 |
| 20  | 257                                                | 39.6 | 166                                              | 23.2                                                                                                                                                                              |     | 36.6                                              | 106     | 08.2                     |                                                   | 52.3          | 86             | 21.2                                              |                | 56.6 | 145   | 13.1 |     | 36.7 |
| 21  | 272                                                | 42.1 | 181                                              | 23.4                                                                                                                                                                              |     | 36.7                                              | 121     | 09.1                     |                                                   | 51.7          | 101            | 23.2                                              |                | 56.4 | 160   | 15.3 |     | 36.7 |
| 22  | 287                                                | 44.5 | 196                                              | 23.5                                                                                                                                                                              |     | 36.9                                              | 136     | 10.1                     |                                                   | 51.2          | 116            | 25.2                                              |                | 56.2 | 175   | 17.4 |     | 36.6 |
| 23  | 302                                                | 47.0 | 211                                              | 23.6                                                                                                                                                                              |     | 37.0                                              | 151     | 11.0                     |                                                   | 50.6          | 131            | 27.2                                              |                | 56.0 | 190   | 19.5 |     | 36.6 |
| 24  | 317                                                | 49.5 | 226                                              | 23.7                                                                                                                                                                              | +19 | 37.1                                              | 166     | 12.0                     | +12                                               | 50.0          | 146            | 29.2                                              | +4             | 55.8 | 205   | 21.7 | +21 | 36.5 |
| Dif | —                                                  |      | +1                                               |                                                                                                                                                                                   |     | +1                                                | +9      |                          |                                                   | -6            | +20            |                                                   | -2             | +21  |       |      |     |      |



| UT  | SOL                                    |      |                                                  | ☾ LUNA                                                                                                                                            |                                                   |                        | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |          |         | Salida de Luna |          | Puesta de Luna |    |
|-----|----------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------------|---------------------------------------------------|---------------|---------------------------------------------------|----------|---------|----------------|----------|----------------|----|
|     | SD: 15 <sup>h</sup> 8                  |      |                                                  | Edad: 22 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 54 <sup>h</sup> /5<br>12 <sup>h</sup> : 54 <sup>h</sup> /4<br>20 <sup>h</sup> : 54 <sup>h</sup> /3 |                                                   |                        |                                                   |               | Final del crepúsculo                              |          |         | Salida de Luna |          | Puesta de Luna |    |
|     | PMG: 12 <sup>h</sup> 05 <sup>m</sup> 4 |      |                                                  | PMG: 6 <sup>h</sup> 46 <sup>m</sup> R°: 48 <sup>m</sup>                                                                                           |                                                   |                        |                                                   |               | Final del crepúsculo                              |          |         | Salida de Luna |          | Puesta de Luna |    |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                                                              | Dif                                               | Dec                    | Dif                                               |               |                                                   | Civil    | Náutico | Hora           | R°       | Hora           | R° |
| h   | °                                      | '    | °                                                | °                                                                                                                                                 | '                                                 | °                      | '                                                 | °             | h m                                               | h m      | h m     | h m            | m        | h m            | m  |
| 0   | 178                                    | 37.6 | +15 49.1                                         | 261                                                                                                                                               | 47.3                                              | +21 48.0               |                                                   | 60 N          | 20 09                                             | 21 03    | 22 29   | 21 45 16       | 16 25 87 |                |    |
| 1   | 193                                    | 37.7 | 48.4                                             | 276                                                                                                                                               | 19.0 <sup>127</sup>                               | +21 56.9 <sup>89</sup> |                                                   | 58            | 19 59                                             | 20 48    | 21 59   | 22 07 22       | 16 04 80 |                |    |
| 2   | 208                                    | 37.8 | 47.7                                             | 290                                                                                                                                               | 50.6 <sup>126</sup>                               | +22 05.8 <sup>89</sup> |                                                   | 56            | 50                                                | 35       | 37      | 25 27          | 15 47 75 |                |    |
| 3   | 223                                    | 37.9 | 47.0                                             | 305                                                                                                                                               | 22.2 <sup>126</sup>                               | 14.5 <sup>87</sup>     |                                                   | 54            | 42                                                | 24       | 20      | 40 30          | 32 72    |                |    |
| 4   | 238                                    | 37.9 | 46.2                                             | 319                                                                                                                                               | 53.8 <sup>126</sup>                               | 23.1 <sup>86</sup>     |                                                   | 52            | 35                                                | 14       | 21 05   | 22 53 32       | 20 69    |                |    |
| 5   | 253                                    | 38.0 | +15 45.5                                         | 334                                                                                                                                               | 25.3 <sup>125</sup>                               | +22 31.7 <sup>86</sup> |                                                   | 50            | 19 29                                             | 20 06    | 20 53   | 23 04 34       | 15 08 67 |                |    |
| 6   | 268                                    | 38.1 | +15 44.8                                         | 348                                                                                                                                               | 56.7 <sup>124</sup>                               | +22 40.1 <sup>84</sup> |                                                   | 45            | 19 15                                             | 19 48    | 20 28   | 23 28 38       | 14 45 63 |                |    |
| 7   | 283                                    | 38.2 | 44.1                                             | 3                                                                                                                                                 | 28.1 <sup>124</sup>                               | 48.5 <sup>84</sup>     |                                                   | 40            | 19 04                                             | 34       | 20 10   | 23 48 40       | 27 60    |                |    |
| 8   | 298                                    | 38.3 | 43.3                                             | 17                                                                                                                                                | 59.5 <sup>124</sup>                               | +22 56.7 <sup>82</sup> |                                                   | 35            | 18 55                                             | 22       | 19 55   | ** ** *        | 14 11 59 |                |    |
| 9   | 313                                    | 38.4 | 42.6                                             | 32                                                                                                                                                | 30.8 <sup>123</sup>                               | +23 04.8 <sup>81</sup> |                                                   | 30            | 47                                                | 19 12    | 42      | ** ** *        | 13 58 56 |                |    |
| 10  | 328                                    | 38.5 | 41.9                                             | 47                                                                                                                                                | 02.1 <sup>123</sup>                               | 12.8 <sup>80</sup>     |                                                   | 20            | 32                                                | 18 56    | 23      | 0 00 42        | 35 54    |                |    |
| 11  | 343                                    | 38.6 | +15 41.2                                         | 61                                                                                                                                                | 33.3 <sup>122</sup>                               | +23 20.8 <sup>80</sup> |                                                   | 10 N          | 18 20                                             | 18 42    | 19 08   | 0 18 45        | 13 15 52 |                |    |
| 12  | 358                                    | 38.7 | +15 40.4                                         | 76                                                                                                                                                | 04.4 <sup>121</sup>                               | +23 28.6 <sup>78</sup> |                                                   | 0             | 18 09                                             | 18 30    | 18 55   | 0 34 48        | 12 57 49 |                |    |
| 13  | 13                                     | 38.8 | 39.7                                             | 90                                                                                                                                                | 35.5 <sup>121</sup>                               | 36.3 <sup>77</sup>     |                                                   | 10 S          | 17 58                                             | 19       | 45      | 0 51 51        | 39 46    |                |    |
| 14  | 28                                     | 38.8 | 39.0                                             | 105                                                                                                                                               | 06.6 <sup>121</sup>                               | 43.9 <sup>76</sup>     |                                                   | 20            | 46                                                | 18 09    | 35      | 1 09 54        | 12 19 44 |                |    |
| 15  | 43                                     | 38.9 | 38.2                                             | 119                                                                                                                                               | 37.6 <sup>120</sup>                               | 51.3 <sup>74</sup>     |                                                   | 30            | 32                                                | 17 57    | 26      | 30 57          | 11 57 41 |                |    |
| 16  | 58                                     | 39.0 | 37.5                                             | 134                                                                                                                                               | 08.6 <sup>120</sup>                               | +23 58.7 <sup>74</sup> |                                                   | 35            | 25                                                | 51       | 21      | 43 59          | 44 39    |                |    |
| 17  | 73                                     | 39.1 | +15 36.8                                         | 148                                                                                                                                               | 39.5 <sup>119</sup>                               | +24 06.0 <sup>73</sup> |                                                   | 40            | 17 16                                             | 17 44    | 18 16   | 1 57 61        | 11 29 37 |                |    |
| 18  | 88                                     | 39.2 | +15 36.1                                         | 163                                                                                                                                               | 10.4 <sup>119</sup>                               | +24 13.1 <sup>71</sup> |                                                   | 45            | 17 06                                             | 17 36    | 18 11   | 2 14 65        | 11 11 34 |                |    |
| 19  | 103                                    | 39.3 | 35.3                                             | 177                                                                                                                                               | 41.2 <sup>118</sup>                               | 20.2 <sup>71</sup>     |                                                   | 50            | 16 53                                             | 28       | 06      | 35 69          | 10 49 30 |                |    |
| 20  | 118                                    | 39.4 | 34.6                                             | 192                                                                                                                                               | 12.0 <sup>118</sup>                               | 27.1 <sup>69</sup>     |                                                   | 52            | 48                                                | 24       | 04      | 45 72          | 38 28    |                |    |
| 21  | 133                                    | 39.5 | 33.9                                             | 206                                                                                                                                               | 42.7 <sup>117</sup>                               | 33.9 <sup>68</sup>     |                                                   | 54            | 41                                                | 19       | 18 01   | 2 56 75        | 27 24    |                |    |
| 22  | 148                                    | 39.6 | 33.1                                             | 221                                                                                                                                               | 13.4 <sup>117</sup>                               | 40.6 <sup>67</sup>     |                                                   | 56            | 34                                                | 15       | 17 59   | 3 09 78        | 10 13 22 |                |    |
| 23  | 163                                    | 39.7 | 32.4                                             | 235                                                                                                                                               | 44.0 <sup>116</sup>                               | 47.2 <sup>66</sup>     |                                                   | 58            | 26                                                | 09       | 56      | 24 83          | 9 57 17  |                |    |
| 24  | 178                                    | 39.8 | +15 31.7                                         | 250                                                                                                                                               | 14.6 <sup>116</sup>                               | +24 53.7 <sup>65</sup> |                                                   | 60 S          | 16 17                                             | 17 03    | 17 53   | 3 43 89        | 9 39 10  |                |    |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                                                                   | MARTE                                             |                        | JÚPITER                                           |               | SATURNO                                           |          |         |                |          |                |    |
|     | PMG: 2 <sup>h</sup> 48 <sup>m</sup> 2  |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |                                                                                                                                                   | Mag: +1.8<br>PMG: 12 <sup>h</sup> 54 <sup>m</sup> |                        | Mag: -1.7<br>PMG: 14 <sup>h</sup> 12 <sup>m</sup> |               | Mag: +0.2<br>PMG: 10 <sup>h</sup> 17 <sup>m</sup> |          |         |                |          |                |    |
|     | hG ♈                                   | hG ♀ | Dec                                              | hG ♂                                                                                                                                              | Dec                                               | hG ♃                   | Dec                                               | hG ♄          | Dec                                               |          |         |                |          |                |    |
| h   | °                                      | '    | °                                                | °                                                                                                                                                 | '                                                 | °                      | '                                                 | °             | '                                                 |          |         |                |          |                |    |
| 0   | 317                                    | 49.5 | 226 23.7                                         | +19 37.1                                                                                                                                          | 166 12.0                                          | +12 50.0               | 146 29.2                                          | +4 55.8       | 205 21.7                                          | +21 36.5 |         |                |          |                |    |
| 1   | 332                                    | 51.9 | 241 23.9                                         | 37.3                                                                                                                                              | 181 12.9                                          | 49.5                   | 161 31.2                                          | 55.6          | 220 23.8                                          | 36.5     |         |                |          |                |    |
| 2   | 347                                    | 54.4 | 256 24.0                                         | 37.4                                                                                                                                              | 196 13.9                                          | 48.9                   | 176 33.3                                          | 55.4          | 235 26.0                                          | 36.5     |         |                |          |                |    |
| 3   | 2                                      | 56.9 | 271 24.1                                         | 37.5                                                                                                                                              | 211 14.8                                          | 48.4                   | 191 35.3                                          | 55.2          | 250 28.1                                          | 36.4     |         |                |          |                |    |
| 4   | 17                                     | 59.3 | 286 24.2                                         | 37.7                                                                                                                                              | 226 15.8                                          | 47.8                   | 206 37.3                                          | 55.0          | 265 30.3                                          | 36.4     |         |                |          |                |    |
| 5   | 33                                     | 01.8 | 301 24.4                                         | +19 37.8                                                                                                                                          | 241 16.7                                          | +12 47.2               | 221 39.3                                          | +4 54.8       | 280 32.4                                          | +21 36.3 |         |                |          |                |    |
| 6   | 48                                     | 04.2 | 316 24.5                                         | +19 37.9                                                                                                                                          | 256 17.7                                          | +12 46.7               | 236 41.3                                          | +4 54.6       | 295 34.5                                          | +21 36.3 |         |                |          |                |    |
| 7   | 63                                     | 06.7 | 331 24.6                                         | 38.1                                                                                                                                              | 271 18.6                                          | 46.1                   | 251 43.3                                          | 54.4          | 310 36.7                                          | 36.2     |         |                |          |                |    |
| 8   | 78                                     | 09.2 | 346 24.7                                         | 38.2                                                                                                                                              | 286 19.6                                          | 45.5                   | 266 45.3                                          | 54.2          | 325 38.8                                          | 36.2     |         |                |          |                |    |
| 9   | 93                                     | 11.6 | 1 24.8                                           | 38.3                                                                                                                                              | 301 20.5                                          | 45.0                   | 281 47.3                                          | 54.0          | 340 41.0                                          | 36.2     |         |                |          |                |    |
| 10  | 108                                    | 14.1 | 16 24.9                                          | 38.5                                                                                                                                              | 316 21.5                                          | 44.4                   | 296 49.4                                          | 53.8          | 355 43.1                                          | 36.1     |         |                |          |                |    |
| 11  | 123                                    | 16.6 | 31 25.0                                          | +19 38.6                                                                                                                                          | 331 22.4                                          | +12 43.9               | 311 51.4                                          | +4 53.6       | 10 45.2                                           | +21 36.1 |         |                |          |                |    |
| 12  | 138                                    | 19.0 | 46 25.1                                          | +19 38.7                                                                                                                                          | 346 23.4                                          | +12 43.3               | 326 53.4                                          | +4 53.4       | 25 47.4                                           | +21 36.0 |         |                |          |                |    |
| 13  | 153                                    | 21.5 | 61 25.3                                          | 38.9                                                                                                                                              | 1 24.3                                            | 42.7                   | 341 55.4                                          | 53.2          | 40 49.5                                           | 36.0     |         |                |          |                |    |
| 14  | 168                                    | 24.0 | 76 25.4                                          | 39.0                                                                                                                                              | 16 25.2                                           | 42.2                   | 356 57.4                                          | 53.0          | 55 51.7                                           | 35.9     |         |                |          |                |    |
| 15  | 183                                    | 26.4 | 91 25.5                                          | 39.1                                                                                                                                              | 31 26.2                                           | 41.6                   | 11 59.4                                           | 52.8          | 70 53.8                                           | 35.9     |         |                |          |                |    |
| 16  | 198                                    | 28.9 | 106 25.6                                         | 39.3                                                                                                                                              | 46 27.1                                           | 41.0                   | 27 01.4                                           | 52.6          | 85 56.0                                           | 35.9     |         |                |          |                |    |
| 17  | 213                                    | 31.4 | 121 25.7                                         | +19 39.4                                                                                                                                          | 61 28.1                                           | +12 40.5               | 42 03.4                                           | +4 52.4       | 100 58.1                                          | +21 35.8 |         |                |          |                |    |
| 18  | 228                                    | 33.8 | 136 25.8                                         | +19 39.5                                                                                                                                          | 76 29.0                                           | +12 39.9               | 57 05.4                                           | +4 52.2       | 116 00.2                                          | +21 35.8 |         |                |          |                |    |
| 19  | 243                                    | 36.3 | 151 25.9                                         | 39.6                                                                                                                                              | 91 30.0                                           | 39.3                   | 72 07.5                                           | 52.0          | 131 02.4                                          | 35.7     |         |                |          |                |    |
| 20  | 258                                    | 38.7 | 166 26.0                                         | 39.8                                                                                                                                              | 106 30.9                                          | 38.8                   | 87 09.5                                           | 51.9          | 146 04.5                                          | 35.7     |         |                |          |                |    |
| 21  | 273                                    | 41.2 | 181 26.1                                         | 39.9                                                                                                                                              | 121 31.9                                          | 38.2                   | 102 11.5                                          | 51.7          | 161 06.7                                          | 35.6     |         |                |          |                |    |
| 22  | 288                                    | 43.7 | 196 26.2                                         | 40.0                                                                                                                                              | 136 32.8                                          | 37.7                   | 117 13.5                                          | 51.5          | 176 08.8                                          | 35.6     |         |                |          |                |    |
| 23  | 303                                    | 46.1 | 211 26.3                                         | 40.1                                                                                                                                              | 151 33.8                                          | 37.1                   | 132 15.5                                          | 51.3          | 191 10.9                                          | 35.6     |         |                |          |                |    |
| 24  | 318                                    | 48.6 | 226 26.4                                         | +19 40.3                                                                                                                                          | 166 34.7                                          | +12 36.5               | 147 17.5                                          | +4 51.1       | 206 13.1                                          | +21 35.5 |         |                |          |                |    |
| Dif | —                                      | +1   | +1                                               | +9                                                                                                                                                | -6                                                | +20                    | -2                                                | +21           | 0                                                 |          |         |                |          |                |    |

| UT | SOL                                                |      |     |      |  LUNA                                                                             |                     |         |                    | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |
|----|----------------------------------------------------|------|-----|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|--------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|----|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 3 |      |     |      | Edad: 23 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 54/2<br>12 <sup>h</sup> : 54/2<br>20 <sup>h</sup> : 54/1<br>PMG: 7 <sup>h</sup> 34 <sup>m</sup> R°: 50 <sup>m</sup> |                     |         |                    |         |                          |       |               |                |    |                |    |    |    |
|    | hG ☉                                               |      | Dec |      | hG ☾ Dif                                                                                                                                                           |                     | Dec Dif |                    |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |    |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                  | '                   | °       | '                  | °       | h                        | m     | h             | m              | h  | m              | h  | m  | m  |
| 0  | 178                                                | 39.8 | +15 | 31.7 | 250                                                                                                                                                                | 14.6                | +24     | 53.7               | 60 N    | 1                        | 42    | 3             | 09             | 4  | 03             | 22 | 01 | 33 |
| 1  | 193                                                | 39.9 |     | 30.9 | 264                                                                                                                                                                | 45.1 <sup>115</sup> | +25     | 00.1 <sup>64</sup> | 58      | 2                        | 12    |               | 24             | 13 |                | 29 | 39 | 24 |
| 2  | 208                                                | 40.0 |     | 30.2 | 279                                                                                                                                                                | 15.6 <sup>115</sup> |         | 06.3 <sup>62</sup> | 56      |                          | 34    |               | 37             | 22 |                | 22 | 52 | 40 |
| 3  | 223                                                | 40.1 |     | 29.5 | 293                                                                                                                                                                | 46.1 <sup>115</sup> |         | 12.4 <sup>61</sup> | 54      | 2                        | 51    |               | 48             | 29 |                | 23 | 10 | 42 |
| 4  | 238                                                | 40.1 |     | 28.7 | 308                                                                                                                                                                | 16.5 <sup>114</sup> |         | 18.4 <sup>60</sup> | 52      | 3                        | 06    | 3             | 57             | 36 |                | 25 | 44 | 29 |
| 5  | 253                                                | 40.2 | +15 | 28.0 | 322                                                                                                                                                                | 46.8 <sup>113</sup> | +25     | 24.3 <sup>59</sup> | 50      | 3                        | 18    | 4             | 06             | 4  | 43             | 23 | 38 | 45 |
| 6  | 268                                                | 40.3 | +15 | 27.3 | 337                                                                                                                                                                | 17.2 <sup>114</sup> | +25     | 30.1 <sup>58</sup> | 45      | 3                        | 43    | 4             | 23             | 4  | 56             | ** | ** | ** |
| 7  | 283                                                | 40.4 |     | 26.5 | 351                                                                                                                                                                | 47.4 <sup>112</sup> |         | 35.8 <sup>57</sup> | 40      | 4                        | 02    |               | 38             | 5  | 07             | ** | ** | ** |
| 8  | 298                                                | 40.5 |     | 25.8 | 6                                                                                                                                                                  | 17.6 <sup>112</sup> |         | 41.3 <sup>55</sup> | 35      |                          | 16    |               | 49             | 16 |                | 0  | 04 | 42 |
| 9  | 313                                                | 40.6 |     | 25.1 | 20                                                                                                                                                                 | 47.8 <sup>112</sup> |         | 46.7 <sup>54</sup> | 30      |                          | 29    | 4             | 59             | 25 |                | 18 | 43 | 15 |
| 10 | 328                                                | 40.7 |     | 24.3 | 35                                                                                                                                                                 | 17.9 <sup>111</sup> |         | 52.0 <sup>53</sup> | 20      | 4                        | 48    | 5             | 15             | 39 |                | 0  | 42 | 46 |
| 11 | 343                                                | 40.8 | +15 | 23.6 | 49                                                                                                                                                                 | 48.0 <sup>111</sup> | +25     | 57.2 <sup>52</sup> | 10 N    | 5                        | 03    | 5             | 29             | 5  | 51             | 1  | 03 | 47 |
| 12 | 358                                                | 40.9 | +15 | 22.9 | 64                                                                                                                                                                 | 18.1 <sup>111</sup> | +26     | 02.3 <sup>51</sup> | 0       | 5                        | 15    | 5             | 40             | 6  | 02             | 1  | 22 | 50 |
| 13 | 13                                                 | 41.0 |     | 22.1 | 78                                                                                                                                                                 | 48.1 <sup>110</sup> |         | 07.2 <sup>49</sup> | 10 S    |                          | 26    | 5             | 51             | 13 |                | 1  | 42 | 51 |
| 14 | 28                                                 | 41.1 |     | 21.4 | 93                                                                                                                                                                 | 18.1 <sup>110</sup> |         | 12.0 <sup>48</sup> | 20      |                          | 36    | 6             | 02             | 25 |                | 2  | 03 | 53 |
| 15 | 43                                                 | 41.2 |     | 20.6 | 107                                                                                                                                                                | 48.0 <sup>109</sup> |         | 16.7 <sup>47</sup> | 30      |                          | 45    |               | 13             | 38 |                | 27 | 56 | 12 |
| 16 | 58                                                 | 41.3 |     | 19.9 | 122                                                                                                                                                                | 17.9 <sup>109</sup> |         | 21.3 <sup>46</sup> | 35      |                          | 49    |               | 19             | 46 |                | 42 | 57 | 23 |
| 17 | 73                                                 | 41.4 | +15 | 19.2 | 136                                                                                                                                                                | 47.7 <sup>108</sup> | +26     | 25.7 <sup>44</sup> | 40      | 5                        | 54    | 6             | 26             | 6  | 54             | 2  | 58 | 59 |
| 18 | 88                                                 | 41.5 | +15 | 18.4 | 151                                                                                                                                                                | 17.5 <sup>108</sup> | +26     | 30.1 <sup>44</sup> | 45      | 5                        | 59    | 6             | 34             | 7  | 04             | 3  | 19 | 61 |
| 19 | 103                                                | 41.6 |     | 17.7 | 165                                                                                                                                                                | 47.3 <sup>108</sup> |         | 34.3 <sup>42</sup> | 50      | 6                        | 04    |               | 42             | 16 |                | 44 | 64 | 19 |
| 20 | 118                                                | 41.7 |     | 16.9 | 180                                                                                                                                                                | 17.0 <sup>107</sup> |         | 38.3 <sup>40</sup> | 52      |                          | 06    |               | 46             | 22 |                | 3  | 57 | 65 |
| 21 | 133                                                | 41.8 |     | 16.2 | 194                                                                                                                                                                | 46.7 <sup>107</sup> |         | 42.3 <sup>40</sup> | 54      |                          | 08    |               | 50             | 28 |                | 4  | 11 | 68 |
| 22 | 148                                                | 41.9 |     | 15.5 | 209                                                                                                                                                                | 16.4 <sup>107</sup> |         | 46.1 <sup>38</sup> | 56      |                          | 11    | 6             | 55             | 35 |                | 27 | 71 | 35 |
| 23 | 163                                                | 42.0 |     | 14.7 | 223                                                                                                                                                                | 46.0 <sup>106</sup> |         | 49.8 <sup>37</sup> | 58      |                          | 13    | 7             | 00             | 43 |                | 4  | 47 | 75 |
| 24 | 178                                                | 42.1 | +15 | 14.0 | 238                                                                                                                                                                | 15.6 <sup>106</sup> | +26     | 53.4 <sup>36</sup> | 60 S    | 6                        | 16    | 7             | 06             | 7  | 52             | 5  | 12 | 82 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|
|     | PMG: 2 <sup>h</sup> 44 <sup>m</sup> 3 |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 53 <sup>m</sup> |      | Mag: -1.7<br>PMG: 14 <sup>h</sup> 09 <sup>m</sup> |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 14 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |
| 0   | 318                                   | 48.6 | 226                                              | 26.4 | +19                                               | 40.3 | 166                                               | 34.7 | +12                                               | 36.5 |
| 1   | 333                                   | 51.1 | 241                                              | 26.5 |                                                   | 40.4 | 181                                               | 35.7 |                                                   | 36.0 |
| 2   | 348                                   | 53.5 | 256                                              | 26.6 |                                                   | 40.5 | 196                                               | 36.6 |                                                   | 35.4 |
| 3   | 3                                     | 56.0 | 271                                              | 26.7 |                                                   | 40.7 | 211                                               | 37.6 |                                                   | 34.8 |
| 4   | 18                                    | 58.5 | 286                                              | 26.7 |                                                   | 40.8 | 226                                               | 38.5 |                                                   | 34.3 |
| 5   | 34                                    | 00.9 | 301                                              | 26.8 | +19                                               | 40.9 | 241                                               | 39.5 | +12                                               | 33.7 |
| 6   | 49                                    | 03.4 | 316                                              | 26.9 | +19                                               | 41.0 | 256                                               | 40.4 | +12                                               | 33.1 |
| 7   | 64                                    | 05.9 | 331                                              | 27.0 |                                                   | 41.1 | 271                                               | 41.4 |                                                   | 32.6 |
| 8   | 79                                    | 08.3 | 346                                              | 27.1 |                                                   | 41.3 | 286                                               | 42.3 |                                                   | 32.0 |
| 9   | 94                                    | 10.8 | 1                                                | 27.2 |                                                   | 41.4 | 301                                               | 43.3 |                                                   | 31.4 |
| 10  | 109                                   | 13.2 | 16                                               | 27.3 |                                                   | 41.5 | 316                                               | 44.2 |                                                   | 30.9 |
| 11  | 124                                   | 15.7 | 31                                               | 27.4 | +19                                               | 41.6 | 331                                               | 45.2 | +12                                               | 30.3 |
| 12  | 139                                   | 18.2 | 46                                               | 27.4 | +19                                               | 41.7 | 346                                               | 46.1 | +12                                               | 29.7 |
| 13  | 154                                   | 20.6 | 61                                               | 27.5 |                                                   | 41.9 | 1                                                 | 47.1 |                                                   | 29.2 |
| 14  | 169                                   | 23.1 | 76                                               | 27.6 |                                                   | 42.0 | 16                                                | 48.0 |                                                   | 28.6 |
| 15  | 184                                   | 25.6 | 91                                               | 27.7 |                                                   | 42.1 | 31                                                | 49.0 |                                                   | 28.0 |
| 16  | 199                                   | 28.0 | 106                                              | 27.8 |                                                   | 42.2 | 46                                                | 49.9 |                                                   | 27.5 |
| 17  | 214                                   | 30.5 | 121                                              | 27.8 | +19                                               | 42.3 | 61                                                | 50.9 | +12                                               | 26.9 |
| 18  | 229                                   | 33.0 | 136                                              | 27.9 | +19                                               | 42.5 | 76                                                | 51.8 | +12                                               | 26.3 |
| 19  | 244                                   | 35.4 | 151                                              | 28.0 |                                                   | 42.6 | 91                                                | 52.8 |                                                   | 25.8 |
| 20  | 259                                   | 37.9 | 166                                              | 28.1 |                                                   | 42.7 | 106                                               | 53.7 |                                                   | 25.2 |
| 21  | 274                                   | 40.4 | 181                                              | 28.1 |                                                   | 42.8 | 121                                               | 54.7 |                                                   | 24.6 |
| 22  | 289                                   | 42.8 | 196                                              | 28.2 |                                                   | 42.9 | 136                                               | 55.6 |                                                   | 24.1 |
| 23  | 304                                   | 45.3 | 211                                              | 28.3 |                                                   | 43.0 | 151                                               | 56.6 |                                                   | 23.5 |
| 24  | 319                                   | 47.7 | 226                                              | 28.3 | +19                                               | 43.1 | 166                                               | 57.5 | +12                                               | 22.9 |
| Dif | —                                     |      | +1                                               |      | +1                                                |      | +9                                                |      | -6                                                |      |
|     |                                       |      |                                                  |      |                                                   |      |                                                   |      |                                                   |      |

| UT  | SOL                                                             |      |                                                  | ☾ LUNA                                                                                        |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |       | Puesta de Luna |          |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|---------------------------------------------------|-------|----------------|-------|----------------|----------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> 1 |      |                                                  | Edad: 24 <sup>d</sup> 5 PHE {<br>SD: 14 <sup>h</sup> 7<br>PMG: 8 <sup>h</sup> 24 <sup>m</sup> |                                                   |                     |                                                   |               |                                                   |       |                |       |                |          |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                          | Dif                                               | Dec                 |                                                   |               | Dif                                               | Civil | Náutico        | Hora  | R°             | Hora     |
| h   | °                                                               | '    | °                                                | '                                                                                             | °                                                 | '                   | °                                                 | '             | h m                                               | h m   | h m            | h m m | h m m          | h m m    |
| 0   | 178                                                             | 42.1 | +15                                              | 14.0                                                                                          | 238                                               | 15.6                | +26                                               | 53.4          | 60 N                                              | 20 03 | 20 56          | 22 18 | 22 34 61       | 19 04 46 |
| 1   | 193                                                             | 42.2 |                                                  | 13.2                                                                                          | 252                                               | 45.2 <sup>106</sup> | +26                                               | 56.8          | 58                                                | 19 54 | 42             | 21 51 | 23 08 59       | 18 31 47 |
| 2   | 208                                                             | 42.3 |                                                  | 12.5                                                                                          | 267                                               | 14.7 <sup>105</sup> | +27                                               | 00.1          | 56                                                | 45    | 30             | 31    | 32 58          | 18 06 49 |
| 3   | 223                                                             | 42.4 |                                                  | 11.7                                                                                          | 281                                               | 44.2 <sup>105</sup> |                                                   | 03.3          | 54                                                | 38    | 19             | 14    | 23 52 57       | 17 46 50 |
| 4   | 238                                                             | 42.5 |                                                  | 11.0                                                                                          | 296                                               | 13.6 <sup>104</sup> |                                                   | 06.4          | 52                                                | 31    | 10             | 21 00 | ** ** *        | 30 49    |
| 5   | 253                                                             | 42.6 | +15                                              | 10.3                                                                                          | 310                                               | 43.1 <sup>105</sup> | +27                                               | 09.3          | 50                                                | 19 25 | 20 02          | 20 48 | ** ** *        | 17 15 50 |
| 6   | 268                                                             | 42.7 | +15                                              | 09.5                                                                                          | 325                                               | 12.5 <sup>104</sup> | +27                                               | 12.1          | 45                                                | 19 12 | 19 45          | 20 25 | 0 06 46        | 16 46 51 |
| 7   | 283                                                             | 42.8 |                                                  | 08.8                                                                                          | 339                                               | 41.8 <sup>103</sup> |                                                   | 14.7          | 40                                                | 19 02 | 31             | 20 07 | 28 47          | 24 51    |
| 8   | 298                                                             | 42.9 |                                                  | 08.0                                                                                          | 354                                               | 11.2 <sup>104</sup> |                                                   | 17.3          | 35                                                | 18 53 | 20             | 19 52 | 0 46 48        | 16 05 51 |
| 9   | 313                                                             | 43.0 |                                                  | 07.3                                                                                          | 8                                                 | 40.5 <sup>103</sup> |                                                   | 19.7          | 30                                                | 45    | 19 10          | 40    | 1 01 49        | 15 49 51 |
| 10  | 328                                                             | 43.1 |                                                  | 06.5                                                                                          | 23                                                | 09.8 <sup>103</sup> |                                                   | 22.0          | 20                                                | 31    | 18 54          | 21    | 28 49          | 15 22 51 |
| 11  | 343                                                             | 43.2 | +15                                              | 05.8                                                                                          | 37                                                | 39.0 <sup>102</sup> | +27                                               | 24.1          | 10 N                                              | 18 19 | 18 41          | 19 07 | 1 50 51        | 14 58 52 |
| 12  | 358                                                             | 43.3 | +15                                              | 05.0                                                                                          | 52                                                | 08.3 <sup>103</sup> | +27                                               | 26.1          | 0                                                 | 18 09 | 18 30          | 18 55 | 2 12 51        | 14 36 52 |
| 13  | 13                                                              | 43.4 |                                                  | 04.3                                                                                          | 66                                                | 37.5 <sup>102</sup> |                                                   | 28.0          | 10 S                                              | 17 58 | 19             | 45    | 33 52          | 14 15 51 |
| 14  | 28                                                              | 43.5 |                                                  | 03.5                                                                                          | 81                                                | 06.7 <sup>102</sup> |                                                   | 29.8          | 20                                                | 46    | 18 09          | 35    | 2 56 52        | 13 51 51 |
| 15  | 43                                                              | 43.6 |                                                  | 02.8                                                                                          | 95                                                | 35.9 <sup>102</sup> |                                                   | 31.4          | 30                                                | 33    | 17 58          | 27    | 3 23 53        | 24 51    |
| 16  | 58                                                              | 43.7 |                                                  | 02.0                                                                                          | 110                                               | 05.0 <sup>101</sup> |                                                   | 32.9          | 35                                                | 26    | 52             | 22    | 39 53          | 13 08 51 |
| 17  | 73                                                              | 43.8 | +15                                              | 01.3                                                                                          | 124                                               | 34.2 <sup>102</sup> | +27                                               | 34.2          | 40                                                | 17 18 | 17 46          | 18 18 | 3 57 54        | 12 49 51 |
| 18  | 88                                                              | 43.9 | +15                                              | 00.5                                                                                          | 139                                               | 03.3 <sup>101</sup> | +27                                               | 35.5          | 45                                                | 17 08 | 17 39          | 18 13 | 4 20 54        | 12 27 50 |
| 19  | 103                                                             | 44.0 | +14                                              | 59.8                                                                                          | 153                                               | 32.4 <sup>101</sup> |                                                   | 36.6          | 50                                                | 16 56 | 30             | 09    | 4 48 55        | 11 58 50 |
| 20  | 118                                                             | 44.1 |                                                  | 59.0                                                                                          | 168                                               | 01.5 <sup>101</sup> |                                                   | 37.5          | 9                                                 | 51    | 26             | 07    | 5 02 56        | 44 50    |
| 21  | 133                                                             | 44.2 |                                                  | 58.3                                                                                          | 182                                               | 30.5 <sup>100</sup> |                                                   | 38.3          | 8                                                 | 54    | 45             | 22    | 04             | 19 56    |
| 22  | 148                                                             | 44.3 |                                                  | 57.5                                                                                          | 196                                               | 59.6 <sup>101</sup> |                                                   | 39.0          | 7                                                 | 56    | 38             | 18    | 02             | 5 38 57  |
| 23  | 163                                                             | 44.4 |                                                  | 56.8                                                                                          | 211                                               | 28.6 <sup>100</sup> |                                                   | 39.6          | 6                                                 | 58    | 30             | 13    | 18 00          | 6 02 58  |
| 24  | 178                                                             | 44.6 | +14                                              | 56.0                                                                                          | 225                                               | 57.7 <sup>101</sup> | +27                                               | 40.0          | 4                                                 | 60 S  | 16 22          | 17 08 | 17 57          | 6 34 60  |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                               | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                           |       |                |       |                |          |
|     | PMG<br>2 <sup>h</sup> 40 <sup>m</sup> 4                         |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |                                                                                               | Mag: +1.8<br>PMG: 12 <sup>h</sup> 51 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 14 <sup>h</sup> 06 <sup>m</sup> |               | Mag: +0.2<br>PMG: 10 <sup>h</sup> 10 <sup>m</sup> |       |                |       |                |          |
|     | hG ♈                                                            | Dec  | hG ♀                                             | Dec                                                                                           | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                              | Dec   |                |       |                |          |
| h   | °                                                               | '    | °                                                | '                                                                                             | °                                                 | '                   | °                                                 | '             | °                                                 | '     |                |       |                |          |
| 0   | 319                                                             | 47.7 | 226                                              | 28.3                                                                                          | +19                                               | 43.1                | 166                                               | 57.5          | +12                                               | 22.9  |                |       |                |          |
| 1   | 334                                                             | 50.2 | 241                                              | 28.4                                                                                          |                                                   | 43.3                | 181                                               | 58.5          |                                                   | 22.3  |                |       |                |          |
| 2   | 349                                                             | 52.7 | 256                                              | 28.5                                                                                          |                                                   | 43.4                | 196                                               | 59.4          |                                                   | 21.8  |                |       |                |          |
| 3   | 4                                                               | 55.1 | 271                                              | 28.5                                                                                          |                                                   | 43.5                | 212                                               | 00.4          |                                                   | 21.2  |                |       |                |          |
| 4   | 19                                                              | 57.6 | 286                                              | 28.6                                                                                          |                                                   | 43.6                | 227                                               | 01.3          |                                                   | 20.6  |                |       |                |          |
| 5   | 35                                                              | 00.1 | 301                                              | 28.7                                                                                          | +19                                               | 43.7                | 242                                               | 02.3          | +12                                               | 20.1  |                |       |                |          |
| 6   | 50                                                              | 02.5 | 316                                              | 28.7                                                                                          | +19                                               | 43.8                | 257                                               | 03.2          | +12                                               | 19.5  |                |       |                |          |
| 7   | 65                                                              | 05.0 | 331                                              | 28.8                                                                                          |                                                   | 43.9                | 272                                               | 04.2          |                                                   | 18.9  |                |       |                |          |
| 8   | 80                                                              | 07.5 | 346                                              | 28.9                                                                                          |                                                   | 44.0                | 287                                               | 05.1          |                                                   | 18.4  |                |       |                |          |
| 9   | 95                                                              | 09.9 | 1                                                | 28.9                                                                                          |                                                   | 44.1                | 302                                               | 06.1          |                                                   | 17.8  |                |       |                |          |
| 10  | 110                                                             | 12.4 | 16                                               | 29.0                                                                                          |                                                   | 44.3                | 317                                               | 07.0          |                                                   | 17.2  |                |       |                |          |
| 11  | 125                                                             | 14.8 | 31                                               | 29.0                                                                                          | +19                                               | 44.4                | 332                                               | 08.0          | +12                                               | 16.7  |                |       |                |          |
| 12  | 140                                                             | 17.3 | 46                                               | 29.1                                                                                          | +19                                               | 44.5                | 347                                               | 09.0          | +12                                               | 16.1  |                |       |                |          |
| 13  | 155                                                             | 19.8 | 61                                               | 29.1                                                                                          |                                                   | 44.6                | 2                                                 | 09.9          |                                                   | 15.5  |                |       |                |          |
| 14  | 170                                                             | 22.2 | 76                                               | 29.2                                                                                          |                                                   | 44.7                | 17                                                | 10.9          |                                                   | 14.9  |                |       |                |          |
| 15  | 185                                                             | 24.7 | 91                                               | 29.2                                                                                          |                                                   | 44.8                | 32                                                | 11.8          |                                                   | 14.4  |                |       |                |          |
| 16  | 200                                                             | 27.2 | 106                                              | 29.3                                                                                          |                                                   | 44.9                | 47                                                | 12.8          |                                                   | 13.8  |                |       |                |          |
| 17  | 215                                                             | 29.6 | 121                                              | 29.4                                                                                          | +19                                               | 45.0                | 62                                                | 13.7          | +12                                               | 13.2  |                |       |                |          |
| 18  | 230                                                             | 32.1 | 136                                              | 29.4                                                                                          | +19                                               | 45.1                | 77                                                | 14.7          | +12                                               | 12.7  |                |       |                |          |
| 19  | 245                                                             | 34.6 | 151                                              | 29.5                                                                                          |                                                   | 45.2                | 92                                                | 15.6          |                                                   | 12.1  |                |       |                |          |
| 20  | 260                                                             | 37.0 | 166                                              | 29.5                                                                                          |                                                   | 45.3                | 107                                               | 16.6          |                                                   | 11.5  |                |       |                |          |
| 21  | 275                                                             | 39.5 | 181                                              | 29.5                                                                                          |                                                   | 45.4                | 122                                               | 17.5          |                                                   | 10.9  |                |       |                |          |
| 22  | 290                                                             | 42.0 | 196                                              | 29.6                                                                                          |                                                   | 45.5                | 137                                               | 18.5          |                                                   | 10.4  |                |       |                |          |
| 23  | 305                                                             | 44.4 | 211                                              | 29.6                                                                                          |                                                   | 45.6                | 152                                               | 19.4          |                                                   | 09.8  |                |       |                |          |
| 24  | 320                                                             | 46.9 | 226                                              | 29.7                                                                                          | +19                                               | 45.7                | 167                                               | 20.4          | +12                                               | 09.2  |                |       |                |          |
| Dif | —                                                               |      | +1                                               |                                                                                               | +1                                                |                     | +10                                               |               | -6                                                |       |                |       |                |          |
|     |                                                                 |      |                                                  |                                                                                               |                                                   |                     |                                                   |               | +20                                               | -2    |                |       |                |          |
|     |                                                                 |      |                                                  |                                                                                               |                                                   |                     |                                                   |               | +21                                               | 0     |                |       |                |          |

| UT | SOL                                                |      |     |      |  LUNA                                                                                            |                     |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |         |      | Puesta de Luna |    |   |
|----|----------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|------|---------|--------------------------|-------|---------------|----------------|---------|------|----------------|----|---|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 9 |      |     |      | Edad: 25 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 54/1<br>12 <sup>h</sup> : 54/2<br>20 <sup>h</sup> : 54/2<br>SD: 14/7<br>PMG: 9 <sup>h</sup> 15 <sup>m</sup> R°: 52 <sup>m</sup> |                     |     |      |         |                          |       |               |                |         |      |                |    |   |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                                                                              |                     | Dif |      |         | Náutico                  | Civil |               | Hora           | R°      | Hora | R°             |    |   |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                 | '                   | °   | '    | °       | h                        | m     | h             | m              | h       | m    | h              | m  | m |
| 0  | 178                                                | 44.6 | +14 | 56.0 | 225                                                                                                                                                                               | 57.7                | +27 | 40.0 | 3       | 60 N                     | 1 53  | 3 15          | 4 08           | 23 35   | 83   | 19 50          | 22 |   |
| 1  | 193                                                | 44.7 |     | 55.3 | 240                                                                                                                                                                               | 26.7 <sup>100</sup> |     | 40.3 | 2       | 58                       | 2 20  | 29            | 17             | ** ** * | **   | 19 18          | 30 |   |
| 2  | 208                                                | 44.8 |     | 54.5 | 254                                                                                                                                                                               | 55.7 <sup>100</sup> |     | 40.5 | 0       | 56                       | 40    | 41            | 25             | ** ** * | **   | 18 55          | 33 |   |
| 3  | 223                                                | 44.9 |     | 53.8 | 269                                                                                                                                                                               | 24.7 <sup>100</sup> |     | 40.5 | 1       | 54                       | 2 57  | 3 52          | 33             | ** ** * | **   | 36             | 35 |   |
| 4  | 238                                                | 45.0 |     | 53.0 | 283                                                                                                                                                                               | 53.7 <sup>100</sup> |     | 40.4 | 2       | 52                       | 3 11  | 4 01          | 40             | 0 09    | 56   | 19             | 38 |   |
| 5  | 253                                                | 45.1 | +14 | 52.3 | 298                                                                                                                                                                               | 22.7 <sup>100</sup> | +27 | 40.1 | 3       | 50                       | 3 22  | 4 09          | 4 46           | 0 23    | 56   | 18 05          | 40 |   |
| 6  | 268                                                | 45.2 | +14 | 51.5 | 312                                                                                                                                                                               | 51.7 <sup>100</sup> | +27 | 39.7 | 4       | 45                       | 3 46  | 4 26          | 4 58           | 0 52    | 55   | 17 37          | 42 |   |
| 7  | 283                                                | 45.3 |     | 50.7 | 327                                                                                                                                                                               | 20.6 <sup>99</sup>  |     | 39.2 | 5       | 40                       | 4 04  | 40            | 5 09           | 1 15    | 54   | 17 15          | 43 |   |
| 8  | 298                                                | 45.4 |     | 50.0 | 341                                                                                                                                                                               | 49.6 <sup>100</sup> |     | 38.6 | 6       | 35                       | 18    | 4 51          | 18             | 34      | 54   | 16 56          | 45 |   |
| 9  | 313                                                | 45.5 |     | 49.2 | 356                                                                                                                                                                               | 18.6 <sup>100</sup> |     | 37.8 | 8       | 30                       | 30    | 5 00          | 26             | 1 50    | 53   | 40             | 46 |   |
| 10 | 328                                                | 45.6 |     | 48.5 | 10                                                                                                                                                                                | 47.6 <sup>100</sup> |     | 36.9 | 9       | 20                       | 4 49  | 16            | 39             | 2 17    | 53   | 16 13          | 48 |   |
| 11 | 343                                                | 45.7 | +14 | 47.7 | 25                                                                                                                                                                                | 16.5 <sup>99</sup>  | +27 | 35.8 | 11      | 10 N                     | 5 03  | 5 29          | 5 51           | 2 41    | 52   | 15 50          | 49 |   |
| 12 | 358                                                | 45.8 | +14 | 47.0 | 39                                                                                                                                                                                | 45.5 <sup>100</sup> | +27 | 34.6 | 12      | 0                        | 5 15  | 5 40          | 6 02           | 3 03    | 51   | 15 28          | 51 |   |
| 13 | 13                                                 | 45.9 |     | 46.2 | 54                                                                                                                                                                                | 14.5 <sup>100</sup> |     | 33.3 | 13      | 10 S                     | 25    | 5 51          | 12             | 25      | 51   | 15 06          | 52 |   |
| 14 | 28                                                 | 46.1 |     | 45.4 | 68                                                                                                                                                                                | 43.5 <sup>100</sup> |     | 31.8 | 15      | 20                       | 35    | 6 01          | 23             | 3 48    | 50   | 14 42          | 54 |   |
| 15 | 43                                                 | 46.2 |     | 44.7 | 83                                                                                                                                                                                | 12.4 <sup>99</sup>  |     | 30.2 | 16      | 30                       | 43    | 11            | 36             | 4 16    | 49   | 14 15          | 55 |   |
| 16 | 58                                                 | 46.3 |     | 43.9 | 97                                                                                                                                                                                | 41.4 <sup>100</sup> |     | 28.5 | 17      | 35                       | 47    | 17            | 44             | 32      | 48   | 13 59          | 56 |   |
| 17 | 73                                                 | 46.4 | +14 | 43.2 | 112                                                                                                                                                                               | 10.4 <sup>100</sup> | +27 | 26.6 | 19      | 40                       | 5 52  | 6 24          | 6 52           | 4 51    | 48   | 13 40          | 57 |   |
| 18 | 88                                                 | 46.5 | +14 | 42.4 | 126                                                                                                                                                                               | 39.4 <sup>100</sup> | +27 | 24.6 | 20      | 45                       | 5 56  | 6 31          | 7 01           | 5 14    | 46   | 13 17          | 59 |   |
| 19 | 103                                                | 46.6 |     | 41.7 | 141                                                                                                                                                                               | 08.5 <sup>101</sup> |     | 22.5 | 21      | 50                       | 6 01  | 39            | 13             | 43      | 45   | 12 48          | 61 |   |
| 20 | 118                                                | 46.7 |     | 40.9 | 155                                                                                                                                                                               | 37.5 <sup>100</sup> |     | 20.3 | 22      | 52                       | 03    | 43            | 18             | 5 58    | 43   | 34             | 62 |   |
| 21 | 133                                                | 46.8 |     | 40.1 | 170                                                                                                                                                                               | 06.5 <sup>100</sup> |     | 17.9 | 24      | 54                       | 05    | 47            | 24             | 6 15    | 42   | 12 17          | 63 |   |
| 22 | 148                                                | 46.9 |     | 39.4 | 184                                                                                                                                                                               | 35.6 <sup>101</sup> |     | 15.3 | 26      | 56                       | 07    | 51            | 31             | 6 35    | 40   | 11 57          | 65 |   |
| 23 | 163                                                | 47.0 |     | 38.6 | 199                                                                                                                                                                               | 04.6 <sup>100</sup> |     | 12.7 | 26      | 58                       | 09    | 6 56          | 38             | 7 00    | 38   | 11 32          | 68 |   |
| 24 | 178                                                | 47.1 | +14 | 37.8 | 213                                                                                                                                                                               | 33.7 <sup>101</sup> | +27 | 09.9 | 28      | 60 S                     | 6 12  | 7 01          | 7 47           | 7 34    | 33   | 10 57          | 75 |   |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                           |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 2 <sup>h</sup> 36 <sup>m</sup> 4 |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 50 <sup>m</sup> |      | Mag: -1.7<br>PMG: 14 <sup>h</sup> 03 <sup>m</sup> |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 07 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                              | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                 | '    |     |      |    |      |     |      |     |      |
| 0   | 320                                   | 46.9 | 226                                              | 29.7 | +19                                               | 45.7 | 167                                               | 20.4 | +12                                               | 09.2 | 148 | 53.9 | +4 | 41.6 | 207 | 56.0 | +21 | 33.5 |
| 1   | 335                                   | 49.3 | 241                                              | 29.7 |                                                   | 45.8 | 182                                               | 21.3 |                                                   | 08.7 | 163 | 55.9 |    | 41.4 | 222 | 58.2 |     | 33.4 |
| 2   | 350                                   | 51.8 | 256                                              | 29.8 |                                                   | 45.9 | 197                                               | 22.3 |                                                   | 08.1 | 178 | 57.9 |    | 41.2 | 238 | 00.3 |     | 33.4 |
| 3   | 5                                     | 54.3 | 271                                              | 29.8 |                                                   | 46.0 | 212                                               | 23.2 |                                                   | 07.5 | 193 | 59.9 |    | 41.0 | 253 | 02.5 |     | 33.3 |
| 4   | 20                                    | 56.7 | 286                                              | 29.8 |                                                   | 46.1 | 227                                               | 24.2 |                                                   | 06.9 | 209 | 01.9 |    | 40.8 | 268 | 04.6 |     | 33.3 |
| 5   | 35                                    | 59.2 | 301                                              | 29.9 | +19                                               | 46.2 | 242                                               | 25.1 | +12                                               | 06.4 | 224 | 03.9 | +4 | 40.6 | 283 | 06.7 | +21 | 33.2 |
| 6   | 51                                    | 01.7 | 316                                              | 29.9 | +19                                               | 46.3 | 257                                               | 26.1 | +12                                               | 05.8 | 239 | 06.0 | +4 | 40.4 | 298 | 08.9 | +21 | 33.2 |
| 7   | 66                                    | 04.1 | 331                                              | 30.0 |                                                   | 46.4 | 272                                               | 27.1 |                                                   | 05.2 | 254 | 08.0 |    | 40.2 | 313 | 11.0 |     | 33.2 |
| 8   | 81                                    | 06.6 | 346                                              | 30.0 |                                                   | 46.5 | 287                                               | 28.0 |                                                   | 04.7 | 269 | 10.0 |    | 40.0 | 328 | 13.2 |     | 33.1 |
| 9   | 96                                    | 09.1 | 1                                                | 30.0 |                                                   | 46.6 | 302                                               | 29.0 |                                                   | 04.1 | 284 | 12.0 |    | 39.8 | 343 | 15.3 |     | 33.1 |
| 10  | 111                                   | 11.5 | 16                                               | 30.1 |                                                   | 46.7 | 317                                               | 29.9 |                                                   | 03.5 | 299 | 14.0 |    | 39.6 | 358 | 17.5 |     | 33.0 |
| 11  | 126                                   | 14.0 | 31                                               | 30.1 | +19                                               | 46.8 | 332                                               | 30.9 | +12                                               | 02.9 | 314 | 16.0 | +4 | 39.4 | 13  | 19.6 | +21 | 33.0 |
| 12  | 141                                   | 16.5 | 46                                               | 30.1 | +19                                               | 46.9 | 347                                               | 31.8 | +12                                               | 02.4 | 329 | 18.0 | +4 | 39.2 | 28  | 21.8 | +21 | 32.9 |
| 13  | 156                                   | 18.9 | 61                                               | 30.2 |                                                   | 47.0 | 2                                                 | 32.8 |                                                   | 01.8 | 344 | 20.0 |    | 39.0 | 43  | 23.9 |     | 32.9 |
| 14  | 171                                   | 21.4 | 76                                               | 30.2 |                                                   | 47.1 | 17                                                | 33.7 |                                                   | 01.2 | 359 | 22.0 |    | 38.8 | 58  | 26.1 |     | 32.9 |
| 15  | 186                                   | 23.8 | 91                                               | 30.2 |                                                   | 47.2 | 32                                                | 34.7 |                                                   | 00.6 | 14  | 24.0 |    | 38.6 | 73  | 28.2 |     | 32.8 |
| 16  | 201                                   | 26.3 | 106                                              | 30.2 |                                                   | 47.3 | 47                                                | 35.6 | +12                                               | 00.1 | 29  | 26.0 |    | 38.4 | 88  | 30.4 |     | 32.8 |
| 17  | 216                                   | 28.8 | 121                                              | 30.3 | +19                                               | 47.3 | 62                                                | 36.6 | +11                                               | 59.5 | 44  | 28.0 | +4 | 38.2 | 103 | 32.5 | +21 | 32.7 |
| 18  | 231                                   | 31.2 | 136                                              | 30.3 | +19                                               | 47.4 | 77                                                | 37.6 | +11                                               | 58.9 | 59  | 30.0 | +4 | 38.0 | 118 | 34.7 | +21 | 32.7 |
| 19  | 246                                   | 33.7 | 151                                              | 30.3 |                                                   | 47.5 | 92                                                | 38.5 |                                                   | 58.3 | 74  | 32.0 |    | 37.8 | 133 | 36.8 |     | 32.6 |
| 20  | 261                                   | 36.2 | 166                                              | 30.3 |                                                   | 47.6 | 107                                               | 39.5 |                                                   | 57.8 | 89  | 34.0 |    | 37.6 | 148 | 38.9 |     | 32.6 |
| 21  | 276                                   | 38.6 | 181                                              | 30.4 |                                                   | 47.7 | 122                                               | 40.4 |                                                   | 57.2 | 104 | 36.0 |    | 37.4 | 163 | 41.1 |     | 32.6 |
| 22  | 291                                   | 41.1 | 196                                              | 30.4 |                                                   | 47.8 | 137                                               | 41.4 |                                                   | 56.6 | 119 | 38.0 |    | 37.2 | 178 | 43.2 |     | 32.5 |
| 23  | 306                                   | 43.6 | 211                                              | 30.4 |                                                   | 47.9 | 152                                               | 42.3 |                                                   | 56.0 | 134 | 40.0 |    | 37.0 | 193 | 45.4 |     | 32.5 |
| 24  | 321                                   | 46.0 | 226                                              | 30.4 | +19                                               | 48.0 | 167                                               | 43.3 | +11                                               | 55.5 | 149 | 42.1 | +4 | 36.8 | 208 | 47.5 | +21 | 32.4 |
| Dif | —                                     |      | 0 +1                                             |      | +10 -6                                            |      | +20 -2                                            |      | +21 0                                             |      |     |      |    |      |     |      |     |      |

| UT | SOL                                                |      |          | ● LUNA                                                                                                                         |                     |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |         | Puesta de Luna |       |
|----|----------------------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|----------|---------|---------------|----------------------|-------|----------------|---------|----------------|-------|
|    | SD: 15'8<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 8 |      |          | Edad: 26 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'5<br>R°: 50 <sup>m</sup> |                     |          |         |               |                      |       |                |         |                |       |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                           | Dif                 | Dec      |         |               | Dif                  | Civil | Náutico        | Hora    | R°             | Hora  |
| h  | °                                                  | '    | °        | °                                                                                                                              | '                   | °        | '       | °             | h m                  | h m   | h m            | h m m   | h m m          | h m m |
| 0  | 178                                                | 47.1 | +14 37.8 | 213                                                                                                                            | 33.7                | +27 09.9 | 30      | 60 N          | 19 58                | 20 50 | 22 08          | ** ** * | 20 12          | 11    |
| 1  | 193                                                | 47.3 | 37.1     | 228                                                                                                                            | 02.8 <sup>101</sup> | 06.9     | 30      | 58            | 49                   | 36    | 21 43          | 0 07    | 76             | 19 48 |
| 2  | 208                                                | 47.4 | 36.3     | 242                                                                                                                            | 31.9 <sup>101</sup> | 03.9     | 30      | 56            | 41                   | 24    | 24             | 30      | 72             | 28 21 |
| 3  | 223                                                | 47.5 | 35.6     | 257                                                                                                                            | 01.0 <sup>101</sup> | +27 00.7 | 32      | 54            | 34                   | 14    | 21 08          | 0 49    | 69             | 19 11 |
| 4  | 238                                                | 47.6 | 34.8     | 271                                                                                                                            | 30.2 <sup>102</sup> | +26 57.3 | 34      | 52            | 27                   | 20 06 | 20 55          | 1 05    | 67             | 18 57 |
| 5  | 253                                                | 47.7 | +14 34.0 | 285                                                                                                                            | 59.3 <sup>101</sup> | +26 53.9 | 34      | 50            | 19 22                | 19 58 | 20 44          | 1 19    | 65             | 18 45 |
| 6  | 268                                                | 47.8 | +14 33.3 | 300                                                                                                                            | 28.5 <sup>102</sup> | +26 50.3 | 36      | 45            | 19 09                | 19 41 | 20 21          | 1 47    | 62             | 18 19 |
| 7  | 283                                                | 47.9 | 32.5     | 314                                                                                                                            | 57.7 <sup>102</sup> | 46.6     | 37      | 40            | 18 59                | 28    | 20 03          | 2 09    | 60             | 17 58 |
| 8  | 298                                                | 48.0 | 31.7     | 329                                                                                                                            | 27.0 <sup>103</sup> | 42.7     | 39      | 35            | 50                   | 17    | 19 50          | 28      | 58             | 41 40 |
| 9  | 313                                                | 48.2 | 31.0     | 343                                                                                                                            | 56.2 <sup>102</sup> | 38.7     | 40      | 30            | 43                   | 19 08 | 38             | 2 43    | 57             | 26 42 |
| 10 | 328                                                | 48.3 | 30.2     | 358                                                                                                                            | 25.5 <sup>103</sup> | 34.6     | 41      | 20            | 30                   | 18 53 | 20             | 3 10    | 54             | 17 01 |
| 11 | 343                                                | 48.4 | +14 29.4 | 12                                                                                                                             | 54.8 <sup>103</sup> | +26 30.3 | 43      | 10 N          | 18 19                | 18 40 | 19 06          | 3 33    | 52             | 16 39 |
| 12 | 358                                                | 48.5 | +14 28.7 | 27                                                                                                                             | 24.1 <sup>103</sup> | +26 26.0 | 43      | 0             | 18 08                | 18 29 | 18 54          | 3 54    | 51             | 16 19 |
| 13 | 13                                                 | 48.6 | 27.9     | 41                                                                                                                             | 53.5 <sup>104</sup> | 21.4     | 46      | 10 S          | 17 58                | 19    | 44             | 4 16    | 48             | 15 58 |
| 14 | 28                                                 | 48.7 | 27.1     | 56                                                                                                                             | 22.9 <sup>104</sup> | 16.8     | 46      | 20            | 47                   | 18 10 | 36             | 4 38    | 47             | 36 55 |
| 15 | 43                                                 | 48.8 | 26.4     | 70                                                                                                                             | 52.3 <sup>104</sup> | 12.0     | 48      | 30            | 35                   | 17 59 | 28             | 5 05    | 44             | 15 10 |
| 16 | 58                                                 | 49.0 | 25.6     | 85                                                                                                                             | 21.7 <sup>104</sup> | 07.1     | 49      | 35            | 28                   | 54    | 24             | 20      | 43             | 14 55 |
| 17 | 73                                                 | 49.1 | +14 24.8 | 99                                                                                                                             | 51.2 <sup>105</sup> | +26 02.1 | 50      | 40            | 17 20                | 17 48 | 18 20          | 5 39    | 40             | 14 37 |
| 18 | 88                                                 | 49.2 | +14 24.1 | 114                                                                                                                            | 20.7 <sup>105</sup> | +25 57.0 | 51      | 45            | 17 10                | 17 41 | 18 15          | 6 00    | 38             | 14 16 |
| 19 | 103                                                | 49.3 | 23.3     | 128                                                                                                                            | 50.2 <sup>105</sup> | 51.7     | 53      | 50            | 16 59                | 33    | 11             | 28      | 34             | 13 49 |
| 20 | 118                                                | 49.4 | 22.5     | 143                                                                                                                            | 19.8 <sup>106</sup> | 46.3     | 54      | 52            | 54                   | 29    | 09             | 41      | 33             | 36 71 |
| 21 | 133                                                | 49.5 | 21.7     | 157                                                                                                                            | 49.4 <sup>106</sup> | 40.8     | 55      | 54            | 48                   | 26    | 07             | 6 57    | 30             | 20 74 |
| 22 | 148                                                | 49.6 | 21.0     | 172                                                                                                                            | 19.1 <sup>107</sup> | 35.1     | 57      | 56            | 42                   | 21    | 05             | 7 15    | 27             | 13 02 |
| 23 | 163                                                | 49.8 | 20.2     | 186                                                                                                                            | 48.7 <sup>106</sup> | 29.3     | 58      | 58            | 35                   | 17    | 03             | 7 38    | 22             | 12 40 |
| 24 | 178                                                | 49.9 | +14 19.4 | 201                                                                                                                            | 18.5 <sup>108</sup> | +25 23.4 | 59      | 60 S          | 16 27                | 17 12 | 18 01          | 8 07    | 14             | 12 12 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |          | SATURNO                                           |      |         |     |      |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|----------|---------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 2 <sup>h</sup> 32 <sup>m</sup> 5 |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 48 <sup>m</sup> |     | Mag: -1.7<br>PMG: 13 <sup>h</sup> 59 <sup>m</sup> |          | Mag: +0.2<br>PMG: 10 <sup>h</sup> 03 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec      | hG ♄                                              | Dec  |         |     |      |          |
| h   | °                                     | '    | °                                                | '    | °                                                 | '   | °                                                 | '        | °                                                 | '    |         |     |      |          |
| 0   | 321                                   | 46.0 | 226                                              | 30.4 | +19 48.0                                          | 167 | 43.3                                              | +11 55.5 | 149                                               | 42.1 | +4 36.8 | 208 | 47.5 | +21 32.4 |
| 1   | 336                                   | 48.5 | 241                                              | 30.4 | 48.1                                              | 182 | 44.2                                              | 54.9     | 164                                               | 44.1 | 36.6    | 223 | 49.7 | 32.4     |
| 2   | 351                                   | 51.0 | 256                                              | 30.5 | 48.1                                              | 197 | 45.2                                              | 54.3     | 179                                               | 46.1 | 36.4    | 238 | 51.8 | 32.3     |
| 3   | 6                                     | 53.4 | 271                                              | 30.5 | 48.2                                              | 212 | 46.1                                              | 53.7     | 194                                               | 48.1 | 36.2    | 253 | 54.0 | 32.3     |
| 4   | 21                                    | 55.9 | 286                                              | 30.5 | 48.3                                              | 227 | 47.1                                              | 53.2     | 209                                               | 50.1 | 36.0    | 268 | 56.1 | 32.2     |
| 5   | 36                                    | 58.3 | 301                                              | 30.5 | +19 48.4                                          | 242 | 48.1                                              | +11 52.6 | 224                                               | 52.1 | +4 35.8 | 283 | 58.3 | +21 32.2 |
| 6   | 52                                    | 00.8 | 316                                              | 30.5 | +19 48.5                                          | 257 | 49.0                                              | +11 52.0 | 239                                               | 54.1 | +4 35.6 | 299 | 00.4 | +21 32.2 |
| 7   | 67                                    | 03.3 | 331                                              | 30.5 | 48.6                                              | 272 | 50.0                                              | 51.4     | 254                                               | 56.1 | 35.4    | 314 | 02.6 | 32.1     |
| 8   | 82                                    | 05.7 | 346                                              | 30.5 | 48.7                                              | 287 | 50.9                                              | 50.9     | 269                                               | 58.1 | 35.2    | 329 | 04.7 | 32.1     |
| 9   | 97                                    | 08.2 | 1                                                | 30.5 | 48.7                                              | 302 | 51.9                                              | 50.3     | 285                                               | 00.1 | 35.0    | 344 | 06.9 | 32.0     |
| 10  | 112                                   | 10.7 | 16                                               | 30.6 | 48.8                                              | 317 | 52.8                                              | 49.7     | 300                                               | 02.1 | 34.8    | 359 | 09.0 | 32.0     |
| 11  | 127                                   | 13.1 | 31                                               | 30.6 | +19 48.9                                          | 332 | 53.8                                              | +11 49.1 | 315                                               | 04.1 | +4 34.6 | 14  | 11.2 | +21 31.9 |
| 12  | 142                                   | 15.6 | 46                                               | 30.6 | +19 49.0                                          | 347 | 54.7                                              | +11 48.6 | 330                                               | 06.1 | +4 34.4 | 29  | 13.3 | +21 31.9 |
| 13  | 157                                   | 18.1 | 61                                               | 30.6 | 49.1                                              | 2   | 55.7                                              | 48.0     | 345                                               | 08.1 | 34.2    | 44  | 15.5 | 31.9     |
| 14  | 172                                   | 20.5 | 76                                               | 30.6 | 49.1                                              | 17  | 56.7                                              | 47.4     | 0                                                 | 10.1 | 34.0    | 59  | 17.6 | 31.8     |
| 15  | 187                                   | 23.0 | 91                                               | 30.6 | 49.2                                              | 32  | 57.6                                              | 46.8     | 15                                                | 12.1 | 33.8    | 74  | 19.8 | 31.8     |
| 16  | 202                                   | 25.5 | 106                                              | 30.6 | 49.3                                              | 47  | 58.6                                              | 46.2     | 30                                                | 14.1 | 33.6    | 89  | 21.9 | 31.7     |
| 17  | 217                                   | 27.9 | 121                                              | 30.6 | +19 49.4                                          | 62  | 59.5                                              | +11 45.7 | 45                                                | 16.1 | +4 33.4 | 104 | 24.1 | +21 31.7 |
| 18  | 232                                   | 30.4 | 136                                              | 30.6 | +19 49.5                                          | 78  | 00.5                                              | +11 45.1 | 60                                                | 18.1 | +4 33.2 | 119 | 26.2 | +21 31.6 |
| 19  | 247                                   | 32.8 | 151                                              | 30.6 | 49.5                                              | 93  | 01.4                                              | 44.5     | 75                                                | 20.1 | 33.0    | 134 | 28.4 | 31.6     |
| 20  | 262                                   | 35.3 | 166                                              | 30.6 | 49.6                                              | 108 | 02.4                                              | 43.9     | 90                                                | 22.1 | 32.8    | 149 | 30.5 | 31.6     |
| 21  | 277                                   | 37.8 | 181                                              | 30.6 | 49.7                                              | 123 | 03.4                                              | 43.4     | 105                                               | 24.1 | 32.6    | 164 | 32.7 | 31.5     |
| 22  | 292                                   | 40.2 | 196                                              | 30.6 | 49.8                                              | 138 | 04.3                                              | 42.8     | 120                                               | 26.1 | 32.4    | 179 | 34.8 | 31.5     |
| 23  | 307                                   | 42.7 | 211                                              | 30.6 | 49.8                                              | 153 | 05.3                                              | 42.2     | 135                                               | 28.1 | 32.2    | 194 | 36.9 | 31.4     |
| 24  | 322                                   | 45.2 | 226                                              | 30.6 | +19 49.9                                          | 168 | 06.2                                              | +11 41.6 | 150                                               | 30.1 | +4 32.0 | 209 | 39.1 | +21 31.4 |
| Dif | —                                     |      | 0                                                | +1   |                                                   | +10 | -6                                                |          | +20                                               | -2   |         | +21 |      | 0        |

| UT  | SOL                                                |      |     |      | ● LUNA                                                                                                                         |                     |         |      | Latitud                                           | Principio del crepúsculo |       | Salida de Sol | Salida de Luna                                    |          | Puesta de Luna |      |                                                   |      |     |      |
|-----|----------------------------------------------------|------|-----|------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|------|---------------------------------------------------|--------------------------|-------|---------------|---------------------------------------------------|----------|----------------|------|---------------------------------------------------|------|-----|------|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 6 |      |     |      | Edad: 27 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 54'6<br>12 <sup>h</sup> : 54'7<br>20 <sup>h</sup> : 54'8<br>R°: 48 <sup>m</sup> |                     |         |      |                                                   |                          |       |               |                                                   |          |                |      |                                                   |      |     |      |
|     | hG ☉                                               |      | Dec |      | hG ☾ Dif                                                                                                                       |                     | Dec Dif |      |                                                   | Náutico                  | Civil |               | Hora                                              | R°       | Hora           | R°   |                                                   |      |     |      |
| h   | °                                                  | '    | °   | '    | °                                                                                                                              | '                   | °       | '    | °                                                 | h m                      | h m   | h m           | h m m                                             | h m m    | h m m          |      |                                                   |      |     |      |
| 0   | 178                                                | 49.9 | +14 | 19.4 | 201                                                                                                                            | 18.5                | +25     | 23.4 | 60 N                                              | 2 03                     | 3 20  | 4 12          | 0 58 92                                           | 20 23 5  |                |      |                                                   |      |     |      |
| 1   | 193                                                | 50.0 |     | 18.7 | 215                                                                                                                            | 48.2 <sup>107</sup> |         | 17.4 | 58                                                | 27                       | 34    | 21            | 1 23 85                                           | 20 05 10 |                |      |                                                   |      |     |      |
| 2   | 208                                                | 50.1 |     | 17.9 | 230                                                                                                                            | 18.0 <sup>108</sup> |         | 11.2 | 56                                                | 2 46                     | 46    | 29            | 42 80                                             | 19 49 15 |                |      |                                                   |      |     |      |
| 3   | 223                                                | 50.2 |     | 17.1 | 244                                                                                                                            | 47.8 <sup>108</sup> | +25     | 05.0 | 54                                                | 3 02                     | 3 56  | 36            | 1 58 77                                           | 36 18    |                |      |                                                   |      |     |      |
| 4   | 238                                                | 50.3 |     | 16.3 | 259                                                                                                                            | 17.7 <sup>109</sup> | +24     | 58.6 | 52                                                | 15                       | 4 04  | 43            | 2 12 74                                           | 25 20    |                |      |                                                   |      |     |      |
| 5   | 253                                                | 50.5 | +14 | 15.6 | 273                                                                                                                            | 47.6 <sup>109</sup> | +24     | 52.0 | 50                                                | 3 26                     | 4 12  | 4 48          | 2 24 72                                           | 19 15 23 |                |      |                                                   |      |     |      |
| 6   | 268                                                | 50.6 | +14 | 14.8 | 288                                                                                                                            | 17.5 <sup>109</sup> | +24     | 45.4 | 45                                                | 3 49                     | 4 29  | 5 01          | 2 49 67                                           | 18 53 28 |                |      |                                                   |      |     |      |
| 7   | 283                                                | 50.7 |     | 14.0 | 302                                                                                                                            | 47.5 <sup>110</sup> |         | 38.6 | 40                                                | 4 06                     | 42    | 11            | 3 09 64                                           | 36 31    |                |      |                                                   |      |     |      |
| 8   | 298                                                | 50.8 |     | 13.2 | 317                                                                                                                            | 17.5 <sup>110</sup> |         | 31.7 | 35                                                | 20                       | 4 52  | 19            | 26 61                                             | 21 34    |                |      |                                                   |      |     |      |
| 9   | 313                                                | 50.9 |     | 12.5 | 331                                                                                                                            | 47.6 <sup>111</sup> |         | 24.7 | 30                                                | 32                       | 5 02  | 27            | 3 40 59                                           | 18 08 37 |                |      |                                                   |      |     |      |
| 10  | 328                                                | 51.1 |     | 11.7 | 346                                                                                                                            | 17.7 <sup>111</sup> |         | 17.6 | 20                                                | 4 50                     | 17    | 40            | 4 04 55                                           | 17 46 41 |                |      |                                                   |      |     |      |
| 11  | 343                                                | 51.2 | +14 | 10.9 | 0                                                                                                                              | 47.9 <sup>112</sup> | +24     | 10.4 | 10 N                                              | 5 04                     | 5 29  | 5 51          | 4 25 52                                           | 17 27 44 |                |      |                                                   |      |     |      |
| 12  | 358                                                | 51.3 | +14 | 10.1 | 15                                                                                                                             | 18.1 <sup>112</sup> | +24     | 03.0 | 0                                                 | 5 15                     | 5 40  | 6 01          | 4 45 49                                           | 17 09 47 |                |      |                                                   |      |     |      |
| 13  | 13                                                 | 51.4 |     | 09.4 | 29                                                                                                                             | 48.3 <sup>112</sup> | +23     | 55.5 | 10 S                                              | 25                       | 5 50  | 11            | 5 04 46                                           | 16 50 52 |                |      |                                                   |      |     |      |
| 14  | 28                                                 | 51.5 |     | 08.6 | 44                                                                                                                             | 18.6 <sup>113</sup> |         | 47.9 | 20                                                | 33                       | 6 00  | 22            | 25 43                                             | 31 55    |                |      |                                                   |      |     |      |
| 15  | 43                                                 | 51.7 |     | 07.8 | 58                                                                                                                             | 48.9 <sup>113</sup> |         | 40.2 | 30                                                | 41                       | 10    | 34            | 5 49 39                                           | 16 08 59 |                |      |                                                   |      |     |      |
| 16  | 58                                                 | 51.8 |     | 07.0 | 73                                                                                                                             | 19.3 <sup>114</sup> |         | 32.4 | 35                                                | 45                       | 15    | 41            | 6 03 37                                           | 15 55 61 |                |      |                                                   |      |     |      |
| 17  | 73                                                 | 51.9 | +14 | 06.2 | 87                                                                                                                             | 49.7 <sup>114</sup> | +23     | 24.5 | 40                                                | 5 49                     | 6 21  | 6 49          | 6 19 34                                           | 15 39 65 |                |      |                                                   |      |     |      |
| 18  | 88                                                 | 52.0 | +14 | 05.5 | 102                                                                                                                            | 20.2 <sup>115</sup> | +23     | 16.4 | 45                                                | 5 53                     | 6 28  | 6 58          | 6 38 31                                           | 15 21 68 |                |      |                                                   |      |     |      |
| 19  | 103                                                | 52.1 |     | 04.7 | 116                                                                                                                            | 50.7 <sup>115</sup> | +23     | 08.2 | 50                                                | 57                       | 36    | 7 09          | 7 02 26                                           | 14 58 73 |                |      |                                                   |      |     |      |
| 20  | 118                                                | 52.3 |     | 03.9 | 131                                                                                                                            | 21.3 <sup>116</sup> | +23     | 00.0 | 52                                                | 5 59                     | 39    | 15            | 14 23                                             | 47 75    |                |      |                                                   |      |     |      |
| 21  | 133                                                | 52.4 |     | 03.1 | 145                                                                                                                            | 51.9 <sup>116</sup> | +22     | 51.6 | 54                                                | 6 01                     | 43    | 20            | 27 21                                             | 34 79    |                |      |                                                   |      |     |      |
| 22  | 148                                                | 52.5 |     | 02.3 | 160                                                                                                                            | 22.5 <sup>116</sup> |         | 43.1 | 56                                                | 03                       | 47    | 26            | 7 42 17                                           | 19 83    |                |      |                                                   |      |     |      |
| 23  | 163                                                | 52.6 |     | 01.6 | 174                                                                                                                            | 53.2 <sup>117</sup> |         | 34.5 | 58                                                | 05                       | 51    | 33            | 8 00 13                                           | 14 02 87 |                |      |                                                   |      |     |      |
| 24  | 178                                                | 52.7 | +14 | 00.8 | 189                                                                                                                            | 24.0 <sup>118</sup> | +22     | 25.7 | 60 S                                              | 6 07                     | 6 56  | 7 41          | 8 21 7                                            | 13 41 93 |                |      |                                                   |      |     |      |
| UT  | ARIES                                              |      |     |      | VENUS                                                                                                                          |                     |         |      | MARTE                                             |                          |       |               | JÚPITER                                           |          |                |      | SATURNO                                           |      |     |      |
|     | PMG<br>2 <sup>h</sup> 28 <sup>m</sup> 6            |      |     |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup>                                                                               |                     |         |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 47 <sup>m</sup> |                          |       |               | Mag: -1.7<br>PMG: 13 <sup>h</sup> 56 <sup>m</sup> |          |                |      | Mag: +0.2<br>PMG: 10 <sup>h</sup> 00 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | Dec |      | hG ♀                                                                                                                           |                     | Dec     |      | hG ♂                                              |                          | Dec   |               | hG ♃                                              |          | Dec            |      | hG ♄                                              |      | Dec |      |
| h   | °                                                  | '    | °   | '    | °                                                                                                                              | '                   | °       | '    | °                                                 | '                        | °     | '             | °                                                 | '        | °              | '    | °                                                 | '    | °   | '    |
| 0   | 322                                                | 45.2 |     |      | 226                                                                                                                            | 30.6                | +19     | 49.9 | 168                                               | 06.2                     | +11   | 41.6          | 150                                               | 30.1     | +4             | 32.0 | 209                                               | 39.1 | +21 | 31.4 |
| 1   | 337                                                | 47.6 |     |      | 241                                                                                                                            | 30.6                |         | 50.0 | 183                                               | 07.2                     |       | 41.0          | 165                                               | 32.1     |                | 31.8 | 224                                               | 41.2 |     | 31.3 |
| 2   | 352                                                | 50.1 |     |      | 256                                                                                                                            | 30.6                |         | 50.1 | 198                                               | 08.1                     |       | 40.5          | 180                                               | 34.2     |                | 31.6 | 239                                               | 43.4 |     | 31.3 |
| 3   | 7                                                  | 52.6 |     |      | 271                                                                                                                            | 30.6                |         | 50.1 | 213                                               | 09.1                     |       | 39.9          | 195                                               | 36.2     |                | 31.4 | 254                                               | 45.5 |     | 31.3 |
| 4   | 22                                                 | 55.0 |     |      | 286                                                                                                                            | 30.5                |         | 50.2 | 228                                               | 10.1                     |       | 39.3          | 210                                               | 38.2     |                | 31.2 | 269                                               | 47.7 |     | 31.2 |
| 5   | 37                                                 | 57.5 |     |      | 301                                                                                                                            | 30.5                | +19     | 50.3 | 243                                               | 11.0                     | +11   | 38.7          | 225                                               | 40.2     | +4             | 31.0 | 284                                               | 49.8 | +21 | 31.2 |
| 6   | 52                                                 | 59.9 |     |      | 316                                                                                                                            | 30.5                | +19     | 50.3 | 258                                               | 12.0                     | +11   | 38.2          | 240                                               | 42.2     | +4             | 30.8 | 299                                               | 52.0 | +21 | 31.1 |
| 7   | 68                                                 | 02.4 |     |      | 331                                                                                                                            | 30.5                |         | 50.4 | 273                                               | 12.9                     |       | 37.6          | 255                                               | 44.2     |                | 30.6 | 314                                               | 54.1 |     | 31.1 |
| 8   | 83                                                 | 04.9 |     |      | 346                                                                                                                            | 30.5                |         | 50.5 | 288                                               | 13.9                     |       | 37.0          | 270                                               | 46.2     |                | 30.4 | 329                                               | 56.3 |     | 31.0 |
| 9   | 98                                                 | 07.3 |     |      | 1                                                                                                                              | 30.5                |         | 50.5 | 303                                               | 14.8                     |       | 36.4          | 285                                               | 48.2     |                | 30.2 | 344                                               | 58.4 |     | 31.0 |
| 10  | 113                                                | 09.8 |     |      | 16                                                                                                                             | 30.5                |         | 50.6 | 318                                               | 15.8                     |       | 35.8          | 300                                               | 50.2     |                | 30.0 | 0                                                 | 00.6 |     | 31.0 |
| 11  | 128                                                | 12.3 |     |      | 31                                                                                                                             | 30.5                | +19     | 50.7 | 333                                               | 16.8                     | +11   | 35.3          | 315                                               | 52.2     | +4             | 29.8 | 15                                                | 02.7 | +21 | 30.9 |
| 12  | 143                                                | 14.7 |     |      | 46                                                                                                                             | 30.4                | +19     | 50.8 | 348                                               | 17.7                     | +11   | 34.7          | 330                                               | 54.2     | +4             | 29.6 | 30                                                | 04.9 | +21 | 30.9 |
| 13  | 158                                                | 17.2 |     |      | 61                                                                                                                             | 30.4                |         | 50.8 | 3                                                 | 18.7                     |       | 34.1          | 345                                               | 56.2     |                | 29.4 | 45                                                | 07.0 |     | 30.8 |
| 14  | 173                                                | 19.7 |     |      | 76                                                                                                                             | 30.4                |         | 50.9 | 18                                                | 19.6                     |       | 33.5          | 0                                                 | 58.2     |                | 29.2 | 60                                                | 09.2 |     | 30.8 |
| 15  | 188                                                | 22.1 |     |      | 91                                                                                                                             | 30.4                |         | 50.9 | 33                                                | 20.6                     |       | 32.9          | 16                                                | 00.2     |                | 29.0 | 75                                                | 11.3 |     | 30.7 |
| 16  | 203                                                | 24.6 |     |      | 106                                                                                                                            | 30.4                |         | 51.0 | 48                                                | 21.5                     |       | 32.4          | 31                                                | 02.2     |                | 28.8 | 90                                                | 13.5 |     | 30.7 |
| 17  | 218                                                | 27.1 |     |      | 121                                                                                                                            | 30.3                | +19     | 51.1 | 63                                                | 22.5                     | +11   | 31.8          | 46                                                | 04.2     | +4             | 28.6 | 105                                               | 15.6 | +21 | 30.7 |
| 18  | 233                                                | 29.5 |     |      | 136                                                                                                                            | 30.3                | +19     | 51.1 | 78                                                | 23.5                     | +11   | 31.2          | 61                                                | 06.2     | +4             | 28.4 | 120                                               | 17.8 | +21 | 30.6 |
| 19  | 248                                                | 32.0 |     |      | 151                                                                                                                            | 30.3                |         | 51.2 | 93                                                | 24.4                     |       | 30.6          | 76                                                | 08.2     |                | 28.2 | 135                                               | 19.9 |     | 30.6 |
| 20  | 263                                                | 34.4 |     |      | 166                                                                                                                            | 30.3                |         | 51.3 | 108                                               | 25.4                     |       | 30.0          | 91                                                | 10.2     |                | 28.0 | 150                                               | 22.1 |     | 30.5 |
| 21  | 278                                                | 36.9 |     |      | 181                                                                                                                            | 30.2                |         | 51.3 | 123                                               | 26.3                     |       | 29.5          | 106                                               | 12.2     |                | 27.8 | 165                                               | 24.2 |     | 30.5 |
| 22  | 293                                                | 39.4 |     |      | 196                                                                                                                            | 30.2                |         | 51.4 | 138                                               | 27.3                     |       | 28.9          | 121                                               | 14.2     |                | 27.6 | 180                                               | 26.4 |     | 30.4 |
| 23  | 308                                                | 41.8 |     |      | 211                                                                                                                            | 30.2                |         | 51.4 | 153                                               | 28.3                     |       | 28.3          | 136                                               | 16.2     |                | 27.4 | 195                                               | 28.6 |     | 30.4 |
| 24  | 323                                                | 44.3 |     |      | 226                                                                                                                            | 30.2                | +19     | 51.5 | 168                                               | 29.2                     | +11   | 27.7          | 151                                               | 18.2     | +4             | 27.2 | 210                                               | 30.7 | +21 | 30.4 |
| Dif | —                                                  |      |     |      | 0 +1                                                                                                                           |                     |         |      | +10 -6                                            |                          |       |               | +20 -2                                            |          |                |      | +22 0                                             |      |     |      |

| UT | SOL                                    |      |          | ● LUNA                                                                                                                                                                   |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |         |         | Salida de Luna |       |    | Puesta de Luna |  |  |
|----|----------------------------------------|------|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|---------|---------|----------------|-------|----|----------------|--|--|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 28 <sup>d</sup> 5 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> /9<br>12 <sup>h</sup> : 55 <sup>m</sup> /1<br>20 <sup>h</sup> : 55 <sup>m</sup> /2<br>R°: 46 <sup>m</sup> |                     |                         |         |               |                      |         |         |                |       |    |                |  |  |
|    | PMG: 12 <sup>h</sup> 04 <sup>m</sup> 4 |      |          | PMG: 11 <sup>h</sup> 45 <sup>m</sup>                                                                                                                                     |                     |                         |         |               | Civil                | Náutico | Hora    | R°             | Hora  | R° |                |  |  |
| h  | °                                      | '    | °        | h                                                                                                                                                                        | °                   | '                       | °       | h m           | h m                  | h m     | h m m   | h m m          | h m m |    |                |  |  |
| 0  | 178                                    | 52.7 | +14 00.8 | 189                                                                                                                                                                      | 24.0                | +22 25.7                | 60 N    | 19 52         | 20 43                | 21 58   | 2 30 93 | 20 28 2        |       |    |                |  |  |
| 1  | 193                                    | 52.9 | +14 00.0 | 203                                                                                                                                                                      | 54.8 <sup>118</sup> | 16.9 <sup>88</sup>      | 58      | 44            | 30                   | 35      | 2 48 87 | 15 7           |       |    |                |  |  |
| 2  | 208                                    | 53.0 | +13 59.2 | 218                                                                                                                                                                      | 25.6 <sup>118</sup> | +22 08.0 <sup>89</sup>  | 56      | 36            | 19                   | 17      | 3 02 83 | 20 04 10       |       |    |                |  |  |
| 3  | 223                                    | 53.1 | 58.4     | 232                                                                                                                                                                      | 56.5 <sup>119</sup> | +21 58.9 <sup>91</sup>  | 54      | 29            | 10                   | 21 02   | 15 79   | 19 54 13       |       |    |                |  |  |
| 4  | 238                                    | 53.2 | 57.6     | 247                                                                                                                                                                      | 27.4 <sup>119</sup> | 49.8 <sup>91</sup>      | 52      | 23            | 20 01                | 20 50   | 26 76   | 45 16          |       |    |                |  |  |
| 5  | 253                                    | 53.4 | +13 56.9 | 261                                                                                                                                                                      | 58.4 <sup>120</sup> | +21 40.5 <sup>93</sup>  | 50      | 19 18         | 19 54                | 20 39   | 3 36 74 | 19 38 18       |       |    |                |  |  |
| 6  | 268                                    | 53.5 | +13 56.1 | 276                                                                                                                                                                      | 29.5 <sup>121</sup> | +21 31.1 <sup>94</sup>  | 45      | 19 06         | 19 38                | 20 17   | 3 56 69 | 19 21 23       |       |    |                |  |  |
| 7  | 283                                    | 53.6 | 55.3     | 291                                                                                                                                                                      | 00.5 <sup>120</sup> | 21.7 <sup>94</sup>      | 40      | 18 56         | 25                   | 20 00   | 4 13 65 | 19 07 27       |       |    |                |  |  |
| 8  | 298                                    | 53.7 | 54.5     | 305                                                                                                                                                                      | 31.7 <sup>122</sup> | 12.1 <sup>96</sup>      | 35      | 48            | 15                   | 19 47   | 27 61   | 18 55 30       |       |    |                |  |  |
| 9  | 313                                    | 53.9 | 53.7     | 320                                                                                                                                                                      | 02.9 <sup>122</sup> | +21 02.4 <sup>97</sup>  | 30      | 41            | 19 06                | 36      | 39 59   | 45 33          |       |    |                |  |  |
| 10 | 328                                    | 54.0 | 52.9     | 334                                                                                                                                                                      | 34.1 <sup>122</sup> | +20 52.7 <sup>97</sup>  | 20      | 28            | 18 51                | 18      | 4 59 55 | 27 38          |       |    |                |  |  |
| 11 | 343                                    | 54.1 | +13 52.2 | 349                                                                                                                                                                      | 05.4 <sup>123</sup> | +20 42.8 <sup>99</sup>  | 10 N    | 18 18         | 18 39                | 19 05   | 5 17 51 | 18 11 42       |       |    |                |  |  |
| 12 | 358                                    | 54.2 | +13 51.4 | 3                                                                                                                                                                        | 36.7 <sup>123</sup> | +20 32.8 <sup>100</sup> | 0       | 18 08         | 18 29                | 18 54   | 5 34 46 | 17 56 46       |       |    |                |  |  |
| 13 | 13                                     | 54.4 | 50.6     | 18                                                                                                                                                                       | 08.1 <sup>124</sup> | 22.7 <sup>101</sup>     | 10 S    | 17 58         | 19                   | 44      | 5 50 43 | 42 49          |       |    |                |  |  |
| 14 | 28                                     | 54.5 | 49.8     | 32                                                                                                                                                                       | 39.5 <sup>124</sup> | 12.6 <sup>101</sup>     | 20      | 48            | 10                   | 36      | 6 08 39 | 26 54          |       |    |                |  |  |
| 15 | 43                                     | 54.6 | 49.0     | 47                                                                                                                                                                       | 11.0 <sup>125</sup> | +20 02.3 <sup>103</sup> | 30      | 36            | 18 00                | 29      | 28 35   | 17 07 59       |       |    |                |  |  |
| 16 | 58                                     | 54.7 | 48.2     | 61                                                                                                                                                                       | 42.5 <sup>125</sup> | +19 51.9 <sup>104</sup> | 35      | 29            | 17 55                | 25      | 40 32   | 16 56 62       |       |    |                |  |  |
| 17 | 73                                     | 54.9 | +13 47.4 | 76                                                                                                                                                                       | 14.0 <sup>125</sup> | +19 41.5 <sup>104</sup> | 40      | 17 21         | 17 49                | 18 21   | 6 53 29 | 16 44 65       |       |    |                |  |  |
| 18 | 88                                     | 55.0 | +13 46.6 | 90                                                                                                                                                                       | 45.7 <sup>127</sup> | +19 30.9 <sup>106</sup> | 45      | 17 13         | 17 43                | 18 18   | 7 09 25 | 16 29 69       |       |    |                |  |  |
| 19 | 103                                    | 55.1 | 45.9     | 105                                                                                                                                                                      | 17.3 <sup>126</sup> | 20.3 <sup>106</sup>     | 50      | 17 02         | 36                   | 14      | 28 21   | 11 74          |       |    |                |  |  |
| 20 | 118                                    | 55.2 | 45.1     | 119                                                                                                                                                                      | 49.0 <sup>127</sup> | +19 09.5 <sup>108</sup> | 52      | 16 57         | 32                   | 12      | 37 18   | 16 02 77       |       |    |                |  |  |
| 21 | 133                                    | 55.4 | 44.3     | 134                                                                                                                                                                      | 20.8 <sup>128</sup> | +18 58.7 <sup>108</sup> | 54      | 52            | 29                   | 10      | 48 15   | 15 53 80       |       |    |                |  |  |
| 22 | 148                                    | 55.5 | 43.5     | 148                                                                                                                                                                      | 52.6 <sup>128</sup> | 47.7 <sup>110</sup>     | 56      | 46            | 25                   | 09      | 7 59 12 | 42 83          |       |    |                |  |  |
| 23 | 163                                    | 55.6 | 42.7     | 163                                                                                                                                                                      | 24.5 <sup>129</sup> | 36.7 <sup>110</sup>     | 58      | 39            | 21                   | 07      | 8 13 7  | 29 87          |       |    |                |  |  |
| 24 | 178                                    | 55.7 | +13 41.9 | 177                                                                                                                                                                      | 56.4 <sup>129</sup> | +18 25.6 <sup>111</sup> | 60 S    | 16 31         | 17 16                | 18 05   | 8 28 3  | 15 14 93       |       |    |                |  |  |

| UT  | ARIES                                 |      | VENUS                                            |          | MARTE                                             |          | JÚPITER                                           |         | SATURNO                                          |  |
|-----|---------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|----------|---------------------------------------------------|---------|--------------------------------------------------|--|
|     | PMG: 2 <sup>h</sup> 24 <sup>m</sup> 7 |      | Mag: -4.5<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |          | Mag: +1.8<br>PMG: 12 <sup>h</sup> 45 <sup>m</sup> |          | Mag: -1.7<br>PMG: 13 <sup>h</sup> 53 <sup>m</sup> |         | Mag: +0.2<br>PMG: 9 <sup>h</sup> 57 <sup>m</sup> |  |
|     | hG ♈                                  | hG ♀ | Dec                                              | hG ♂     | Dec                                               | hG ♃     | Dec                                               | hG ♄    | Dec                                              |  |
| h   | °                                     | '    | °                                                | °        | '                                                 | °        | '                                                 | °       | '                                                |  |
| 0   | 323                                   | 44.3 | 226 30.2                                         | +19 51.5 | 168 29.2                                          | +11 27.7 | 151 18.2                                          | +4 27.2 | 210 30.7                                         |  |
| 1   | 338                                   | 46.8 | 241 30.1                                         | 51.6     | 183 30.2                                          | 27.1     | 166 20.2                                          | 27.0    | 225 32.9                                         |  |
| 2   | 353                                   | 49.2 | 256 30.1                                         | 51.6     | 198 31.1                                          | 26.6     | 181 22.2                                          | 26.8    | 240 35.0                                         |  |
| 3   | 8                                     | 51.7 | 271 30.1                                         | 51.7     | 213 32.1                                          | 26.0     | 196 24.2                                          | 26.6    | 255 37.2                                         |  |
| 4   | 23                                    | 54.2 | 286 30.0                                         | 51.7     | 228 33.1                                          | 25.4     | 211 26.2                                          | 26.4    | 270 39.3                                         |  |
| 5   | 38                                    | 56.6 | 301 30.0                                         | +19 51.8 | 243 34.0                                          | +11 24.8 | 226 28.2                                          | +4 26.2 | 285 41.5                                         |  |
| 6   | 53                                    | 59.1 | 316 30.0                                         | +19 51.8 | 258 35.0                                          | +11 24.2 | 241 30.2                                          | +4 26.0 | 300 43.6                                         |  |
| 7   | 69                                    | 01.6 | 331 29.9                                         | 51.9     | 273 35.9                                          | 23.6     | 256 32.2                                          | 25.8    | 315 45.8                                         |  |
| 8   | 84                                    | 04.0 | 346 29.9                                         | 52.0     | 288 36.9                                          | 23.1     | 271 34.2                                          | 25.6    | 330 47.9                                         |  |
| 9   | 99                                    | 06.5 | 1 29.9                                           | 52.0     | 303 37.9                                          | 22.5     | 286 36.2                                          | 25.4    | 345 50.1                                         |  |
| 10  | 114                                   | 08.9 | 16 29.8                                          | 52.1     | 318 38.8                                          | 21.9     | 301 38.2                                          | 25.2    | 0 52.2                                           |  |
| 11  | 129                                   | 11.4 | 31 29.8                                          | +19 52.1 | 333 39.8                                          | +11 21.3 | 316 40.2                                          | +4 25.0 | 15 54.4                                          |  |
| 12  | 144                                   | 13.9 | 46 29.8                                          | +19 52.2 | 348 40.7                                          | +11 20.7 | 331 42.2                                          | +4 24.8 | 30 56.5                                          |  |
| 13  | 159                                   | 16.3 | 61 29.7                                          | 52.2     | 3 41.7                                            | 20.1     | 346 44.2                                          | 24.6    | 45 58.7                                          |  |
| 14  | 174                                   | 18.8 | 76 29.7                                          | 52.3     | 18 42.7                                           | 19.6     | 1 46.2                                            | 24.4    | 61 00.8                                          |  |
| 15  | 189                                   | 21.3 | 91 29.6                                          | 52.3     | 33 43.6                                           | 19.0     | 16 48.2                                           | 24.2    | 76 03.0                                          |  |
| 16  | 204                                   | 23.7 | 106 29.6                                         | 52.4     | 48 44.6                                           | 18.4     | 31 50.2                                           | 24.0    | 91 05.1                                          |  |
| 17  | 219                                   | 26.2 | 121 29.6                                         | +19 52.4 | 63 45.5                                           | +11 17.8 | 46 52.2                                           | +4 23.8 | 106 07.3                                         |  |
| 18  | 234                                   | 28.7 | 136 29.5                                         | +19 52.5 | 78 46.5                                           | +11 17.2 | 61 54.2                                           | +4 23.6 | 121 09.4                                         |  |
| 19  | 249                                   | 31.1 | 151 29.5                                         | 52.5     | 93 47.5                                           | 16.6     | 76 56.2                                           | 23.4    | 136 11.6                                         |  |
| 20  | 264                                   | 33.6 | 166 29.4                                         | 52.6     | 108 48.4                                          | 16.1     | 91 58.2                                           | 23.2    | 151 13.7                                         |  |
| 21  | 279                                   | 36.0 | 181 29.4                                         | 52.6     | 123 49.4                                          | 15.5     | 107 00.2                                          | 23.0    | 166 15.9                                         |  |
| 22  | 294                                   | 38.5 | 196 29.3                                         | 52.7     | 138 50.3                                          | 14.9     | 122 02.2                                          | 22.8    | 181 18.0                                         |  |
| 23  | 309                                   | 41.0 | 211 29.3                                         | 52.7     | 153 51.3                                          | 14.3     | 137 04.2                                          | 22.6    | 196 20.2                                         |  |
| 24  | 324                                   | 43.4 | 226 29.2                                         | +19 52.7 | 168 52.3                                          | +11 13.7 | 152 06.2                                          | +4 22.4 | 211 22.4                                         |  |
| Dif | —                                     | 0    | +1                                               | +10      | -6                                                | +20      | -2                                                | +22     | 0                                                |  |

| UT | SOL                                                |      |     |      | ● LUNA                                                                                                                                                                                |                     |         |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |
|----|----------------------------------------------------|------|-----|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|---------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 04 <sup>m</sup> 2 |      |     |      | Edad: 29 <sup>d</sup> 5 PHE {<br>4 <sup>h</sup> : 55/3<br>12 <sup>h</sup> : 55/5<br>20 <sup>h</sup> : 55/6<br>R°: 45 <sup>m</sup><br>SD: 15/1<br>PMG: 12 <sup>h</sup> 31 <sup>m</sup> |                     |         |                     |         |                          |       |               |                |    |                |    |
|    | hG ☉                                               |      | Dec |      | hG ☾ Dif                                                                                                                                                                              |                     | Dec Dif |                     |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                                                                     | '                   | °       | '                   | °       | h                        | m     | h             | m              | h  | m              | m  |
| 0  | 178                                                | 55.7 | +13 | 41.9 | 177                                                                                                                                                                                   | 56.4                | +18     | 25.6                | 60 N    | 2 12                     | 3 26  | 4 17          | 4 03           | 91 | 20 30          | 1  |
| 1  | 193                                                | 55.9 |     | 41.1 | 192                                                                                                                                                                                   | 28.3 <sup>129</sup> |         | 14.4 <sup>112</sup> | 58      | 34                       | 39    | 26            | 15             | 87 | 22             | 4  |
| 2  | 208                                                | 56.0 |     | 40.3 | 207                                                                                                                                                                                   | 00.3 <sup>130</sup> | +18     | 03.1 <sup>113</sup> | 56      | 2 52                     | 3 50  | 33            | 25             | 83 | 14             | 8  |
| 3  | 223                                                | 56.1 |     | 39.5 | 221                                                                                                                                                                                   | 32.3 <sup>130</sup> | +17     | 51.7 <sup>114</sup> | 54      | 3 07                     | 4 00  | 40            | 34             | 80 | 07             | 11 |
| 4  | 238                                                | 56.3 |     | 38.7 | 236                                                                                                                                                                                   | 04.4 <sup>131</sup> |         | 40.3 <sup>114</sup> | 52      | 20                       | 08    | 46            | 42             | 77 | 20 01          | 13 |
| 5  | 253                                                | 56.4 | +13 | 37.9 | 250                                                                                                                                                                                   | 36.5 <sup>131</sup> | +17     | 28.7 <sup>116</sup> | 50      | 3 30                     | 4 16  | 4 51          | 4 50           | 74 | 19 56          | 15 |
| 6  | 268                                                | 56.5 | +13 | 37.2 | 265                                                                                                                                                                                   | 08.7 <sup>132</sup> | +17     | 17.1 <sup>116</sup> | 45      | 3 52                     | 4 31  | 5 03          | 5 05           | 69 | 19 44          | 20 |
| 7  | 283                                                | 56.6 |     | 36.4 | 279                                                                                                                                                                                   | 40.9 <sup>132</sup> | +17     | 05.4 <sup>117</sup> | 40      | 4 09                     | 44    | 13            | 18             | 65 | 34             | 24 |
| 8  | 298                                                | 56.8 |     | 35.6 | 294                                                                                                                                                                                   | 13.2 <sup>133</sup> | +16     | 53.6 <sup>118</sup> | 35      | 22                       | 4 54  | 21            | 28             | 62 | 25             | 28 |
| 9  | 313                                                | 56.9 |     | 34.8 | 308                                                                                                                                                                                   | 45.5 <sup>133</sup> |         | 41.7 <sup>119</sup> | 30      | 33                       | 5 03  | 28            | 38             | 58 | 18             | 30 |
| 10 | 328                                                | 57.0 |     | 34.0 | 323                                                                                                                                                                                   | 17.8 <sup>133</sup> |         | 29.7 <sup>120</sup> | 20      | 4 51                     | 17    | 40            | 5 54           | 53 | 19 05          | 35 |
| 11 | 343                                                | 57.2 | +13 | 33.2 | 337                                                                                                                                                                                   | 50.2 <sup>134</sup> | +16     | 17.7 <sup>120</sup> | 10 N    | 5 04                     | 5 29  | 5 51          | 6 08           | 49 | 18 53          | 40 |
| 12 | 358                                                | 57.3 | +13 | 32.4 | 352                                                                                                                                                                                   | 22.7 <sup>135</sup> | +16     | 05.6 <sup>121</sup> | 0       | 5 15                     | 5 40  | 6 01          | 6 20           | 46 | 18 42          | 45 |
| 13 | 13                                                 | 57.4 |     | 31.6 | 6                                                                                                                                                                                     | 55.1 <sup>134</sup> | +15     | 53.4 <sup>122</sup> | 10 S    | 24                       | 49    | 11            | 33             | 41 | 31             | 49 |
| 14 | 28                                                 | 57.6 |     | 30.8 | 21                                                                                                                                                                                    | 27.6 <sup>135</sup> |         | 41.1 <sup>123</sup> | 20      | 32                       | 5 58  | 21            | 6 47           | 37 | 20             | 53 |
| 15 | 43                                                 | 57.7 |     | 30.0 | 36                                                                                                                                                                                    | 00.2 <sup>136</sup> |         | 28.8 <sup>123</sup> | 30      | 40                       | 6 08  | 32            | 7 03           | 31 | 18 06          | 58 |
| 16 | 58                                                 | 57.8 |     | 29.2 | 50                                                                                                                                                                                    | 32.8 <sup>136</sup> |         | 16.3 <sup>125</sup> | 35      | 43                       | 13    | 39            | 12             | 29 | 17 58          | 61 |
| 17 | 73                                                 | 57.9 | +13 | 28.4 | 65                                                                                                                                                                                    | 05.4 <sup>136</sup> | +15     | 03.8 <sup>125</sup> | 40      | 5 47                     | 6 19  | 6 47          | 7 22           | 25 | 17 49          | 65 |
| 18 | 88                                                 | 58.1 | +13 | 27.6 | 79                                                                                                                                                                                    | 38.1 <sup>137</sup> | +14     | 51.2 <sup>126</sup> | 45      | 5 50                     | 6 25  | 6 55          | 7 34           | 22 | 17 38          | 70 |
| 19 | 103                                                | 58.2 |     | 26.8 | 94                                                                                                                                                                                    | 10.8 <sup>137</sup> |         | 38.6 <sup>126</sup> | 50      | 54                       | 32    | 7 06          | 49             | 16 | 25             | 75 |
| 20 | 118                                                | 58.3 |     | 26.0 | 108                                                                                                                                                                                   | 43.5 <sup>137</sup> |         | 25.9 <sup>127</sup> | 52      | 56                       | 35    | 11            | 7 55           | 15 | 19             | 77 |
| 21 | 133                                                | 58.5 |     | 25.2 | 123                                                                                                                                                                                   | 16.3 <sup>138</sup> |         | 13.1 <sup>128</sup> | 54      | 57                       | 39    | 16            | 8 03           | 11 | 13             | 79 |
| 22 | 148                                                | 58.6 |     | 24.4 | 137                                                                                                                                                                                   | 49.2 <sup>139</sup> | +14     | 00.2 <sup>129</sup> | 56      | 5 59                     | 43    | 22            | 11             | 9  | 17 05          | 83 |
| 23 | 163                                                | 58.7 |     | 23.6 | 152                                                                                                                                                                                   | 22.0 <sup>138</sup> | +13     | 47.3 <sup>129</sup> | 58      | 6 01                     | 47    | 28            | 20             | 6  | 16 56          | 87 |
| 24 | 178                                                | 58.9 | +13 | 22.8 | 166                                                                                                                                                                                   | 54.9 <sup>139</sup> | +13     | 34.3 <sup>130</sup> | 60 S    | 6 02                     | 6 51  | 7 36          | 8 31           | 2  | 16 47          | 90 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 2 <sup>h</sup> 20 <sup>m</sup> 7 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 44 <sup>m</sup> |      | Mag: -1.7<br>PMG: 13 <sup>h</sup> 50 <sup>m</sup> |      | Mag: +0.2<br>PMG: 9 <sup>h</sup> 53 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  |      | hG ♀ Dec                                         |      | hG ♂ Dec                                          |      | hG ♃ Dec                                          |      | hG ♄ Dec                                         |      |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 324                                   | 43.4 | 226                                              | 29.2 | +19                                               | 52.7 | 168                                               | 52.3 | +11                                              | 13.7 | 152 | 06.2 | +4 | 22.4 | 211 | 22.4 | +21 | 29.3 |
| 1   | 339                                   | 45.9 | 241                                              | 29.2 |                                                   | 52.8 | 183                                               | 53.2 |                                                  | 13.1 | 167 | 08.2 |    | 22.2 | 226 | 24.5 |     | 29.3 |
| 2   | 354                                   | 48.4 | 256                                              | 29.1 |                                                   | 52.8 | 198                                               | 54.2 |                                                  | 12.6 | 182 | 10.2 |    | 22.0 | 241 | 26.7 |     | 29.2 |
| 3   | 9                                     | 50.8 | 271                                              | 29.1 |                                                   | 52.9 | 213                                               | 55.1 |                                                  | 12.0 | 197 | 12.2 |    | 21.8 | 256 | 28.8 |     | 29.2 |
| 4   | 24                                    | 53.3 | 286                                              | 29.0 |                                                   | 52.9 | 228                                               | 56.1 |                                                  | 11.4 | 212 | 14.2 |    | 21.6 | 271 | 31.0 |     | 29.2 |
| 5   | 39                                    | 55.8 | 301                                              | 29.0 | +19                                               | 53.0 | 243                                               | 57.1 | +11                                              | 10.8 | 227 | 16.2 | +4 | 21.4 | 286 | 33.1 | +21 | 29.1 |
| 6   | 54                                    | 58.2 | 316                                              | 28.9 | +19                                               | 53.0 | 258                                               | 58.0 | +11                                              | 10.2 | 242 | 18.2 | +4 | 21.2 | 301 | 35.3 | +21 | 29.1 |
| 7   | 70                                    | 00.7 | 331                                              | 28.9 |                                                   | 53.0 | 273                                               | 59.0 |                                                  | 09.6 | 257 | 20.2 |    | 21.0 | 316 | 37.4 |     | 29.0 |
| 8   | 85                                    | 03.2 | 346                                              | 28.8 |                                                   | 53.1 | 288                                               | 59.9 |                                                  | 09.0 | 272 | 22.2 |    | 20.8 | 331 | 39.6 |     | 29.0 |
| 9   | 100                                   | 05.6 | 1                                                | 28.7 |                                                   | 53.1 | 304                                               | 00.9 |                                                  | 08.5 | 287 | 24.2 |    | 20.6 | 346 | 41.7 |     | 28.9 |
| 10  | 115                                   | 08.1 | 16                                               | 28.7 |                                                   | 53.2 | 319                                               | 01.9 |                                                  | 07.9 | 302 | 26.2 |    | 20.4 | 1   | 43.9 |     | 28.9 |
| 11  | 130                                   | 10.5 | 31                                               | 28.6 | +19                                               | 53.2 | 334                                               | 02.8 | +11                                              | 07.3 | 317 | 28.2 | +4 | 20.2 | 16  | 46.0 | +21 | 28.9 |
| 12  | 145                                   | 13.0 | 46                                               | 28.6 | +19                                               | 53.2 | 349                                               | 03.8 | +11                                              | 06.7 | 332 | 30.2 | +4 | 20.0 | 31  | 48.2 | +21 | 28.8 |
| 13  | 160                                   | 15.5 | 61                                               | 28.5 |                                                   | 53.3 | 4                                                 | 04.8 |                                                  | 06.1 | 347 | 32.2 |    | 19.8 | 46  | 50.3 |     | 28.8 |
| 14  | 175                                   | 17.9 | 76                                               | 28.4 |                                                   | 53.3 | 19                                                | 05.7 |                                                  | 05.5 | 2   | 34.2 |    | 19.6 | 61  | 52.5 |     | 28.7 |
| 15  | 190                                   | 20.4 | 91                                               | 28.4 |                                                   | 53.3 | 34                                                | 06.7 |                                                  | 04.9 | 17  | 36.2 |    | 19.4 | 76  | 54.7 |     | 28.7 |
| 16  | 205                                   | 22.9 | 106                                              | 28.3 |                                                   | 53.4 | 49                                                | 07.6 |                                                  | 04.4 | 32  | 38.2 |    | 19.2 | 91  | 56.8 |     | 28.6 |
| 17  | 220                                   | 25.3 | 121                                              | 28.2 | +19                                               | 53.4 | 64                                                | 08.6 | +11                                              | 03.8 | 47  | 40.2 | +4 | 19.0 | 106 | 59.0 | +21 | 28.6 |
| 18  | 235                                   | 27.8 | 136                                              | 28.2 | +19                                               | 53.4 | 79                                                | 09.6 | +11                                              | 03.2 | 62  | 42.2 | +4 | 18.8 | 122 | 01.1 | +21 | 28.6 |
| 19  | 250                                   | 30.3 | 151                                              | 28.1 |                                                   | 53.5 | 94                                                | 10.5 |                                                  | 02.6 | 77  | 44.2 |    | 18.6 | 137 | 03.3 |     | 28.5 |
| 20  | 265                                   | 32.7 | 166                                              | 28.0 |                                                   | 53.5 | 109                                               | 11.5 |                                                  | 02.0 | 92  | 46.2 |    | 18.4 | 152 | 05.4 |     | 28.5 |
| 21  | 280                                   | 35.2 | 181                                              | 28.0 |                                                   | 53.5 | 124                                               | 12.5 |                                                  | 01.4 | 107 | 48.2 |    | 18.2 | 167 | 07.6 |     | 28.4 |
| 22  | 295                                   | 37.7 | 196                                              | 27.9 |                                                   | 53.6 | 139                                               | 13.4 |                                                  | 00.8 | 122 | 50.2 |    | 18.0 | 182 | 09.7 |     | 28.4 |
| 23  | 310                                   | 40.1 | 211                                              | 27.8 |                                                   | 53.6 | 154                                               | 14.4 | +11                                              | 00.3 | 137 | 52.2 |    | 17.8 | 197 | 11.9 |     | 28.3 |
| 24  | 325                                   | 42.6 | 226                                              | 27.8 | +19                                               | 53.6 | 169                                               | 15.3 | +10                                              | 59.7 | 152 | 54.2 | +4 | 17.6 | 212 | 14.0 | +21 | 28.3 |
| Dif | —                                     |      | -1                                               |      | 0                                                 |      | +10                                               |      | -6                                               |      | +20 |      | -2 |      | +22 |      |     |      |



ALMANAQUE NÁUTICO PERSEUS

| UT | SOL                                                |      |     | ● LUNA                                                                                                                           |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |       |    |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|-------|----|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 7 |      |     | Edad: 1 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 56/3<br>12 <sup>h</sup> : 56/5<br>20 <sup>h</sup> : 56/6<br>R°: 43 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |      |       |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                             | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°    |    |
| h  | °                                                  | '    | °   | '                                                                                                                                | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m    | h     | m  |
| 0  | 179                                                | 02.1 | +13 | 03.5                                                                                                                             | 156 | 12.9                | +8      | 04.4                     | 60 N    | 2 20          | 3 32           | 4 22 | 7 04           | 90   | 20 31 | 0  |
| 1  | 194                                                | 02.3 |     | 02.7                                                                                                                             | 170 | 46.4 <sup>145</sup> | +7      | 50.0 <sup>144</sup>      | 58      | 41            | 44             | 30   | 08 85          |      | 30 3  |    |
| 2  | 209                                                | 02.4 |     | 01.9                                                                                                                             | 185 | 20.0 <sup>146</sup> |         | 35.6 <sup>144</sup>      | 56      | 2 58          | 3 55           | 37   | 11 82          |      | 28 7  |    |
| 3  | 224                                                | 02.5 |     | 01.1                                                                                                                             | 199 | 53.5 <sup>145</sup> |         | 21.1 <sup>145</sup>      | 54      | 3 12          | 4 04           | 44   | 14 79          |      | 27 9  |    |
| 4  | 239                                                | 02.7 | +13 | 00.3                                                                                                                             | 214 | 27.1 <sup>146</sup> | +7      | 06.6 <sup>145</sup>      | 52      | 24            | 12             | 49   | 16 77          |      | 26 11 |    |
| 5  | 254                                                | 02.8 | +12 | 59.5                                                                                                                             | 229 | 00.7 <sup>146</sup> | +6      | 52.0 <sup>146</sup>      | 50      | 3 34          | 4 19           | 4 54 | 7 18           | 75   | 20 25 | 13 |
| 6  | 269                                                | 03.0 | +12 | 58.7                                                                                                                             | 243 | 34.3 <sup>146</sup> | +6      | 37.4 <sup>146</sup>      | 45      | 3 55          | 4 34           | 5 05 | 7 24           | 69   | 20 23 | 18 |
| 7  | 284                                                | 03.1 |     | 57.8                                                                                                                             | 258 | 07.8 <sup>145</sup> |         | 22.8 <sup>146</sup>      | 40      | 4 11          | 46             | 15   | 28 65          |      | 21 22 |    |
| 8  | 299                                                | 03.2 |     | 57.0                                                                                                                             | 272 | 41.4 <sup>146</sup> | +6      | 08.1 <sup>147</sup>      | 35      | 24            | 4 56           | 22   | 31 62          |      | 19 26 |    |
| 9  | 314                                                | 03.4 |     | 56.2                                                                                                                             | 287 | 15.1 <sup>147</sup> | +5      | 53.4 <sup>147</sup>      | 30      | 35            | 5 04           | 29   | 35 58          |      | 17 29 |    |
| 10 | 329                                                | 03.5 |     | 55.4                                                                                                                             | 301 | 48.7 <sup>146</sup> |         | 38.7 <sup>147</sup>      | 20      | 4 51          | 18             | 41   | 40 53          |      | 15 34 |    |
| 11 | 344                                                | 03.7 | +12 | 54.6                                                                                                                             | 316 | 22.3 <sup>146</sup> | +5      | 23.9 <sup>148</sup>      | 10 N    | 5 04          | 5 29           | 5 51 | 7 45           | 48   | 20 12 | 40 |
| 12 | 359                                                | 03.8 | +12 | 53.8                                                                                                                             | 330 | 55.9 <sup>146</sup> | +5      | 09.1 <sup>148</sup>      | 0       | 5 15          | 5 39           | 6 00 | 7 49           | 44   | 20 10 | 44 |
| 13 | 14                                                 | 03.9 |     | 53.0                                                                                                                             | 345 | 29.5 <sup>146</sup> | +4      | 54.3 <sup>148</sup>      | 10 S    | 23            | 48             | 10   | 54 39          |      | 08 48 |    |
| 14 | 29                                                 | 04.1 |     | 52.2                                                                                                                             | 0   | 03.2 <sup>147</sup> |         | 39.4 <sup>149</sup>      | 20      | 31            | 5 57           | 19   | 7 59           | 34   | 05 54 |    |
| 15 | 44                                                 | 04.2 |     | 51.3                                                                                                                             | 14  | 36.8 <sup>146</sup> |         | 24.5 <sup>149</sup>      | 30      | 38            | 6 06           | 30   | 8 04           | 29   | 03 58 |    |
| 16 | 59                                                 | 04.4 |     | 50.5                                                                                                                             | 29  | 10.4 <sup>146</sup> | +4      | 09.6 <sup>149</sup>      | 35      | 41            | 11             | 37   | 07 26          |      | 20 01 | 62 |
| 17 | 74                                                 | 04.5 | +12 | 49.7                                                                                                                             | 43  | 44.1 <sup>147</sup> | +3      | 54.6 <sup>150</sup>      | 40      | 5 44          | 6 16           | 6 44 | 8 11           | 22   | 19 59 | 66 |
| 18 | 89                                                 | 04.7 | +12 | 48.9                                                                                                                             | 58  | 17.7 <sup>146</sup> | +3      | 39.7 <sup>149</sup>      | 45      | 5 47          | 6 22           | 6 52 | 8 15           | 18   | 19 57 | 70 |
| 19 | 104                                                | 04.8 |     | 48.1                                                                                                                             | 72  | 51.3 <sup>146</sup> |         | 24.7 <sup>150</sup>      | 50      | 51            | 29             | 7 02 | 20 13          |      | 54 76 |    |
| 20 | 119                                                | 04.9 |     | 47.3                                                                                                                             | 87  | 24.9 <sup>146</sup> | +3      | 09.6 <sup>151</sup>      | 52      | 52            | 31             | 07   | 22 11          |      | 53 78 |    |
| 21 | 134                                                | 05.1 |     | 46.5                                                                                                                             | 101 | 58.5 <sup>146</sup> | +2      | 54.6 <sup>150</sup>      | 54      | 53            | 35             | 12   | 24 9           |      | 52 80 |    |
| 22 | 149                                                | 05.2 |     | 45.6                                                                                                                             | 116 | 32.1 <sup>146</sup> |         | 39.5 <sup>151</sup>      | 56      | 55            | 38             | 17   | 27 6           |      | 50 83 |    |
| 23 | 164                                                | 05.4 |     | 44.8                                                                                                                             | 131 | 05.7 <sup>146</sup> |         | 24.4 <sup>151</sup>      | 58      | 56            | 42             | 23   | 30 3           |      | 49 86 |    |
| 24 | 179                                                | 05.5 | +12 | 44.0                                                                                                                             | 145 | 39.3 <sup>146</sup> | +2      | 09.3 <sup>151</sup>      | 60 S    | 5 57          | 6 46           | 7 30 | 8 33           | 0    | 19 47 | 90 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 2 <sup>h</sup> 12 <sup>m</sup> 9 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 41 <sup>m</sup> |      | Mag: -1.7<br>PMG: 13 <sup>h</sup> 43 <sup>m</sup> |      | Mag: +0.2<br>PMG: 9 <sup>h</sup> 46 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 326                                   | 41.7 | 226                                              | 25.8 | +19                                               | 54.1 | 169                                               | 38.5 | +10                                              | 45.5 | 153 | 42.1 | +4 | 12.7 | 213 | 05.8 | +21 | 27.3 |
| 1   | 341                                   | 44.2 | 241                                              | 25.7 |                                                   | 54.1 | 184                                               | 39.4 |                                                  | 45.0 | 168 | 44.1 |    | 12.5 | 228 | 07.9 |     | 27.2 |
| 2   | 356                                   | 46.6 | 256                                              | 25.6 |                                                   | 54.2 | 199                                               | 40.4 |                                                  | 44.4 | 183 | 46.1 |    | 12.3 | 243 | 10.1 |     | 27.2 |
| 3   | 11                                    | 49.1 | 271                                              | 25.5 |                                                   | 54.2 | 214                                               | 41.4 |                                                  | 43.8 | 198 | 48.1 |    | 12.1 | 258 | 12.3 |     | 27.1 |
| 4   | 26                                    | 51.6 | 286                                              | 25.4 |                                                   | 54.2 | 229                                               | 42.3 |                                                  | 43.2 | 213 | 50.1 |    | 11.9 | 273 | 14.4 |     | 27.1 |
| 5   | 41                                    | 54.0 | 301                                              | 25.4 | +19                                               | 54.2 | 244                                               | 43.3 | +10                                              | 42.6 | 228 | 52.1 | +4 | 11.7 | 288 | 16.6 | +21 | 27.1 |
| 6   | 56                                    | 56.5 | 316                                              | 25.3 | +19                                               | 54.2 | 259                                               | 44.3 | +10                                              | 42.0 | 243 | 54.1 | +4 | 11.5 | 303 | 18.7 | +21 | 27.0 |
| 7   | 71                                    | 59.0 | 331                                              | 25.2 |                                                   | 54.2 | 274                                               | 45.2 |                                                  | 41.4 | 258 | 56.1 |    | 11.3 | 318 | 20.9 |     | 27.0 |
| 8   | 87                                    | 01.4 | 346                                              | 25.1 |                                                   | 54.2 | 289                                               | 46.2 |                                                  | 40.8 | 273 | 58.1 |    | 11.1 | 333 | 23.0 |     | 26.9 |
| 9   | 102                                   | 03.9 | 1                                                | 25.0 |                                                   | 54.2 | 304                                               | 47.2 |                                                  | 40.2 | 289 | 00.1 |    | 10.9 | 348 | 25.2 |     | 26.9 |
| 10  | 117                                   | 06.4 | 16                                               | 24.9 |                                                   | 54.2 | 319                                               | 48.1 |                                                  | 39.6 | 304 | 02.1 |    | 10.7 | 3   | 27.4 |     | 26.8 |
| 11  | 132                                   | 08.8 | 31                                               | 24.8 | +19                                               | 54.2 | 334                                               | 49.1 | +10                                              | 39.0 | 319 | 04.0 | +4 | 10.5 | 18  | 29.5 | +21 | 26.8 |
| 12  | 147                                   | 11.3 | 46                                               | 24.7 | +19                                               | 54.2 | 349                                               | 50.0 | +10                                              | 38.5 | 334 | 06.0 | +4 | 10.3 | 33  | 31.7 | +21 | 26.8 |
| 13  | 162                                   | 13.7 | 61                                               | 24.6 |                                                   | 54.2 | 4                                                 | 51.0 |                                                  | 37.9 | 349 | 08.0 |    | 10.1 | 48  | 33.8 |     | 26.7 |
| 14  | 177                                   | 16.2 | 76                                               | 24.5 |                                                   | 54.2 | 19                                                | 52.0 |                                                  | 37.3 | 4   | 10.0 |    | 09.9 | 63  | 36.0 |     | 26.7 |
| 15  | 192                                   | 18.7 | 91                                               | 24.4 |                                                   | 54.3 | 34                                                | 52.9 |                                                  | 36.7 | 19  | 12.0 |    | 09.7 | 78  | 38.1 |     | 26.6 |
| 16  | 207                                   | 21.1 | 106                                              | 24.3 |                                                   | 54.3 | 49                                                | 53.9 |                                                  | 36.1 | 34  | 14.0 |    | 09.5 | 93  | 40.3 |     | 26.6 |
| 17  | 222                                   | 23.6 | 121                                              | 24.1 | +19                                               | 54.3 | 64                                                | 54.9 | +10                                              | 35.5 | 49  | 16.0 | +4 | 09.3 | 108 | 42.5 | +21 | 26.5 |
| 18  | 237                                   | 26.1 | 136                                              | 24.0 | +19                                               | 54.3 | 79                                                | 55.8 | +10                                              | 34.9 | 64  | 18.0 | +4 | 09.1 | 123 | 44.6 | +21 | 26.5 |
| 19  | 252                                   | 28.5 | 151                                              | 23.9 |                                                   | 54.3 | 94                                                | 56.8 |                                                  | 34.3 | 79  | 20.0 |    | 08.9 | 138 | 46.8 |     | 26.5 |
| 20  | 267                                   | 31.0 | 166                                              | 23.8 |                                                   | 54.3 | 109                                               | 57.8 |                                                  | 33.7 | 94  | 22.0 |    | 08.7 | 153 | 48.9 |     | 26.4 |
| 21  | 282                                   | 33.5 | 181                                              | 23.7 |                                                   | 54.3 | 124                                               | 58.7 |                                                  | 33.1 | 109 | 24.0 |    | 08.5 | 168 | 51.1 |     | 26.4 |
| 22  | 297                                   | 35.9 | 196                                              | 23.6 |                                                   | 54.3 | 139                                               | 59.7 |                                                  | 32.5 | 124 | 26.0 |    | 08.2 | 183 | 53.3 |     | 26.3 |
| 23  | 312                                   | 38.4 | 211                                              | 23.5 |                                                   | 54.3 | 155                                               | 00.7 |                                                  | 31.9 | 139 | 28.0 |    | 08.0 | 198 | 55.4 |     | 26.3 |
| 24  | 327                                   | 40.9 | 226                                              | 23.4 | +19                                               | 54.3 | 170                                               | 01.6 | +10                                              | 31.3 | 154 | 30.0 | +4 | 07.8 | 213 | 57.6 | +21 | 26.2 |
| Dif | —                                     |      | -1                                               |      | 0                                                 |      | +10                                               |      | -6                                               |      | +20 |      | -2 |      | +22 |      |     |      |

| UT  | SOL                                                             |      | ● LUNA                                                                                  |      |                                                                                                                                                  |                        | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |       | Puesta de Luna |          |
|-----|-----------------------------------------------------------------|------|-----------------------------------------------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------|---------------|--------------------------------------------------|-------|----------------|-------|----------------|----------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 5 |      | Edad: 2 <sup>d</sup> 9<br>SD: 15 <sup>h</sup> 4<br>PMG: 14 <sup>h</sup> 43 <sup>m</sup> |      | PHE {<br>4 <sup>h</sup> : 56 <sup>m</sup> 8<br>12 <sup>h</sup> : 57 <sup>m</sup> 0<br>20 <sup>h</sup> : 57 <sup>m</sup> 1<br>R°: 45 <sup>m</sup> |                        |                                                   |               |                                                  |       |                |       |                |          |
|     | hG ☉                                                            | Dec  | hG ☾                                                                                    | Dif  |                                                                                                                                                  | Dec                    |                                                   |               | Dif                                              | Civil | Náutico        | Hora  | R°             | Hora     |
| h   | °                                                               | '    | °                                                                                       | '    | °                                                                                                                                                | '                      | °                                                 | h m           | h m                                              | h m   | h m m          | h m m | h m m          | h m m    |
| 0   | 179                                                             | 05.5 | +12 44.0                                                                                | 145  | 39.3                                                                                                                                             | +2 09.3                | 60 N                                              | 19 41         | 20 30                                            | 21 39 | 8 34 91        |       | 20 31 1        |          |
| 1   | 194                                                             | 05.7 |                                                                                         | 160  | 12.9 <sup>146</sup>                                                                                                                              | +1 54.1 <sup>152</sup> | 58                                                | 33            | 18                                               | 19    | 33 88          |       | 33 4           |          |
| 2   | 209                                                             | 05.8 |                                                                                         | 174  | 46.5 <sup>146</sup>                                                                                                                              | 39.0 <sup>151</sup>    | 56                                                | 26            | 08                                               | 21 04 | 33 85          |       | 35 6           |          |
| 3   | 224                                                             | 05.9 |                                                                                         | 189  | 20.1 <sup>146</sup>                                                                                                                              | 23.8 <sup>152</sup>    | 54                                                | 20            | 20 00                                            | 20 50 | 33 82          |       | 36 10          |          |
| 4   | 239                                                             | 06.1 |                                                                                         | 203  | 53.6 <sup>145</sup>                                                                                                                              | +1 08.6 <sup>152</sup> | 52                                                | 15            | 19 52                                            | 39    | 33 79          |       | 37 12          |          |
| 5   | 254                                                             | 06.2 | +12 39.9                                                                                | 218  | 27.1 <sup>145</sup>                                                                                                                              | +0 53.4 <sup>152</sup> | 50                                                | 19 10         | 19 45                                            | 20 29 | 8 33 77        |       | 20 38 15       |          |
| 6   | 269                                                             | 06.4 | +12 39.1                                                                                | 233  | 00.6 <sup>145</sup>                                                                                                                              | +0 38.2 <sup>152</sup> | 45                                                | 19 00         | 19 31                                            | 20 09 | 8 33 71        |       | 20 41 19       |          |
| 7   | 284                                                             | 06.5 |                                                                                         | 247  | 34.1 <sup>145</sup>                                                                                                                              | 22.9 <sup>153</sup>    | 40                                                | 18 51         | 19                                               | 19 54 | 33 67          |       | 43 23          |          |
| 8   | 299                                                             | 06.7 |                                                                                         | 262  | 07.6 <sup>145</sup>                                                                                                                              | +0 07.7 <sup>152</sup> | 35                                                | 43            | 10                                               | 41    | 33 63          |       | 45 27          |          |
| 9   | 314                                                             | 06.8 |                                                                                         | 276  | 41.1 <sup>145</sup>                                                                                                                              | -0 07.6 <sup>153</sup> | 30                                                | 37            | 19 02                                            | 31    | 33 60          |       | 46 31          |          |
| 10  | 329                                                             | 07.0 |                                                                                         | 291  | 14.5 <sup>144</sup>                                                                                                                              | 22.9 <sup>153</sup>    | 20                                                | 26            | 18 48                                            | 15    | 33 54          |       | 49 36          |          |
| 11  | 344                                                             | 07.1 | +12 35.0                                                                                | 305  | 48.0 <sup>145</sup>                                                                                                                              | -0 38.1 <sup>152</sup> | 10 N                                              | 18 16         | 18 37                                            | 19 03 | 8 33 49        |       | 20 52 40       |          |
| 12  | 359                                                             | 07.2 | +12 34.2                                                                                | 320  | 21.4 <sup>144</sup>                                                                                                                              | -0 53.4 <sup>153</sup> | 0                                                 | 18 07         | 18 28                                            | 18 53 | 8 33 44        |       | 20 54 45       |          |
| 13  | 14                                                              | 07.4 |                                                                                         | 334  | 54.7 <sup>143</sup>                                                                                                                              | -1 08.7 <sup>153</sup> | 10 S                                              | 17 58         | 19                                               | 44    | 33 40          |       | 56 50          |          |
| 14  | 29                                                              | 07.5 |                                                                                         | 349  | 28.1 <sup>144</sup>                                                                                                                              | 24.0 <sup>153</sup>    | 20                                                | 49            | 11                                               | 37    | 33 35          |       | 20 59 54       |          |
| 15  | 44                                                              | 07.7 |                                                                                         | 4    | 01.4 <sup>143</sup>                                                                                                                              | 39.3 <sup>153</sup>    | 30                                                | 38            | 18 02                                            | 31    | 33 29          |       | 21 01 61       |          |
| 16  | 59                                                              | 07.8 |                                                                                         | 18   | 34.7 <sup>143</sup>                                                                                                                              | -1 54.6 <sup>153</sup> | 35                                                | 32            | 17 58                                            | 28    | 33 26          |       | 03 64          |          |
| 17  | 74                                                              | 08.0 | +12 30.1                                                                                | 33   | 08.0 <sup>143</sup>                                                                                                                              | -2 09.9 <sup>153</sup> | 40                                                | 17 25         | 17 53                                            | 18 25 | 8 33 23        |       | 21 05 67       |          |
| 18  | 89                                                              | 08.1 | +12 29.2                                                                                | 47   | 41.2 <sup>142</sup>                                                                                                                              | -2 25.2 <sup>153</sup> | 45                                                | 17 17         | 17 47                                            | 18 22 | 8 33 19        |       | 21 07 72       |          |
| 19  | 104                                                             | 08.3 |                                                                                         | 62   | 14.4 <sup>142</sup>                                                                                                                              | 40.6 <sup>154</sup>    | 50                                                | 08            | 41                                               | 19    | 33 14          |       | 10 77          |          |
| 20  | 119                                                             | 08.4 |                                                                                         | 76   | 47.6 <sup>142</sup>                                                                                                                              | -2 55.9 <sup>153</sup> | 52                                                | 17 03         | 38                                               | 18    | 33 12          |       | 11 80          |          |
| 21  | 134                                                             | 08.6 |                                                                                         | 91   | 20.8 <sup>142</sup>                                                                                                                              | -3 11.2 <sup>153</sup> | 54                                                | 16 58         | 35                                               | 17    | 33 9           |       | 12 83          |          |
| 22  | 149                                                             | 08.7 |                                                                                         | 105  | 53.9 <sup>141</sup>                                                                                                                              | 26.5 <sup>153</sup>    | 56                                                | 53            | 32                                               | 16    | 33 7           |       | 13 86          |          |
| 23  | 164                                                             | 08.9 |                                                                                         | 120  | 26.9 <sup>140</sup>                                                                                                                              | 41.8 <sup>153</sup>    | 58                                                | 47            | 28                                               | 14    | 33 4           |       | 15 89          |          |
| 24  | 179                                                             | 09.0 | +12 24.3                                                                                | 135  | 00.0 <sup>141</sup>                                                                                                                              | -3 57.1 <sup>153</sup> | 60 S                                              | 16 40         | 17 24                                            | 18 13 | 8 33 1         |       | 21 17 93       |          |
| UT  | ARIES                                                           |      | VENUS                                                                                   |      | MARTE                                                                                                                                            |                        | JÚPITER                                           |               | SATURNO                                          |       |                |       |                |          |
|     | PMG: 2 <sup>h</sup> 08 <sup>m</sup> 9                           |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup>                                        |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 39 <sup>m</sup>                                                                                                |                        | Mag: -1.7<br>PMG: 13 <sup>h</sup> 40 <sup>m</sup> |               | Mag: +0.2<br>PMG: 9 <sup>h</sup> 43 <sup>m</sup> |       |                |       |                |          |
|     | hG ♈                                                            |      | hG ♀                                                                                    | Dec  | hG ♂                                                                                                                                             | Dec                    | hG ♃                                              | Dec           | hG ♄                                             | Dec   |                |       |                |          |
| h   | °                                                               | '    | °                                                                                       | '    | °                                                                                                                                                | '                      | °                                                 | '             | °                                                | '     |                |       |                |          |
| 0   | 327                                                             | 40.9 | 226                                                                                     | 23.4 | +19 54.3                                                                                                                                         | 170                    | 01.6                                              | +10 31.3      | 154                                              | 30.0  | +4 07.8        | 213   | 57.6           | +21 26.2 |
| 1   | 342                                                             | 43.3 | 241                                                                                     | 23.3 | 54.2                                                                                                                                             | 185                    | 02.6                                              | 30.8          | 169                                              | 32.0  | 07.6           | 228   | 59.7           | 26.2     |
| 2   | 357                                                             | 45.8 | 256                                                                                     | 23.2 | 54.2                                                                                                                                             | 200                    | 03.6                                              | 30.2          | 184                                              | 34.0  | 07.4           | 244   | 01.9           | 26.2     |
| 3   | 12                                                              | 48.2 | 271                                                                                     | 23.1 | 54.2                                                                                                                                             | 215                    | 04.5                                              | 29.6          | 199                                              | 36.0  | 07.2           | 259   | 04.0           | 26.1     |
| 4   | 27                                                              | 50.7 | 286                                                                                     | 22.9 | 54.2                                                                                                                                             | 230                    | 05.5                                              | 29.0          | 214                                              | 38.0  | 07.0           | 274   | 06.2           | 26.1     |
| 5   | 42                                                              | 53.2 | 301                                                                                     | 22.8 | +19 54.2                                                                                                                                         | 245                    | 06.5                                              | +10 28.4      | 229                                              | 40.0  | +4 06.8        | 289   | 08.4           | +21 26.0 |
| 6   | 57                                                              | 55.6 | 316                                                                                     | 22.7 | +19 54.2                                                                                                                                         | 260                    | 07.4                                              | +10 27.8      | 244                                              | 41.9  | +4 06.6        | 304   | 10.5           | +21 26.0 |
| 7   | 72                                                              | 58.1 | 331                                                                                     | 22.6 | 54.2                                                                                                                                             | 275                    | 08.4                                              | 27.2          | 259                                              | 43.9  | 06.4           | 319   | 12.7           | 25.9     |
| 8   | 88                                                              | 00.6 | 346                                                                                     | 22.5 | 54.2                                                                                                                                             | 290                    | 09.4                                              | 26.6          | 274                                              | 45.9  | 06.2           | 334   | 14.8           | 25.9     |
| 9   | 103                                                             | 03.0 | 1                                                                                       | 22.4 | 54.2                                                                                                                                             | 305                    | 10.3                                              | 26.0          | 289                                              | 47.9  | 06.0           | 349   | 17.0           | 25.9     |
| 10  | 118                                                             | 05.5 | 16                                                                                      | 22.2 | 54.2                                                                                                                                             | 320                    | 11.3                                              | 25.4          | 304                                              | 49.9  | 05.8           | 4     | 19.2           | 25.8     |
| 11  | 133                                                             | 08.0 | 31                                                                                      | 22.1 | +19 54.2                                                                                                                                         | 335                    | 12.3                                              | +10 24.8      | 319                                              | 51.9  | +4 05.6        | 19    | 21.3           | +21 25.8 |
| 12  | 148                                                             | 10.4 | 46                                                                                      | 22.0 | +19 54.2                                                                                                                                         | 350                    | 13.2                                              | +10 24.2      | 334                                              | 53.9  | +4 05.4        | 34    | 23.5           | +21 25.7 |
| 13  | 163                                                             | 12.9 | 61                                                                                      | 21.9 | 54.1                                                                                                                                             | 5                      | 14.2                                              | 23.6          | 349                                              | 55.9  | 05.2           | 49    | 25.6           | 25.7     |
| 14  | 178                                                             | 15.4 | 76                                                                                      | 21.8 | 54.1                                                                                                                                             | 20                     | 15.2                                              | 23.0          | 4                                                | 57.9  | 05.0           | 64    | 27.8           | 25.6     |
| 15  | 193                                                             | 17.8 | 91                                                                                      | 21.6 | 54.1                                                                                                                                             | 35                     | 16.1                                              | 22.4          | 19                                               | 59.9  | 04.8           | 79    | 30.0           | 25.6     |
| 16  | 208                                                             | 20.3 | 106                                                                                     | 21.5 | 54.1                                                                                                                                             | 50                     | 17.1                                              | 21.8          | 35                                               | 01.9  | 04.6           | 94    | 32.1           | 25.6     |
| 17  | 223                                                             | 22.7 | 121                                                                                     | 21.4 | +19 54.1                                                                                                                                         | 65                     | 18.1                                              | +10 21.2      | 50                                               | 03.9  | +4 04.4        | 109   | 34.3           | +21 25.5 |
| 18  | 238                                                             | 25.2 | 136                                                                                     | 21.3 | +19 54.1                                                                                                                                         | 80                     | 19.0                                              | +10 20.7      | 65                                               | 05.9  | +4 04.2        | 124   | 36.4           | +21 25.5 |
| 19  | 253                                                             | 27.7 | 151                                                                                     | 21.1 | 54.1                                                                                                                                             | 95                     | 20.0                                              | 20.1          | 80                                               | 07.9  | 04.0           | 139   | 38.6           | 25.4     |
| 20  | 268                                                             | 30.1 | 166                                                                                     | 21.0 | 54.0                                                                                                                                             | 110                    | 21.0                                              | 19.5          | 95                                               | 09.9  | 03.8           | 154   | 40.8           | 25.4     |
| 21  | 283                                                             | 32.6 | 181                                                                                     | 20.9 | 54.0                                                                                                                                             | 125                    | 21.9                                              | 18.9          | 110                                              | 11.9  | 03.6           | 169   | 42.9           | 25.3     |
| 22  | 298                                                             | 35.1 | 196                                                                                     | 20.8 | 54.0                                                                                                                                             | 140                    | 22.9                                              | 18.3          | 125                                              | 13.8  | 03.4           | 184   | 45.1           | 25.3     |
| 23  | 313                                                             | 37.5 | 211                                                                                     | 20.6 | 54.0                                                                                                                                             | 155                    | 23.9                                              | 17.7          | 140                                              | 15.8  | 03.2           | 199   | 47.2           | 25.3     |
| 24  | 328                                                             | 40.0 | 226                                                                                     | 20.5 | +19 54.0                                                                                                                                         | 170                    | 24.8                                              | +10 17.1      | 155                                              | 17.8  | +4 03.0        | 214   | 49.4           | +21 25.2 |
| Dif | —                                                               |      | -1                                                                                      |      | 0                                                                                                                                                | +10                    |                                                   | -6            | +20                                              |       | -2             | +22   |                | 0        |

| UT  | SOL                                                             |      |                                                  | ● LUNA                                                                                        |                     |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |          |    |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|----------|----|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 3 |      |                                                  | Edad: 3 <sup>d</sup> 9 PHE {<br>SD: 15 <sup>h</sup> 6<br>PMG: 15 <sup>h</sup> 28 <sup>m</sup> |                     |                                                   |         |                          |                                                   |               |                |                                                  |                |          |    |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                          | Dif                 | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora     | R° |
| h   | °                                                               | '    | °                                                | °                                                                                             | '                   | °                                                 | °       | h                        | m                                                 | h             | m              | h                                                | m              | h        | m  |
| 0   | 179                                                             | 09.0 | +12 24.3                                         | 135                                                                                           | 00.0                | -3 57.1                                           | 60 N    | 2 29                     | 3 38                                              | 4 27          |                | 10 05                                            | 95             | 20 32    | 1  |
| 1   | 194                                                             | 09.2 |                                                  | 149                                                                                           | 33.0 <sup>140</sup> | -4 12.4 <sup>153</sup>                            | 58      | 2 48                     | 49                                                | 34            |                | 10 01                                            | 91             | 37       | 5  |
| 2   | 209                                                             | 09.3 |                                                  | 164                                                                                           | 06.0 <sup>140</sup> | 27.6 <sup>152</sup>                               | 56      | 3 04                     | 3 59                                              | 41            |                | 9 58                                             | 87             | 41       | 9  |
| 3   | 224                                                             | 09.5 |                                                  | 178                                                                                           | 38.9 <sup>139</sup> | 42.9 <sup>153</sup>                               | 54      | 17                       | 4 08                                              | 47            |                | 55                                               | 84             | 46       | 1  |
| 4   | 239                                                             | 09.6 |                                                  | 193                                                                                           | 11.8 <sup>139</sup> | -4 58.2 <sup>153</sup>                            | 52      | 28                       | 15                                                | 53            |                | 52                                               | 82             | 49       | 15 |
| 5   | 254                                                             | 09.8 | +12 20.2                                         | 207                                                                                           | 44.6 <sup>138</sup> | -5 13.4 <sup>152</sup>                            | 50      | 3 38                     | 4 22                                              | 4 57          |                | 9 50                                             | 79             | 20 53    | 16 |
| 6   | 269                                                             | 09.9 | +12 19.3                                         | 222                                                                                           | 17.4 <sup>138</sup> | -5 28.7 <sup>153</sup>                            | 45      | 3 58                     | 4 36                                              | 5 08          |                | 9 44                                             | 74             | 21 00    | 22 |
| 7   | 284                                                             | 10.1 |                                                  | 236                                                                                           | 50.1 <sup>137</sup> | 43.9 <sup>152</sup>                               | 40      | 4 13                     | 48                                                | 17            |                | 40                                               | 69             | 06       | 27 |
| 8   | 299                                                             | 10.2 |                                                  | 251                                                                                           | 22.8 <sup>137</sup> | -5 59.1 <sup>152</sup>                            | 35      | 26                       | 4 57                                              | 24            |                | 36                                               | 65             | 12       | 30 |
| 9   | 314                                                             | 10.4 |                                                  | 265                                                                                           | 55.5 <sup>137</sup> | -6 14.3 <sup>152</sup>                            | 30      | 36                       | 5 05                                              | 30            |                | 33                                               | 61             | 17       | 33 |
| 10  | 329                                                             | 10.5 |                                                  | 280                                                                                           | 28.1 <sup>136</sup> | 29.5 <sup>152</sup>                               | 20      | 4 52                     | 19                                                | 41            |                | 27                                               | 56             | 25       | 38 |
| 11  | 344                                                             | 10.7 | +12 15.2                                         | 295                                                                                           | 00.7 <sup>136</sup> | -6 44.6 <sup>151</sup>                            | 10 N    | 5 04                     | 5 29                                              | 5 51          |                | 9 22                                             | 51             | 21 32    | 44 |
| 12  | 359                                                             | 10.8 | +12 14.4                                         | 309                                                                                           | 33.2 <sup>135</sup> | -6 59.7 <sup>151</sup>                            | 0       | 5 14                     | 5 39                                              | 6 00          |                | 9 17                                             | 47             | 21 39    | 48 |
| 13  | 14                                                              | 11.0 |                                                  | 324                                                                                           | 05.6 <sup>134</sup> | -7 14.9 <sup>152</sup>                            | 10 S    | 22                       | 47                                                | 09            |                | 13                                               | 42             | 46       | 53 |
| 14  | 29                                                              | 11.1 |                                                  | 338                                                                                           | 38.0 <sup>134</sup> | 30.0 <sup>151</sup>                               | 20      | 30                       | 5 55                                              | 18            |                | 08                                               | 37             | 21 53    | 58 |
| 15  | 44                                                              | 11.3 |                                                  | 353                                                                                           | 10.3 <sup>133</sup> | -7 45.0 <sup>150</sup>                            | 30      | 36                       | 6 04                                              | 28            |                | 9 02                                             | 32             | 22 02    | 63 |
| 16  | 59                                                              | 11.4 |                                                  | 7                                                                                             | 42.6 <sup>133</sup> | -8 00.1 <sup>151</sup>                            | 35      | 39                       | 08                                                | 34            |                | 8 59                                             | 29             | 07       | 66 |
| 17  | 74                                                              | 11.6 | +12 10.2                                         | 22                                                                                            | 14.9 <sup>133</sup> | -8 15.1 <sup>150</sup>                            | 40      | 5 42                     | 6 13                                              | 6 41          |                | 8 56                                             | 25             | 22 12    | 71 |
| 18  | 89                                                              | 11.7 | +12 09.4                                         | 36                                                                                            | 47.0 <sup>131</sup> | -8 30.1 <sup>150</sup>                            | 45      | 5 44                     | 6 19                                              | 6 49          |                | 8 52                                             | 20             | 22 19    | 75 |
| 19  | 104                                                             | 11.9 |                                                  | 51                                                                                            | 19.1 <sup>131</sup> | -8 45.0 <sup>149</sup>                            | 50      | 47                       | 25                                                | 6 58          |                | 47                                               | 16             | 27       | 80 |
| 20  | 119                                                             | 12.0 |                                                  | 65                                                                                            | 51.2 <sup>131</sup> | -9 00.0 <sup>150</sup>                            | 52      | 48                       | 28                                                | 7 02          |                | 45                                               | 13             | 31       | 83 |
| 21  | 134                                                             | 12.2 |                                                  | 80                                                                                            | 23.2 <sup>130</sup> | -9 14.9 <sup>149</sup>                            | 54      | 49                       | 31                                                | 07            |                | 42                                               | 11             | 35       | 86 |
| 22  | 149                                                             | 12.3 |                                                  | 94                                                                                            | 55.1 <sup>129</sup> | 29.7 <sup>148</sup>                               | 56      | 50                       | 34                                                | 12            |                | 40                                               | 8              | 39       | 89 |
| 23  | 164                                                             | 12.5 |                                                  | 109                                                                                           | 27.0 <sup>129</sup> | 44.6 <sup>149</sup>                               | 58      | 51                       | 37                                                | 18            |                | 37                                               | 4              | 44       | 93 |
| 24  | 179                                                             | 12.6 | +12 04.4                                         | 123                                                                                           | 58.7 <sup>127</sup> | -9 59.4 <sup>148</sup>                            | 60 S    | 5 53                     | 6 41                                              | 7 25          |                | 8 34                                             | 1              | 22 50    | 98 |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                               |                     | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |          |    |
|     | PMG: 2 <sup>h</sup> 05 <sup>m</sup> 0                           |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |                                                                                               |                     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 38 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 13 <sup>h</sup> 37 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup> |                |          |    |
|     | hG ♈                                                            |      | hG ♀                                             | Dec                                                                                           |                     | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |          |    |
| h   | °                                                               | '    | °                                                | °                                                                                             | '                   | °                                                 | °       | '                        | °                                                 | °             | '              | °                                                | °              | '        |    |
| 0   | 328                                                             | 40.0 | 226                                              | 20.5                                                                                          | +19 54.0            | 170                                               | 24.8    | +10 17.1                 | 155                                               | 17.8          | +4 03.0        | 214                                              | 49.4           | +21 25.2 |    |
| 1   | 343                                                             | 42.5 | 241                                              | 20.4                                                                                          | 54.0                | 185                                               | 25.8    | 16.5                     | 170                                               | 19.8          | 02.7           | 229                                              | 51.6           | 25.2     |    |
| 2   | 358                                                             | 44.9 | 256                                              | 20.3                                                                                          | 53.9                | 200                                               | 26.8    | 15.9                     | 185                                               | 21.8          | 02.5           | 244                                              | 53.7           | 25.1     |    |
| 3   | 13                                                              | 47.4 | 271                                              | 20.1                                                                                          | 53.9                | 215                                               | 27.8    | 15.3                     | 200                                               | 23.8          | 02.3           | 259                                              | 55.9           | 25.1     |    |
| 4   | 28                                                              | 49.8 | 286                                              | 20.0                                                                                          | 53.9                | 230                                               | 28.7    | 14.7                     | 215                                               | 25.8          | 02.1           | 274                                              | 58.1           | 25.0     |    |
| 5   | 43                                                              | 52.3 | 301                                              | 19.9                                                                                          | +19 53.9            | 245                                               | 29.7    | +10 14.1                 | 230                                               | 27.8          | +4 01.9        | 290                                              | 00.2           | +21 25.0 |    |
| 6   | 58                                                              | 54.8 | 316                                              | 19.7                                                                                          | +19 53.8            | 260                                               | 30.7    | +10 13.5                 | 245                                               | 29.8          | +4 01.7        | 305                                              | 02.4           | +21 25.0 |    |
| 7   | 73                                                              | 57.2 | 331                                              | 19.6                                                                                          | 53.8                | 275                                               | 31.6    | 12.9                     | 260                                               | 31.8          | 01.5           | 320                                              | 04.5           | 24.9     |    |
| 8   | 88                                                              | 59.7 | 346                                              | 19.5                                                                                          | 53.8                | 290                                               | 32.6    | 12.3                     | 275                                               | 33.8          | 01.3           | 335                                              | 06.7           | 24.9     |    |
| 9   | 104                                                             | 02.2 | 1                                                | 19.3                                                                                          | 53.8                | 305                                               | 33.6    | 11.7                     | 290                                               | 35.8          | 01.1           | 350                                              | 08.9           | 24.8     |    |
| 10  | 119                                                             | 04.6 | 16                                               | 19.2                                                                                          | 53.7                | 320                                               | 34.5    | 11.1                     | 305                                               | 37.8          | 00.9           | 5                                                | 11.0           | 24.8     |    |
| 11  | 134                                                             | 07.1 | 31                                               | 19.0                                                                                          | +19 53.7            | 335                                               | 35.5    | +10 10.5                 | 320                                               | 39.8          | +4 00.7        | 20                                               | 13.2           | +21 24.7 |    |
| 12  | 149                                                             | 09.6 | 46                                               | 18.9                                                                                          | +19 53.7            | 350                                               | 36.5    | +10 09.9                 | 335                                               | 41.7          | +4 00.5        | 35                                               | 15.3           | +21 24.7 |    |
| 13  | 164                                                             | 12.0 | 61                                               | 18.8                                                                                          | 53.7                | 5                                                 | 37.4    | 09.3                     | 350                                               | 43.7          | 00.3           | 50                                               | 17.5           | 24.7     |    |
| 14  | 179                                                             | 14.5 | 76                                               | 18.6                                                                                          | 53.6                | 20                                                | 38.4    | 08.7                     | 5                                                 | 45.7          | +4 00.1        | 65                                               | 19.7           | 24.6     |    |
| 15  | 194                                                             | 17.0 | 91                                               | 18.5                                                                                          | 53.6                | 35                                                | 39.4    | 08.1                     | 20                                                | 47.7          | +3 59.9        | 80                                               | 21.8           | 24.6     |    |
| 16  | 209                                                             | 19.4 | 106                                              | 18.3                                                                                          | 53.6                | 50                                                | 40.3    | 07.5                     | 35                                                | 49.7          | 59.7           | 95                                               | 24.0           | 24.5     |    |
| 17  | 224                                                             | 21.9 | 121                                              | 18.2                                                                                          | +19 53.5            | 65                                                | 41.3    | +10 06.9                 | 50                                                | 51.7          | +3 59.5        | 110                                              | 26.2           | +21 24.5 |    |
| 18  | 239                                                             | 24.3 | 136                                              | 18.1                                                                                          | +19 53.5            | 80                                                | 42.3    | +10 06.3                 | 65                                                | 53.7          | +3 59.3        | 125                                              | 28.3           | +21 24.4 |    |
| 19  | 254                                                             | 26.8 | 151                                              | 17.9                                                                                          | 53.5                | 95                                                | 43.3    | 05.7                     | 80                                                | 55.7          | 59.1           | 140                                              | 30.5           | 24.4     |    |
| 20  | 269                                                             | 29.3 | 166                                              | 17.8                                                                                          | 53.4                | 110                                               | 44.2    | 05.1                     | 95                                                | 57.7          | 58.9           | 155                                              | 32.6           | 24.4     |    |
| 21  | 284                                                             | 31.7 | 181                                              | 17.6                                                                                          | 53.4                | 125                                               | 45.2    | 04.5                     | 110                                               | 59.7          | 58.7           | 170                                              | 34.8           | 24.3     |    |
| 22  | 299                                                             | 34.2 | 196                                              | 17.5                                                                                          | 53.4                | 140                                               | 46.2    | 03.9                     | 126                                               | 01.7          | 58.5           | 185                                              | 37.0           | 24.3     |    |
| 23  | 314                                                             | 36.7 | 211                                              | 17.3                                                                                          | 53.3                | 155                                               | 47.1    | 03.4                     | 141                                               | 03.7          | 58.2           | 200                                              | 39.1           | 24.2     |    |
| 24  | 329                                                             | 39.1 | 226                                              | 17.2                                                                                          | +19 53.3            | 170                                               | 48.1    | +10 02.8                 | 156                                               | 05.6          | +3 58.0        | 215                                              | 41.3           | +21 24.2 |    |
| Dif | —                                                               |      | -1                                               | 0                                                                                             |                     | +10                                               | -6      |                          | +20                                               | -2            |                | +22                                              |                |          |    |

| UT  | SOL                                                |      |                                                  | LUNA                   |                                                                                                           |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                  | Puesta de Luna |          |      |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|----------|------|----|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 0 |      |                                                  | Edad: 4 <sup>d</sup> 9 | PHE {<br>4 <sup>h</sup> : 57'8<br>12 <sup>h</sup> : 58'0<br>20 <sup>h</sup> : 58'2<br>R°: 51 <sup>m</sup> |                                                   |         |               |                                                   |       |                |                                                  |                |          |      |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                   |                                                                                                           | Dif                                               |         |               | Dec                                               | Dif   | Civil          | Náutico                                          | Hora           | R°       | Hora | R° |
| h   | °                                                  | '    | °                                                | °                      | '                                                                                                         | °                                                 | °       | h m           | h m                                               | h m   | h m m          | h m m                                            | h m m          | h m m    |      |    |
| 0   | 179                                                | 12.6 | +12 04.4                                         | 123                    | 58.7                                                                                                      | -9 59.4                                           | 60 N    | 19 35         | 20 23                                             | 21 30 | 11 40 102      | 20 33 3                                          |                |          |      |    |
| 1   | 194                                                | 12.8 | 03.6                                             | 138                    | 30.5 <sup>128</sup>                                                                                       | -10 14.1 <sup>147</sup>                           | 58      | 28            | 12                                                | 21 12 | 32 97          | 42 8                                             |                |          |      |    |
| 2   | 209                                                | 13.0 | 02.7                                             | 153                    | 02.1 <sup>126</sup>                                                                                       | 28.9 <sup>148</sup>                               | 56      | 22            | 20 03                                             | 20 57 | 25 92          | 50 12                                            |                |          |      |    |
| 3   | 224                                                | 13.1 | 01.9                                             | 167                    | 33.7 <sup>126</sup>                                                                                       | 43.5 <sup>146</sup>                               | 54      | 16            | 19 55                                             | 45    | 19 88          | 20 57 15                                         |                |          |      |    |
| 4   | 239                                                | 13.3 | 01.1                                             | 182                    | 05.2 <sup>125</sup>                                                                                       | -10 58.2 <sup>147</sup>                           | 52      | 11            | 48                                                | 34    | 14 85          | 21 04 18                                         |                |          |      |    |
| 5   | 254                                                | 13.4 | +12 00.2                                         | 196                    | 36.7 <sup>125</sup>                                                                                       | -11 12.8 <sup>146</sup>                           | 50      | 19 06         | 19 41                                             | 20 25 | 11 09 82       | 21 09 22                                         |                |          |      |    |
| 6   | 269                                                | 13.6 | +11 59.4                                         | 211                    | 08.0 <sup>123</sup>                                                                                       | -11 27.3 <sup>145</sup>                           | 45      | 18 56         | 19 27                                             | 20 05 | 10 58 76       | 21 22 27                                         |                |          |      |    |
| 7   | 284                                                | 13.7 | 58.6                                             | 225                    | 39.3 <sup>123</sup>                                                                                       | 41.9 <sup>146</sup>                               | 40      | 48            | 16                                                | 19 51 | 49 72          | 33 31                                            |                |          |      |    |
| 8   | 299                                                | 13.9 | 57.7                                             | 240                    | 10.5 <sup>122</sup>                                                                                       | -11 56.3 <sup>144</sup>                           | 35      | 41            | 19 07                                             | 39    | 41 68          | 42 34                                            |                |          |      |    |
| 9   | 314                                                | 14.0 | 56.9                                             | 254                    | 41.7 <sup>122</sup>                                                                                       | -12 10.7 <sup>144</sup>                           | 30      | 35            | 18 59                                             | 29    | 34 65          | 21 50 37                                         |                |          |      |    |
| 10  | 329                                                | 14.2 | 56.0                                             | 269                    | 12.7 <sup>120</sup>                                                                                       | 25.1 <sup>144</sup>                               | 20      | 24            | 47                                                | 13    | 23 59          | 22 03 44                                         |                |          |      |    |
| 11  | 344                                                | 14.3 | +11 55.2                                         | 283                    | 43.7 <sup>120</sup>                                                                                       | -12 39.4 <sup>143</sup>                           | 10 N    | 18 15         | 18 36                                             | 19 01 | 10 13 54       | 22 16 47                                         |                |          |      |    |
| 12  | 359                                                | 14.5 | +11 54.4                                         | 298                    | 14.6 <sup>119</sup>                                                                                       | -12 53.7 <sup>143</sup>                           | 0       | 18 06         | 18 27                                             | 18 52 | 10 04 50       | 22 27 52                                         |                |          |      |    |
| 13  | 14                                                 | 14.7 | 53.5                                             | 312                    | 45.4 <sup>118</sup>                                                                                       | -13 07.9 <sup>142</sup>                           | 10 S    | 17 58         | 19                                                | 44    | 9 55 45        | 39 56                                            |                |          |      |    |
| 14  | 29                                                 | 14.8 | 52.7                                             | 327                    | 16.2 <sup>118</sup>                                                                                       | 22.1 <sup>142</sup>                               | 20      | 49            | 12                                                | 37    | 45 41          | 22 51 61                                         |                |          |      |    |
| 15  | 44                                                 | 15.0 | 51.9                                             | 341                    | 46.8 <sup>116</sup>                                                                                       | 36.2 <sup>141</sup>                               | 30      | 39            | 18 04                                             | 32    | 34 35          | 23 05 66                                         |                |          |      |    |
| 16  | 59                                                 | 15.1 | 51.0                                             | 356                    | 17.4 <sup>116</sup>                                                                                       | -13 50.2 <sup>140</sup>                           | 35      | 33            | 17 59                                             | 29    | 28 32          | 13 70                                            |                |          |      |    |
| 17  | 74                                                 | 15.3 | +11 50.2                                         | 10                     | 47.9 <sup>115</sup>                                                                                       | -14 04.2 <sup>140</sup>                           | 40      | 17 27         | 17 55                                             | 18 26 | 9 21 28        | 23 23 73                                         |                |          |      |    |
| 18  | 89                                                 | 15.4 | +11 49.3                                         | 25                     | 18.3 <sup>114</sup>                                                                                       | -14 18.2 <sup>140</sup>                           | 45      | 17 20         | 17 50                                             | 18 24 | 9 12 24        | 23 34 77                                         |                |          |      |    |
| 19  | 104                                                | 15.6 | 48.5                                             | 39                     | 48.6 <sup>113</sup>                                                                                       | 32.0 <sup>138</sup>                               | 50      | 11            | 44                                                | 22    | 9 03 18        | 47 84                                            |                |          |      |    |
| 20  | 119                                                | 15.8 | 47.7                                             | 54                     | 18.8 <sup>112</sup>                                                                                       | 45.8 <sup>138</sup>                               | 52      | 06            | 41                                                | 21    | 8 58 16        | 23 54 86                                         |                |          |      |    |
| 21  | 134                                                | 15.9 | 46.8                                             | 68                     | 48.9 <sup>111</sup>                                                                                       | -14 59.6 <sup>138</sup>                           | 54      | 17 02         | 39                                                | 20    | 53 13          | *** ** *                                         |                |          |      |    |
| 22  | 149                                                | 16.1 | 46.0                                             | 83                     | 19.0 <sup>111</sup>                                                                                       | -15 13.2 <sup>136</sup>                           | 56      | 16 57         | 36                                                | 19    | 48 10          | *** ** *                                         |                |          |      |    |
| 23  | 164                                                | 16.2 | 45.1                                             | 97                     | 48.9 <sup>109</sup>                                                                                       | 26.8 <sup>136</sup>                               | 58      | 51            | 32                                                | 18    | 41 7           | *** ** *                                         |                |          |      |    |
| 24  | 179                                                | 16.4 | +11 44.3                                         | 112                    | 18.7 <sup>108</sup>                                                                                       | -15 40.4 <sup>136</sup>                           | 60 S    | 16 45         | 17 29                                             | 18 17 | 8 35 2         | *** ** *                                         |                |          |      |    |
| UT  | ARIES                                              |      | VENUS                                            |                        |                                                                                                           | MARTE                                             |         |               | JÚPITER                                           |       |                | SATURNO                                          |                |          |      |    |
|     | PMG: 2 <sup>h</sup> 01 <sup>m</sup> 1              |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |                        |                                                                                                           | Mag: +1.8<br>PMG: 12 <sup>h</sup> 36 <sup>m</sup> |         |               | Mag: -1.7<br>PMG: 13 <sup>h</sup> 34 <sup>m</sup> |       |                | Mag: +0.2<br>PMG: 9 <sup>h</sup> 36 <sup>m</sup> |                |          |      |    |
|     | hG ♈                                               | Dec  | hG ♀                                             | Dec                    | hG ♂                                                                                                      | Dec                                               | hG ♃    | Dec           | hG ♄                                              | Dec   | hG ♅           | Dec                                              |                |          |      |    |
| h   | °                                                  | '    | °                                                | '                      | °                                                                                                         | '                                                 | °       | '             | °                                                 | '     | °              | '                                                | °              | '        |      |    |
| 0   | 329                                                | 39.1 | 226                                              | 17.2                   | +19 53.3                                                                                                  | 170                                               | 48.1    | +10 02.8      | 156                                               | 05.6  | +3 58.0        | 215                                              | 41.3           | +21 24.2 |      |    |
| 1   | 344                                                | 41.6 | 241                                              | 17.1                   | 53.3                                                                                                      | 185                                               | 49.1    | 02.2          | 171                                               | 07.6  | 57.8           | 230                                              | 43.5           | 24.1     |      |    |
| 2   | 359                                                | 44.1 | 256                                              | 16.9                   | 53.2                                                                                                      | 200                                               | 50.0    | 01.6          | 186                                               | 09.6  | 57.6           | 245                                              | 45.6           | 24.1     |      |    |
| 3   | 14                                                 | 46.5 | 271                                              | 16.8                   | 53.2                                                                                                      | 215                                               | 51.0    | 01.0          | 201                                               | 11.6  | 57.4           | 260                                              | 47.8           | 24.1     |      |    |
| 4   | 29                                                 | 49.0 | 286                                              | 16.6                   | 53.1                                                                                                      | 230                                               | 52.0    | +10 00.4      | 216                                               | 13.6  | 57.2           | 275                                              | 49.9           | 24.0     |      |    |
| 5   | 44                                                 | 51.4 | 301                                              | 16.5                   | +19 53.1                                                                                                  | 245                                               | 53.0    | +9 59.8       | 231                                               | 15.6  | +3 57.0        | 290                                              | 52.1           | +21 24.0 |      |    |
| 6   | 59                                                 | 53.9 | 316                                              | 16.3                   | +19 53.1                                                                                                  | 260                                               | 53.9    | +9 59.2       | 246                                               | 17.6  | +3 56.8        | 305                                              | 54.3           | +21 23.9 |      |    |
| 7   | 74                                                 | 56.4 | 331                                              | 16.2                   | 53.0                                                                                                      | 275                                               | 54.9    | 58.6          | 261                                               | 19.6  | 56.6           | 320                                              | 56.4           | 23.9     |      |    |
| 8   | 89                                                 | 58.8 | 346                                              | 16.0                   | 53.0                                                                                                      | 290                                               | 55.9    | 58.0          | 276                                               | 21.6  | 56.4           | 335                                              | 58.6           | 23.8     |      |    |
| 9   | 105                                                | 01.3 | 1                                                | 15.8                   | 52.9                                                                                                      | 305                                               | 56.8    | 57.4          | 291                                               | 23.6  | 56.2           | 351                                              | 00.8           | 23.8     |      |    |
| 10  | 120                                                | 03.8 | 16                                               | 15.7                   | 52.9                                                                                                      | 320                                               | 57.8    | 56.8          | 306                                               | 25.6  | 56.0           | 6                                                | 02.9           | 23.8     |      |    |
| 11  | 135                                                | 06.2 | 31                                               | 15.5                   | +19 52.8                                                                                                  | 335                                               | 58.8    | +9 56.2       | 321                                               | 27.5  | +3 55.8        | 21                                               | 05.1           | +21 23.7 |      |    |
| 12  | 150                                                | 08.7 | 46                                               | 15.4                   | +19 52.8                                                                                                  | 350                                               | 59.7    | +9 55.6       | 336                                               | 29.5  | +3 55.6        | 36                                               | 07.3           | +21 23.7 |      |    |
| 13  | 165                                                | 11.2 | 61                                               | 15.2                   | 52.7                                                                                                      | 6                                                 | 00.7    | 55.0          | 351                                               | 31.5  | 55.4           | 51                                               | 09.4           | 23.6     |      |    |
| 14  | 180                                                | 13.6 | 76                                               | 15.1                   | 52.7                                                                                                      | 21                                                | 01.7    | 54.4          | 6                                                 | 33.5  | 55.2           | 66                                               | 11.6           | 23.6     |      |    |
| 15  | 195                                                | 16.1 | 91                                               | 14.9                   | 52.6                                                                                                      | 36                                                | 02.7    | 53.8          | 21                                                | 35.5  | 55.0           | 81                                               | 13.7           | 23.5     |      |    |
| 16  | 210                                                | 18.6 | 106                                              | 14.8                   | 52.6                                                                                                      | 51                                                | 03.6    | 53.2          | 36                                                | 37.5  | 54.8           | 96                                               | 15.9           | 23.5     |      |    |
| 17  | 225                                                | 21.0 | 121                                              | 14.6                   | +19 52.6                                                                                                  | 66                                                | 04.6    | +9 52.6       | 51                                                | 39.5  | +3 54.6        | 111                                              | 18.1           | +21 23.5 |      |    |
| 18  | 240                                                | 23.5 | 136                                              | 14.4                   | +19 52.5                                                                                                  | 81                                                | 05.6    | +9 52.0       | 66                                                | 41.5  | +3 54.3        | 126                                              | 20.2           | +21 23.4 |      |    |
| 19  | 255                                                | 25.9 | 151                                              | 14.3                   | 52.5                                                                                                      | 96                                                | 06.5    | 51.4          | 81                                                | 43.5  | 54.1           | 141                                              | 22.4           | 23.4     |      |    |
| 20  | 270                                                | 28.4 | 166                                              | 14.1                   | 52.4                                                                                                      | 111                                               | 07.5    | 50.8          | 96                                                | 45.5  | 53.9           | 156                                              | 24.6           | 23.3     |      |    |
| 21  | 285                                                | 30.9 | 181                                              | 14.0                   | 52.3                                                                                                      | 126                                               | 08.5    | 50.2          | 111                                               | 47.5  | 53.7           | 171                                              | 26.7           | 23.3     |      |    |
| 22  | 300                                                | 33.3 | 196                                              | 13.8                   | 52.3                                                                                                      | 141                                               | 09.5    | 49.6          | 126                                               | 49.4  | 53.5           | 186                                              | 28.9           | 23.2     |      |    |
| 23  | 315                                                | 35.8 | 211                                              | 13.6                   | 52.2                                                                                                      | 156                                               | 10.4    | 49.0          | 141                                               | 51.4  | 53.3           | 201                                              | 31.1           | 23.2     |      |    |
| 24  | 330                                                | 38.3 | 226                                              | 13.5                   | +19 52.2                                                                                                  | 171                                               | 11.4    | +9 48.4       | 156                                               | 53.4  | +3 53.1        | 216                                              | 33.2           | +21 23.2 |      |    |
| Dif | —                                                  |      | -2                                               |                        |                                                                                                           | +10                                               |         |               | +20                                               |       |                | +22                                              |                |          | 0    |    |

| UT | SOL                                    |                                      |          |  LUNA |                                                                                                                              |                     | Latitud        | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |     |     |
|----|----------------------------------------|--------------------------------------|----------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------|--------------------------|-------|---------------|----------------|-------|----------------|-------|-----|-----|
|    | SD: 15 <sup>h</sup> 8                  |                                      |          | Edad: 5 <sup>d</sup> 9                                                                 | PHE {<br>4 <sup>h</sup> : 58 <sup>h</sup> /3<br>12 <sup>h</sup> : 58 <sup>h</sup> /5<br>20 <sup>h</sup> : 58 <sup>h</sup> /7 | Rº: 56 <sup>m</sup> |                | Náutico                  | Civil |               | Hora           | Rº    | Hora           | Rº    |     |     |
|    | PMG: 12 <sup>h</sup> 02 <sup>m</sup> 8 | PMG: 17 <sup>h</sup> 06 <sup>m</sup> |          |                                                                                        |                                                                                                                              |                     |                |                          |       |               |                |       |                |       |     |     |
|    | hG ☉                                   | Dec                                  |          | hG ☾                                                                                   | Dif                                                                                                                          | Dec                 | Dif            |                          |       |               |                |       |                |       |     |     |
| h  | °                                      | '                                    | °        | °                                                                                      | '                                                                                                                            | °                   | '              | °                        | h     | m             | h              | m     | h              | m     | h   | m   |
| 0  | 179                                    | 16.4                                 | +11 44.3 | 112                                                                                    | 18.7                                                                                                                         | -15 40.4            | <sup>108</sup> | 60 N                     | 2 37  | 3 43          | 4 32           | 13 22 | 108            | 20 36 | 6   |     |
| 1  | 194                                    | 16.6                                 | 43.5     | 126                                                                                    | 48.5                                                                                                                         | -15 53.8            | <sup>134</sup> | 58                       | 2 55  | 3 54          | 39             | 13 09 | 101            | 20 50 | 13  |     |
| 2  | 209                                    | 16.7                                 | 42.6     | 141                                                                                    | 18.2                                                                                                                         | -16 07.2            | <sup>134</sup> | 56                       | 3 09  | 4 04          | 45             | 12 57 | 96             | 21 02 | 18  |     |
| 3  | 224                                    | 16.9                                 | 41.8     | 155                                                                                    | 47.7                                                                                                                         | 20.5                | <sup>133</sup> | 54                       | 22    | 12            | 51             | 47 92 |                | 12    | 23  |     |
| 4  | 239                                    | 17.0                                 | 40.9     | 170                                                                                    | 17.2                                                                                                                         | 33.8                | <sup>133</sup> | 52                       | 33    | 19            | 4 56           | 39 87 |                | 22    | 26  |     |
| 5  | 254                                    | 17.2                                 | +11 40.1 | 184                                                                                    | 46.6                                                                                                                         | -16 46.9            | <sup>131</sup> | 50                       | 3 42  | 4 25          | 5 00           | 12 31 | 84             | 21 31 | 28  |     |
| 6  | 269                                    | 17.3                                 | +11 39.2 | 199                                                                                    | 15.8                                                                                                                         | -17 00.0            | <sup>131</sup> | 45                       | 4 01  | 4 39          | 5 10           | 12 14 | 79             | 21 49 | 34  |     |
| 7  | 284                                    | 17.5                                 | 38.4     | 213                                                                                    | 45.0                                                                                                                         | -17 13.0            | <sup>130</sup> | 40                       | 16    | 50            | 18             | 12 01 | 74             | 22 04 | 38  |     |
| 8  | 299                                    | 17.7                                 | 37.6     | 228                                                                                    | 14.1                                                                                                                         | 25.9                | <sup>129</sup> | 35                       | 28    | 4 59          | 25             | 11 49 | 71             | 16    | 42  |     |
| 9  | 314                                    | 17.8                                 | 36.7     | 242                                                                                    | 43.0                                                                                                                         | 38.8                | <sup>129</sup> | 30                       | 37    | 5 07          | 32             | 39 68 |                | 27    | 45  |     |
| 10 | 329                                    | 18.0                                 | 35.9     | 257                                                                                    | 11.9                                                                                                                         | -17 51.5            | <sup>127</sup> | 20                       | 4 53  | 19            | 42             | 22 63 |                | 22    | 47  | 49  |
| 11 | 344                                    | 18.2                                 | +11 35.0 | 271                                                                                    | 40.6                                                                                                                         | -18 04.2            | <sup>127</sup> | 10 N                     | 5 04  | 5 30          | 5 51           | 11 07 | 59             | 23 03 | 53  |     |
| 12 | 359                                    | 18.3                                 | +11 34.2 | 286                                                                                    | 09.3                                                                                                                         | -18 16.8            | <sup>126</sup> | 0                        | 5 14  | 5 38          | 5 59           | 10 54 | 54             | 23 19 | 56  |     |
| 13 | 14                                     | 18.5                                 | 33.3     | 300                                                                                    | 37.8                                                                                                                         | 29.2                | <sup>124</sup> | 10 S                     | 22    | 46            | 6 08           | 40 50 |                | 35    | 60  |     |
| 14 | 29                                     | 18.6                                 | 32.5     | 315                                                                                    | 06.3                                                                                                                         | 41.6                | <sup>124</sup> | 20                       | 28    | 5 54          | 16             | 26 46 |                | 23    | 52  | 64  |
| 15 | 44                                     | 18.8                                 | 31.6     | 329                                                                                    | 34.6                                                                                                                         | -18 53.9            | <sup>123</sup> | 30                       | 34    | 6 02          | 26             | 09 41 |                | ***   | *** | *** |
| 16 | 59                                     | 19.0                                 | 30.8     | 344                                                                                    | 02.9                                                                                                                         | -19 06.1            | <sup>122</sup> | 35                       | 37    | 06            | 32             | 10 00 | 38             | ***   | *** | *** |
| 17 | 74                                     | 19.1                                 | +11 30.0 | 358                                                                                    | 31.0                                                                                                                         | -19 18.2            | <sup>121</sup> | 40                       | 5 39  | 6 11          | 6 38           | 9 49  | 34             | ***   | *** | *** |
| 18 | 89                                     | 19.3                                 | +11 29.1 | 12                                                                                     | 59.0                                                                                                                         | -19 30.2            | <sup>120</sup> | 45                       | 5 41  | 6 16          | 6 45           | 9 36  | 31             | ***   | *** | *** |
| 19 | 104                                    | 19.4                                 | 28.3     | 27                                                                                     | 26.9                                                                                                                         | 42.1                | <sup>119</sup> | 50                       | 43    | 21            | 54             | 21 25 |                | ***   | *** | *** |
| 20 | 119                                    | 19.6                                 | 27.4     | 41                                                                                     | 54.7                                                                                                                         | -19 53.9            | <sup>118</sup> | 52                       | 44    | 24            | 6 58           | 14 22 |                | ***   | *** | *** |
| 21 | 134                                    | 19.8                                 | 26.6     | 56                                                                                     | 22.4                                                                                                                         | -20 05.6            | <sup>117</sup> | 54                       | 45    | 26            | 7 03           | 9 06  | 19             | 0 01  | 89  |     |
| 22 | 149                                    | 19.9                                 | 25.7     | 70                                                                                     | 50.0                                                                                                                         | 17.2                | <sup>116</sup> | 56                       | 46    | 29            | 08             | 8 58  | 15             | 08    | 94  |     |
| 23 | 164                                    | 20.1                                 | 24.9     | 85                                                                                     | 17.4                                                                                                                         | 28.7                | <sup>115</sup> | 58                       | 47    | 32            | 13             | 48 11 |                | 17    | 99  |     |
| 24 | 179                                    | 20.3                                 | +11 24.0 | 99                                                                                     | 44.8                                                                                                                         | -20 40.1            | <sup>114</sup> | 60 S                     | 5 47  | 6 36          | 7 19           | 8 37  | 5              | 0 28  | 104 |     |

| UT  | ARIES                                 |                                                  | VENUS                                             |                                                   | MARTE                                            |      | JÚPITER |         | SATURNO |      |         |     |      |          |
|-----|---------------------------------------|--------------------------------------------------|---------------------------------------------------|---------------------------------------------------|--------------------------------------------------|------|---------|---------|---------|------|---------|-----|------|----------|
|     | PMG: 1 <sup>h</sup> 57 <sup>m</sup> 1 | Mag: -4.4<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> | Mag: +1.8<br>PMG: 12 <sup>h</sup> 34 <sup>m</sup> | Mag: -1.7<br>PMG: 13 <sup>h</sup> 31 <sup>m</sup> | Mag: +0.2<br>PMG: 9 <sup>h</sup> 32 <sup>m</sup> |      |         |         |         |      |         |     |      |          |
|     | hG ♈                                  | hG ♀                                             | Dec                                               | hG ♂                                              | Dec                                              | hG ♃ | Dec     | hG ♄    | Dec     |      |         |     |      |          |
| h   | °                                     | '                                                | °                                                 | °                                                 | '                                                | °    | '       | °       | °       | '    |         |     |      |          |
| 0   | 330                                   | 38.3                                             | 226                                               | 13.5                                              | +19 52.2                                         | 171  | 11.4    | +9 48.4 | 156     | 53.4 | +3 53.1 | 216 | 33.2 | +21 23.2 |
| 1   | 345                                   | 40.7                                             | 241                                               | 13.3                                              | 52.1                                             | 186  | 12.4    | 47.8    | 171     | 55.4 | 52.9    | 231 | 35.4 | 23.1     |
| 2   | 0                                     | 43.2                                             | 256                                               | 13.1                                              | 52.1                                             | 201  | 13.3    | 47.2    | 186     | 57.4 | 52.7    | 246 | 37.6 | 23.1     |
| 3   | 15                                    | 45.7                                             | 271                                               | 13.0                                              | 52.0                                             | 216  | 14.3    | 46.6    | 201     | 59.4 | 52.5    | 261 | 39.7 | 23.0     |
| 4   | 30                                    | 48.1                                             | 286                                               | 12.8                                              | 52.0                                             | 231  | 15.3    | 46.0    | 217     | 01.4 | 52.3    | 276 | 41.9 | 23.0     |
| 5   | 45                                    | 50.6                                             | 301                                               | 12.6                                              | +19 51.9                                         | 246  | 16.3    | +9 45.4 | 232     | 03.4 | +3 52.1 | 291 | 44.1 | +21 22.9 |
| 6   | 60                                    | 53.1                                             | 316                                               | 12.5                                              | +19 51.8                                         | 261  | 17.2    | +9 44.8 | 247     | 05.4 | +3 51.9 | 306 | 46.2 | +21 22.9 |
| 7   | 75                                    | 55.5                                             | 331                                               | 12.3                                              | 51.8                                             | 276  | 18.2    | 44.2    | 262     | 07.4 | 51.7    | 321 | 48.4 | 22.9     |
| 8   | 90                                    | 58.0                                             | 346                                               | 12.1                                              | 51.7                                             | 291  | 19.2    | 43.5    | 277     | 09.3 | 51.5    | 336 | 50.6 | 22.8     |
| 9   | 106                                   | 00.4                                             | 1                                                 | 12.0                                              | 51.7                                             | 306  | 20.1    | 42.9    | 292     | 11.3 | 51.3    | 351 | 52.7 | 22.8     |
| 10  | 121                                   | 02.9                                             | 16                                                | 11.8                                              | 51.6                                             | 321  | 21.1    | 42.3    | 307     | 13.3 | 51.1    | 6   | 54.9 | 22.7     |
| 11  | 136                                   | 05.4                                             | 31                                                | 11.6                                              | +19 51.5                                         | 336  | 22.1    | +9 41.7 | 322     | 15.3 | +3 50.9 | 21  | 57.1 | +21 22.7 |
| 12  | 151                                   | 07.8                                             | 46                                                | 11.5                                              | +19 51.5                                         | 351  | 23.1    | +9 41.1 | 337     | 17.3 | +3 50.6 | 36  | 59.2 | +21 22.7 |
| 13  | 166                                   | 10.3                                             | 61                                                | 11.3                                              | 51.4                                             | 6    | 24.0    | 40.5    | 352     | 19.3 | 50.4    | 52  | 01.4 | 22.6     |
| 14  | 181                                   | 12.8                                             | 76                                                | 11.1                                              | 51.4                                             | 21   | 25.0    | 39.9    | 7       | 21.3 | 50.2    | 67  | 03.6 | 22.6     |
| 15  | 196                                   | 15.2                                             | 91                                                | 10.9                                              | 51.3                                             | 36   | 26.0    | 39.3    | 22      | 23.3 | 50.0    | 82  | 05.7 | 22.5     |
| 16  | 211                                   | 17.7                                             | 106                                               | 10.8                                              | 51.2                                             | 51   | 26.9    | 38.7    | 37      | 25.3 | 49.8    | 97  | 07.9 | 22.5     |
| 17  | 226                                   | 20.2                                             | 121                                               | 10.6                                              | +19 51.2                                         | 66   | 27.9    | +9 38.1 | 52      | 27.3 | +3 49.6 | 112 | 10.1 | +21 22.4 |
| 18  | 241                                   | 22.6                                             | 136                                               | 10.4                                              | +19 51.1                                         | 81   | 28.9    | +9 37.5 | 67      | 29.2 | +3 49.4 | 127 | 12.2 | +21 22.4 |
| 19  | 256                                   | 25.1                                             | 151                                               | 10.2                                              | 51.0                                             | 96   | 29.9    | 36.9    | 82      | 31.2 | 49.2    | 142 | 14.4 | 22.4     |
| 20  | 271                                   | 27.5                                             | 166                                               | 10.1                                              | 50.9                                             | 111  | 30.8    | 36.3    | 97      | 33.2 | 49.0    | 157 | 16.6 | 22.3     |
| 21  | 286                                   | 30.0                                             | 181                                               | 09.9                                              | 50.9                                             | 126  | 31.8    | 35.7    | 112     | 35.2 | 48.8    | 172 | 18.7 | 22.3     |
| 22  | 301                                   | 32.5                                             | 196                                               | 09.7                                              | 50.8                                             | 141  | 32.8    | 35.1    | 127     | 37.2 | 48.6    | 187 | 20.9 | 22.2     |
| 23  | 316                                   | 34.9                                             | 211                                               | 09.5                                              | 50.7                                             | 156  | 33.8    | 34.5    | 142     | 39.2 | 48.4    | 202 | 23.1 | 22.2     |
| 24  | 331                                   | 37.4                                             | 226                                               | 09.3                                              | +19 50.7                                         | 171  | 34.7    | +9 33.9 | 157     | 41.2 | +3 48.2 | 217 | 25.2 | +21 22.1 |
| Dif | —                                     |                                                  | -2                                                | -1                                                |                                                  | +10  | -6      |         | +20     | -2   |         | +22 | 0    |          |

| UT  | SOL                                                             |      |      |      | LUNA                                                                                                                                                                 |      |      |      | Latitud                                           | Puesta de Sol | Final del crepúsculo |         | Salida de Luna                                    |       | Puesta de Luna |          |                                                  |      |  |  |
|-----|-----------------------------------------------------------------|------|------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|---------------------------------------------------|---------------|----------------------|---------|---------------------------------------------------|-------|----------------|----------|--------------------------------------------------|------|--|--|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 5 |      |      |      | Edad: 6 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 8<br>12 <sup>h</sup> : 59 <sup>m</sup> 0<br>20 <sup>h</sup> : 59 <sup>m</sup> 2<br>R°: 60 <sup>m</sup> |      |      |      |                                                   |               |                      |         |                                                   |       |                |          |                                                  |      |  |  |
|     | hG ☉                                                            |      | Dec  |      | hG ☾                                                                                                                                                                 |      | Dif  |      |                                                   |               | Civil                | Náutico | Hora                                              | R°    | Hora           | R°       |                                                  |      |  |  |
| h   | °                                                               | '    | °    | '    | °                                                                                                                                                                    | '    | °    | '    | °                                                 | h m           | h m                  | h m     | h m                                               | h m   | h m            | h m      | h m                                              |      |  |  |
| 0   | 179                                                             | 20.3 | +11  | 24.0 | 99                                                                                                                                                                   | 44.8 | -20  | 40.1 | 60 N                                              | 19 29         | 20 17                | 21 21   | 15 10                                             | 108   | 20 42          | 16       |                                                  |      |  |  |
| 1   | 194                                                             | 20.4 |      | 23.2 | 114                                                                                                                                                                  | 12.0 | 82   | -20  | 51.3                                              | 58            | 23                   | 20 07   | 21 05                                             | 14 50 | 99             | 21 03    | 25                                               |      |  |  |
| 2   | 209                                                             | 20.6 |      | 22.3 | 128                                                                                                                                                                  | 39.2 | 82   | -21  | 02.5                                              | 56            | 17                   | 19 58   | 20 51                                             | 33    | 93             | 20       | 31                                               |      |  |  |
| 3   | 224                                                             | 20.7 |      | 21.5 | 143                                                                                                                                                                  | 06.2 | 80   |      | 13.5                                              | 54            | 11                   | 50      | 39                                                | 19    | 89             | 35       | 35                                               |      |  |  |
| 4   | 239                                                             | 20.9 |      | 20.6 | 157                                                                                                                                                                  | 33.1 | 79   |      | 24.5                                              | 52            | 06                   | 43      | 29                                                | 14    | 06             | 86       | 48 38                                            |      |  |  |
| 5   | 254                                                             | 21.1 | +11  | 19.8 | 171                                                                                                                                                                  | 59.9 | 78   | -21  | 35.3                                              | 50            | 19 02                | 19 37   | 20 20                                             | 13 55 | 84             | 21 59    | 41                                               |      |  |  |
| 6   | 269                                                             | 21.2 | +11  | 18.9 | 186                                                                                                                                                                  | 26.6 | 77   | -21  | 45.9                                              | 45            | 18 53                | 19 24   | 20 01                                             | 13 33 | 78             | 22 23    | 45                                               |      |  |  |
| 7   | 284                                                             | 21.4 |      | 18.1 | 200                                                                                                                                                                  | 53.1 | 75   | -21  | 56.5                                              | 40            | 45                   | 13      | 19 47                                             | 15    | 74             | 42       | 48                                               |      |  |  |
| 8   | 299                                                             | 21.6 |      | 17.2 | 215                                                                                                                                                                  | 19.6 | 75   | -22  | 06.9                                              | 35            | 38                   | 19 05   | 36                                                | 13 00 | 71             | 22 58    | 51                                               |      |  |  |
| 9   | 314                                                             | 21.7 |      | 16.4 | 229                                                                                                                                                                  | 46.0 | 74   |      | 17.3                                              | 30            | 33                   | 18 57   | 26                                                | 12 47 | 69             | 23 12    | 53                                               |      |  |  |
| 10  | 329                                                             | 21.9 |      | 15.5 | 244                                                                                                                                                                  | 12.2 | 72   |      | 27.4                                              | 20            | 23                   | 45      | 12                                                | 25    | 65             | 36       | 56                                               |      |  |  |
| 11  | 344                                                             | 22.1 | +11  | 14.7 | 258                                                                                                                                                                  | 38.3 | 71   | -22  | 37.5                                              | 10 N          | 18 14                | 18 35   | 19 00                                             | 12 06 | 62             | 23 56    | 59                                               |      |  |  |
| 12  | 359                                                             | 22.2 | +11  | 13.8 | 273                                                                                                                                                                  | 04.3 | 70   | -22  | 47.4                                              | 0             | 18 06                | 18 27   | 18 51                                             | 11 48 | 59             | *** ** * |                                                  |      |  |  |
| 13  | 14                                                              | 22.4 |      | 13.0 | 287                                                                                                                                                                  | 30.2 | 69   | -22  | 57.2                                              | 10 S          | 17 58                | 19      | 44                                                | 30    | 56             | *** ** * |                                                  |      |  |  |
| 14  | 29                                                              | 22.6 |      | 12.1 | 301                                                                                                                                                                  | 56.0 | 68   | -23  | 06.9                                              | 20            | 50                   | 12      | 38                                                | 11 12 | 52             | *** ** * |                                                  |      |  |  |
| 15  | 44                                                              | 22.7 |      | 11.3 | 316                                                                                                                                                                  | 21.7 | 67   |      | 16.4                                              | 30            | 40                   | 05      | 33                                                | 10 50 | 49             | 0 11     | 69                                               |      |  |  |
| 16  | 59                                                              | 22.9 |      | 10.4 | 330                                                                                                                                                                  | 47.2 | 65   |      | 25.8                                              | 35            | 35                   | 18 01   | 30                                                | 38    | 46             | 23       | 71                                               |      |  |  |
| 17  | 74                                                              | 23.1 | +11  | 09.6 | 345                                                                                                                                                                  | 12.7 | 65   | -23  | 35.0                                              | 40            | 17 29                | 17 56   | 18 28                                             | 10 23 | 44             | 0 36     | 74                                               |      |  |  |
| 18  | 89                                                              | 23.2 | +11  | 08.7 | 359                                                                                                                                                                  | 38.0 | 63   | -23  | 44.2                                              | 45            | 17 22                | 17 52   | 18 26                                             | 10 07 | 39             | 0 51     | 79                                               |      |  |  |
| 19  | 104                                                             | 23.4 |      | 07.8 | 14                                                                                                                                                                   | 03.2 | 62   | -23  | 53.1                                              | 50            | 14                   | 47      | 24                                                | 9 46  | 34             | 1 11     | 84                                               |      |  |  |
| 20  | 119                                                             | 23.6 |      | 07.0 | 28                                                                                                                                                                   | 28.4 | 62   | -24  | 01.9                                              | 52            | 10                   | 44      | 24                                                | 36    | 32             | 20       | 87                                               |      |  |  |
| 21  | 134                                                             | 23.7 |      | 06.1 | 42                                                                                                                                                                   | 53.4 | 60   |      | 10.6                                              | 54            | 05                   | 42      | 23                                                | 25    | 29             | 30       | 91                                               |      |  |  |
| 22  | 149                                                             | 23.9 |      | 05.3 | 57                                                                                                                                                                   | 18.3 | 59   |      | 19.1                                              | 56            | 17 01                | 39      | 22                                                | 9 13  | 24             | 42       | 95                                               |      |  |  |
| 23  | 164                                                             | 24.1 |      | 04.4 | 71                                                                                                                                                                   | 43.1 | 58   |      | 27.5                                              | 58            | 16 56                | 36      | 22                                                | 8 59  | 19             | 1 56     | 100                                              |      |  |  |
| 24  | 179                                                             | 24.2 | +11  | 03.6 | 86                                                                                                                                                                   | 07.8 | 57   | -24  | 35.8                                              | 60 S          | 16 50                | 17 33   | 18 21                                             | 8 42  | 11             | 2 12     | 108                                              |      |  |  |
| UT  | ARIES                                                           |      |      |      | VENUS                                                                                                                                                                |      |      |      | MARTE                                             |               |                      |         | JÚPITER                                           |       |                |          | SATURNO                                          |      |  |  |
|     | PMG: 1 <sup>h</sup> 53 <sup>m</sup> 2                           |      |      |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup>                                                                                                                     |      |      |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 33 <sup>m</sup> |               |                      |         | Mag: -1.7<br>PMG: 13 <sup>h</sup> 27 <sup>m</sup> |       |                |          | Mag: +0.2<br>PMG: 9 <sup>h</sup> 29 <sup>m</sup> |      |  |  |
|     | hG ♈                                                            |      | hG ♀ |      | Dec                                                                                                                                                                  |      | hG ♂ |      | Dec                                               |               | hG ♃                 |         | Dec                                               |       | hG ♄           |          | Dec                                              |      |  |  |
| h   | °                                                               | '    | °    | '    | °                                                                                                                                                                    | '    | °    | '    | °                                                 | '             | °                    | '       | °                                                 | '     | °              | '        | °                                                | '    |  |  |
| 0   | 331                                                             | 37.4 | 226  | 09.3 | +19                                                                                                                                                                  | 50.7 | 171  | 34.7 | +9                                                | 33.9          | 157                  | 41.2    | +3                                                | 48.2  | 217            | 25.2     | +21                                              | 22.1 |  |  |
| 1   | 346                                                             | 39.9 | 241  | 09.2 |                                                                                                                                                                      | 50.6 | 186  | 35.7 |                                                   | 33.3          | 172                  | 43.2    |                                                   | 48.0  | 232            | 27.4     |                                                  | 22.1 |  |  |
| 2   | 1                                                               | 42.3 | 256  | 09.0 |                                                                                                                                                                      | 50.5 | 201  | 36.7 |                                                   | 32.7          | 187                  | 45.2    |                                                   | 47.8  | 247            | 29.6     |                                                  | 22.1 |  |  |
| 3   | 16                                                              | 44.8 | 271  | 08.8 |                                                                                                                                                                      | 50.4 | 216  | 37.7 |                                                   | 32.1          | 202                  | 47.1    |                                                   | 47.6  | 262            | 31.7     |                                                  | 22.0 |  |  |
| 4   | 31                                                              | 47.3 | 286  | 08.6 |                                                                                                                                                                      | 50.4 | 231  | 38.6 |                                                   | 31.5          | 217                  | 49.1    |                                                   | 47.4  | 277            | 33.9     |                                                  | 22.0 |  |  |
| 5   | 46                                                              | 49.7 | 301  | 08.4 | +19                                                                                                                                                                  | 50.3 | 246  | 39.6 | +9                                                | 30.9          | 232                  | 51.1    | +3                                                | 47.1  | 292            | 36.1     | +21                                              | 21.9 |  |  |
| 6   | 61                                                              | 52.2 | 316  | 08.2 | +19                                                                                                                                                                  | 50.2 | 261  | 40.6 | +9                                                | 30.3          | 247                  | 53.1    | +3                                                | 46.9  | 307            | 38.2     | +21                                              | 21.9 |  |  |
| 7   | 76                                                              | 54.7 | 331  | 08.1 |                                                                                                                                                                      | 50.1 | 276  | 41.5 |                                                   | 29.7          | 262                  | 55.1    |                                                   | 46.7  | 322            | 40.4     |                                                  | 21.8 |  |  |
| 8   | 91                                                              | 57.1 | 346  | 07.9 |                                                                                                                                                                      | 50.1 | 291  | 42.5 |                                                   | 29.1          | 277                  | 57.1    |                                                   | 46.5  | 337            | 42.6     |                                                  | 21.8 |  |  |
| 9   | 106                                                             | 59.6 | 1    | 07.7 |                                                                                                                                                                      | 50.0 | 306  | 43.5 |                                                   | 28.5          | 292                  | 59.1    |                                                   | 46.3  | 352            | 44.7     |                                                  | 21.8 |  |  |
| 10  | 122                                                             | 02.0 | 16   | 07.5 |                                                                                                                                                                      | 49.9 | 321  | 44.5 |                                                   | 27.9          | 308                  | 01.1    |                                                   | 46.1  | 7              | 46.9     |                                                  | 21.7 |  |  |
| 11  | 137                                                             | 04.5 | 31   | 07.3 | +19                                                                                                                                                                  | 49.8 | 336  | 45.4 | +9                                                | 27.3          | 323                  | 03.0    | +3                                                | 45.9  | 22             | 49.1     | +21                                              | 21.7 |  |  |
| 12  | 152                                                             | 07.0 | 46   | 07.1 | +19                                                                                                                                                                  | 49.7 | 351  | 46.4 | +9                                                | 26.7          | 338                  | 05.0    | +3                                                | 45.7  | 37             | 51.2     | +21                                              | 21.6 |  |  |
| 13  | 167                                                             | 09.4 | 61   | 06.9 |                                                                                                                                                                      | 49.7 | 6    | 47.4 |                                                   | 26.1          | 353                  | 07.0    |                                                   | 45.5  | 52             | 53.4     |                                                  | 21.6 |  |  |
| 14  | 182                                                             | 11.9 | 76   | 06.8 |                                                                                                                                                                      | 49.6 | 21   | 48.4 |                                                   | 25.4          | 8                    | 09.0    |                                                   | 45.3  | 67             | 55.6     |                                                  | 21.5 |  |  |
| 15  | 197                                                             | 14.4 | 91   | 06.6 |                                                                                                                                                                      | 49.5 | 36   | 49.3 |                                                   | 24.8          | 23                   | 11.0    |                                                   | 45.1  | 82             | 57.7     |                                                  | 21.5 |  |  |
| 16  | 212                                                             | 16.8 | 106  | 06.4 |                                                                                                                                                                      | 49.4 | 51   | 50.3 |                                                   | 24.2          | 38                   | 13.0    |                                                   | 44.9  | 97             | 59.9     |                                                  | 21.5 |  |  |
| 17  | 227                                                             | 19.3 | 121  | 06.2 | +19                                                                                                                                                                  | 49.3 | 66   | 51.3 | +9                                                | 23.6          | 53                   | 15.0    | +3                                                | 44.7  | 113            | 02.1     | +21                                              | 21.4 |  |  |
| 18  | 242                                                             | 21.8 | 136  | 06.0 | +19                                                                                                                                                                  | 49.2 | 81   | 52.3 | +9                                                | 23.0          | 68                   | 17.0    | +3                                                | 44.5  | 128            | 04.2     | +21                                              | 21.4 |  |  |
| 19  | 257                                                             | 24.2 | 151  | 05.8 |                                                                                                                                                                      | 49.2 | 96   | 53.2 |                                                   | 22.4          | 83                   | 19.0    |                                                   | 44.3  | 143            | 06.4     |                                                  | 21.3 |  |  |
| 20  | 272                                                             | 26.7 | 166  | 05.6 |                                                                                                                                                                      | 49.1 | 111  | 54.2 |                                                   | 21.8          | 98                   | 20.9    |                                                   | 44.1  | 158            | 08.6     |                                                  | 21.3 |  |  |
| 21  | 287                                                             | 29.2 | 181  | 05.4 |                                                                                                                                                                      | 49.0 | 126  | 55.2 |                                                   | 21.2          | 113                  | 22.9    |                                                   | 43.8  | 173            | 10.8     |                                                  | 21.2 |  |  |
| 22  | 302                                                             | 31.6 | 196  | 05.2 |                                                                                                                                                                      | 48.9 | 141  | 56.2 |                                                   | 20.6          | 128                  | 24.9    |                                                   | 43.6  | 188            | 12.9     |                                                  | 21.2 |  |  |
| 23  | 317                                                             | 34.1 | 211  | 05.0 |                                                                                                                                                                      | 48.8 | 156  | 57.1 |                                                   | 20.0          | 143                  | 26.9    |                                                   | 43.4  | 203            | 15.1     |                                                  | 21.2 |  |  |
| 24  | 332                                                             | 36.5 | 226  | 04.8 | +19                                                                                                                                                                  | 48.7 | 171  | 58.1 | +9                                                | 19.4          | 158                  | 28.9    | +3                                                | 43.2  | 218            | 17.3     | +21                                              | 21.1 |  |  |
| Dif | —                                                               |      | -2   |      | -1                                                                                                                                                                   |      | +10  |      | -6                                                |               | +20                  |         | -2                                                |       | +22            |          | 0                                                |      |  |  |

| UT | SOL                                                |      |     |      | ☾ LUNA                                                                                                                           |      |     |      | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |         |    |    |
|----|----------------------------------------------------|------|-----|------|----------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------|--------------------------|------|---------------|----------------|----|----------------|----|---------|----|----|
|    | SD: 15/8<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 2 |      |     |      | Edad: 7 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 59/3<br>12 <sup>h</sup> : 59/4<br>20 <sup>h</sup> : 59/6<br>R°: 63 <sup>m</sup> |      |     |      |         |                          |      |               |                |    |                |    |         |    |    |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                             |      | Dif |      |         | Dec                      |      |               | Dif            |    | Hora R°        |    | Hora R° |    |    |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                | '    | °   | '    | °       | '                        | h    | m             | h              | m  | h              | m  | h       | m  |    |
| 0  | 179                                                | 24.2 | +11 | 03.6 | 86                                                                                                                               | 07.8 | -24 | 35.8 | 80      | 58                       | 60 N | 2             | 44             | 3  | 49             | 4  | 36      | 16 | 58 |
| 1  | 194                                                | 24.4 |     | 02.7 | 100                                                                                                                              | 32.3 |     | 43.8 | 80      | 58                       |      | 3             | 01             | 3  | 59             |    | 43      | 29 | 82 |
| 2  | 209                                                | 24.6 |     | 01.9 | 114                                                                                                                              | 56.8 |     | 51.8 | 80      | 56                       |      | 15            |                | 4  | 08             |    | 49      | 16 | 06 |
| 3  | 224                                                | 24.7 |     | 01.0 | 129                                                                                                                              | 21.2 |     | 54   | 77      | 54                       |      | 27            |                | 16 |                | 54 | 15      | 48 |    |
| 4  | 239                                                | 24.9 | +11 | 00.1 | 143                                                                                                                              | 45.4 |     | 52   | 76      | 52                       |      | 37            |                | 23 |                | 4  | 59      | 32 | 75 |
| 5  | 254                                                | 25.1 | +10 | 59.3 | 158                                                                                                                              | 09.6 |     | 52   | 75      | 50                       |      | 3             | 46             | 4  | 29             | 5  | 03      | 15 | 19 |
| 6  | 269                                                | 25.2 | +10 | 58.4 | 172                                                                                                                              | 33.7 |     | 51   | 73      | 45                       |      | 4             | 04             | 4  | 42             | 5  | 13      | 14 | 51 |
| 7  | 284                                                | 25.4 |     | 57.6 | 186                                                                                                                              | 57.6 |     | 49   | 71      | 40                       |      | 18            |                | 4  | 52             |    | 20      | 29 | 70 |
| 8  | 299                                                | 25.6 |     | 56.7 | 201                                                                                                                              | 21.5 |     | 49   | 70      | 35                       |      | 29            |                | 5  | 01             |    | 27      | 14 | 11 |
| 9  | 314                                                | 25.8 |     | 55.8 | 215                                                                                                                              | 45.3 |     | 48   | 68      | 30                       |      | 39            |                | 08 |                | 33 | 13      | 56 | 68 |
| 10 | 329                                                | 25.9 |     | 55.0 | 230                                                                                                                              | 08.9 |     | 46   | 66      | 20                       |      | 4             | 53             |    | 20             |    | 43      | 30 | 66 |
| 11 | 344                                                | 26.1 | +10 | 54.1 | 244                                                                                                                              | 32.5 |     | 46   | 65      | 10 N                     |      | 5             | 05             |    | 5              | 30 | 5       | 51 | 13 |
| 12 | 359                                                | 26.3 | +10 | 53.3 | 258                                                                                                                              | 56.0 |     | 45   | 63      | 0                        |      | 5             | 13             |    | 5              | 38 | 5       | 59 | 12 |
| 13 | 14                                                 | 26.4 |     | 52.4 | 273                                                                                                                              | 19.4 |     | 44   | 61      | 10 S                     |      | 21            |                | 45 |                | 6  | 07      | 26 | 61 |
| 14 | 29                                                 | 26.6 |     | 51.6 | 287                                                                                                                              | 42.7 |     | 43   | 60      | 20                       |      | 27            |                | 5  | 53             | 15 |         | 12 | 04 |
| 15 | 44                                                 | 26.8 |     | 50.7 | 302                                                                                                                              | 05.9 |     | 42   | 57      | 30                       |      | 32            |                | 6  | 00             | 24 |         | 11 | 39 |
| 16 | 59                                                 | 27.0 |     | 49.8 | 316                                                                                                                              | 29.0 |     | 41   | 56      | 35                       |      | 34            |                | 04 |                | 29 |         | 24 | 56 |
| 17 | 74                                                 | 27.1 | +10 | 49.0 | 330                                                                                                                              | 52.0 |     | 40   | 55      | 40                       |      | 5             | 36             | 6  | 08             | 6  | 35      | 11 | 07 |
| 18 | 89                                                 | 27.3 | +10 | 48.1 | 345                                                                                                                              | 15.0 |     | 40   | 52      | 45                       |      | 5             | 38             | 6  | 12             | 6  | 42      | 10 | 46 |
| 19 | 104                                                | 27.5 |     | 47.2 | 359                                                                                                                              | 37.9 |     | 39   | 51      | 50                       |      | 40            |                | 17 |                | 50 |         | 20 | 49 |
| 20 | 119                                                | 27.6 |     | 46.4 | 14                                                                                                                               | 00.6 |     | 37   | 49      | 52                       |      | 40            |                | 20 |                | 54 |         | 10 | 08 |
| 21 | 134                                                | 27.8 |     | 45.5 | 28                                                                                                                               | 23.4 |     | 38   | 47      | 54                       |      | 41            |                | 22 |                | 6  | 58      | 9  | 54 |
| 22 | 149                                                | 28.0 |     | 44.7 | 42                                                                                                                               | 46.0 |     | 36   | 45      | 56                       |      | 41            |                | 25 |                | 7  | 03      | 37 | 42 |
| 23 | 164                                                | 28.2 |     | 43.8 | 57                                                                                                                               | 08.6 |     | 36   | 43      | 58                       |      | 42            |                | 27 |                | 08 |         | 9  | 18 |
| 24 | 179                                                | 28.3 | +10 | 42.9 | 71                                                                                                                               | 31.0 |     | 34   | 42      | 60 S                     |      | 5             | 42             | 6  | 30             | 7  | 13      | 8  | 53 |

| UT | ARIES                                 |      | VENUS                                            |      |     | MARTE                                             |      |    | JÚPITER                                           |      |    | SATURNO                                          |      |     |
|----|---------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|------|----|---------------------------------------------------|------|----|--------------------------------------------------|------|-----|
|    | PMG: 1 <sup>h</sup> 49 <sup>m</sup> 3 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 56 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 31 <sup>m</sup> |      |    | Mag: -1.7<br>PMG: 13 <sup>h</sup> 24 <sup>m</sup> |      |    | Mag: +0.2<br>PMG: 9 <sup>h</sup> 25 <sup>m</sup> |      |     |
|    | hG ♈                                  |      | hG ♀ Dec                                         |      |     | hG ♂ Dec                                          |      |    | hG ♃ Dec                                          |      |    | hG ♄ Dec                                         |      |     |
| h  | °                                     | '    | °                                                | °    | '   | °                                                 | °    | '  | °                                                 | °    | '  | °                                                | °    | '   |
| 0  | 332                                   | 36.5 | 226                                              | 04.8 | +19 | 171                                               | 58.1 | +9 | 158                                               | 28.9 | +3 | 218                                              | 17.3 | +21 |
| 1  | 347                                   | 39.0 | 241                                              | 04.6 |     | 186                                               | 59.1 |    | 173                                               | 30.9 |    | 233                                              | 19.4 |     |
| 2  | 2                                     | 41.5 | 256                                              | 04.4 |     | 202                                               | 00.1 |    | 188                                               | 32.9 |    | 248                                              | 21.6 |     |
| 3  | 17                                    | 43.9 | 271                                              | 04.2 |     | 217                                               | 01.0 |    | 203                                               | 34.9 |    | 263                                              | 23.8 |     |
| 4  | 32                                    | 46.4 | 286                                              | 04.0 |     | 232                                               | 02.0 |    | 218                                               | 36.8 |    | 278                                              | 25.9 |     |
| 5  | 47                                    | 48.9 | 301                                              | 03.8 | +19 | 247                                               | 03.0 | +9 | 233                                               | 38.8 | +3 | 293                                              | 28.1 | +21 |
| 6  | 62                                    | 51.3 | 316                                              | 03.6 | +19 | 262                                               | 04.0 | +9 | 248                                               | 40.8 | +3 | 308                                              | 30.3 | +21 |
| 7  | 77                                    | 53.8 | 331                                              | 03.4 |     | 277                                               | 04.9 |    | 263                                               | 42.8 |    | 323                                              | 32.5 |     |
| 8  | 92                                    | 56.3 | 346                                              | 03.2 |     | 292                                               | 05.9 |    | 278                                               | 44.8 |    | 338                                              | 34.6 |     |
| 9  | 107                                   | 58.7 | 1                                                | 03.0 |     | 307                                               | 06.9 |    | 293                                               | 46.8 |    | 353                                              | 36.8 |     |
| 10 | 123                                   | 01.2 | 16                                               | 02.8 |     | 322                                               | 07.9 |    | 308                                               | 48.8 |    | 8                                                | 39.0 |     |
| 11 | 138                                   | 03.7 | 31                                               | 02.6 | +19 | 337                                               | 08.8 | +9 | 323                                               | 50.7 | +3 | 23                                               | 41.1 | +21 |
| 12 | 153                                   | 06.1 | 46                                               | 02.4 | +19 | 352                                               | 09.8 | +9 | 338                                               | 52.7 | +3 | 38                                               | 43.3 | +21 |
| 13 | 168                                   | 08.6 | 61                                               | 02.2 |     | 7                                                 | 10.8 |    | 353                                               | 54.7 |    | 53                                               | 45.5 |     |
| 14 | 183                                   | 11.0 | 76                                               | 02.0 |     | 22                                                | 11.8 |    | 8                                                 | 56.7 |    | 68                                               | 47.6 |     |
| 15 | 198                                   | 13.5 | 91                                               | 01.8 |     | 37                                                | 12.7 |    | 23                                                | 58.7 |    | 83                                               | 49.8 |     |
| 16 | 213                                   | 16.0 | 106                                              | 01.6 |     | 52                                                | 13.7 |    | 39                                                | 00.7 |    | 98                                               | 52.0 |     |
| 17 | 228                                   | 18.4 | 121                                              | 01.4 | +19 | 67                                                | 14.7 | +9 | 54                                                | 02.7 | +3 | 113                                              | 54.2 | +21 |
| 18 | 243                                   | 20.9 | 136                                              | 01.2 | +19 | 82                                                | 15.7 | +9 | 69                                                | 04.7 | +3 | 128                                              | 56.3 | +21 |
| 19 | 258                                   | 23.4 | 151                                              | 01.0 |     | 97                                                | 16.6 |    | 84                                                | 06.6 |    | 143                                              | 58.5 |     |
| 20 | 273                                   | 25.8 | 166                                              | 00.8 |     | 112                                               | 17.6 |    | 99                                                | 08.6 |    | 159                                              | 00.7 |     |
| 21 | 288                                   | 28.3 | 181                                              | 00.6 |     | 127                                               | 18.6 |    | 114                                               | 10.6 |    | 174                                              | 02.8 |     |
| 22 | 303                                   | 30.8 | 196                                              | 00.4 |     | 142                                               | 19.6 |    | 129                                               | 12.6 |    | 189                                              | 05.0 |     |
| 23 | 318                                   | 33.2 | 211                                              | 00.2 |     | 157                                               | 20.5 |    | 144                                               | 14.6 |    | 204                                              | 07.2 |     |
| 24 | 333                                   | 35.7 | 226                                              | 00.0 | +19 | 172                                               | 21.5 | +9 | 159                                               | 16.6 | +3 | 219                                              | 09.4 | +21 |

|     |   |    |    |     |    |     |    |     |   |
|-----|---|----|----|-----|----|-----|----|-----|---|
| Dif | — | -2 | -1 | +10 | -6 | +20 | -2 | +22 | 0 |
|-----|---|----|----|-----|----|-----|----|-----|---|



| UT | SOL                                                             |      |     | LUNA                                                                                          |     |      | Latitud     | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |       |    |
|----|-----------------------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------|-----|------|-------------|---------------|----------------------|-------|----------------|-------|----------------|-------|----|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 0 |      |     | Edad: 8 <sup>d</sup> 9 PHE {<br>SD: 16 <sup>h</sup> 2<br>PMG: 20 <sup>h</sup> 05 <sup>m</sup> |     |      |             |               |                      |       |                |       |                |       |    |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                          | Dif | Dec  |             |               | Dif                  | Civil | Náutico        | Hora  | R°             | Hora  | R° |
| h  | °                                                               | '    | °   | '                                                                                             | °   | '    | °           | h             | m                    | h     | m              | h     | m              | h     | m  |
| 0  | 179                                                             | 28.3 | +10 | 42.9                                                                                          | 71  | 31.0 | -27 04.0    | 60 N          | 19 23                | 20 10 | 21 13          | 18 27 | 47             | 21 42 | 88 |
| 1  | 194                                                             | 28.5 |     | 42.1                                                                                          | 85  | 53.5 | 35 07.9     | 58            | 17                   | 20 01 | 20 57          | 17 51 | 52             | 22 18 | 83 |
| 2  | 209                                                             | 28.7 |     | 41.2                                                                                          | 100 | 15.8 | 33 11.7     | 56            | 12                   | 19 52 | 44             | 25    | 55             | 22 44 | 79 |
| 3  | 224                                                             | 28.8 |     | 40.3                                                                                          | 114 | 38.1 | 33 15.3     | 54            | 07                   | 45    | 33             | 17 05 | 56             | 23 05 | 77 |
| 4  | 239                                                             | 29.0 |     | 39.5                                                                                          | 129 | 00.3 | 32 18.7     | 52            | 19 02                | 38    | 23             | 16 47 | 58             | 22    | 76 |
| 5  | 254                                                             | 29.2 | +10 | 38.6                                                                                          | 143 | 22.5 | 32 -27 21.9 | 50            | 18 58                | 19 32 | 20 15          | 16 33 | 58             | 23 37 | 75 |
| 6  | 269                                                             | 29.4 | +10 | 37.8                                                                                          | 157 | 44.6 | 31 -27 24.9 | 45            | 18 49                | 19 20 | 19 57          | 16 03 | 60             | **    | ** |
| 7  | 284                                                             | 29.5 |     | 36.9                                                                                          | 172 | 06.6 | 30 27.8     | 40            | 42                   | 10    | 44             | 15 39 | 62             | **    | ** |
| 8  | 299                                                             | 29.7 |     | 36.0                                                                                          | 186 | 28.6 | 30 30.4     | 35            | 36                   | 19 02 | 33             | 20    | 62             | **    | ** |
| 9  | 314                                                             | 29.9 |     | 35.2                                                                                          | 200 | 50.6 | 30 32.8     | 30            | 30                   | 18 55 | 24             | 15 04 | 62             | 0 05  | 61 |
| 10 | 329                                                             | 30.1 |     | 34.3                                                                                          | 215 | 12.5 | 29 35.1     | 20            | 21                   | 43    | 19 10          | 14 36 | 63             | 32    | 62 |
| 11 | 344                                                             | 30.2 | +10 | 33.4                                                                                          | 229 | 34.3 | 28 -27 37.1 | 10 N          | 18 13                | 18 34 | 18 59          | 14 12 | 64             | 0 55  | 63 |
| 12 | 359                                                             | 30.4 | +10 | 32.6                                                                                          | 243 | 56.1 | 28 -27 39.0 | 0             | 18 05                | 18 26 | 18 51          | 13 50 | 64             | 1 16  | 64 |
| 13 | 14                                                              | 30.6 |     | 31.7                                                                                          | 258 | 17.9 | 28 40.6     | 10 S          | 17 58                | 19    | 44             | 27    | 65             | 1 38  | 64 |
| 14 | 29                                                              | 30.8 |     | 30.8                                                                                          | 272 | 39.6 | 27 42.1     | 20            | 50                   | 12    | 38             | 13 04 | 65             | 2 01  | 65 |
| 15 | 44                                                              | 30.9 |     | 30.0                                                                                          | 287 | 01.3 | 27 43.3     | 30            | 41                   | 06    | 34             | 12 36 | 66             | 28    | 66 |
| 16 | 59                                                              | 31.1 |     | 29.1                                                                                          | 301 | 23.0 | 27 44.4     | 35            | 36                   | 18 02 | 32             | 20    | 66             | 2 44  | 66 |
| 17 | 74                                                              | 31.3 | +10 | 28.2                                                                                          | 315 | 44.6 | 26 -27 45.2 | 40            | 17 31                | 17 58 | 18 30          | 12 01 | 66             | 3 03  | 66 |
| 18 | 89                                                              | 31.5 | +10 | 27.4                                                                                          | 330 | 06.2 | 26 -27 45.9 | 45            | 17 24                | 17 54 | 18 28          | 11 38 | 66             | 3 26  | 66 |
| 19 | 104                                                             | 31.6 |     | 26.5                                                                                          | 344 | 27.8 | 26 46.4     | 50            | 16                   | 49    | 27             | 11 09 | 66             | 3 54  | 67 |
| 20 | 119                                                             | 31.8 |     | 25.6                                                                                          | 358 | 49.4 | 26 46.6     | 52            | 13                   | 47    | 27             | 10 55 | 66             | 4 08  | 67 |
| 21 | 134                                                             | 32.0 |     | 24.7                                                                                          | 13  | 10.9 | 25 46.7     | 54            | 09                   | 45    | 26             | 38    | 67             | 25    | 67 |
| 22 | 149                                                             | 32.2 |     | 23.9                                                                                          | 27  | 32.4 | 25 46.5     | 56            | 05                   | 43    | 26             | 10 19 | 66             | 4 44  | 68 |
| 23 | 164                                                             | 32.3 |     | 23.0                                                                                          | 41  | 53.9 | 25 46.2     | 58            | 17 00                | 40    | 26             | 9 54  | 67             | 5 08  | 68 |
| 24 | 179                                                             | 32.5 | +10 | 22.1                                                                                          | 56  | 15.5 | 26 -27 45.6 | 60 S          | 16 54                | 17 37 | 18 26          | 9 22  | 66             | 5 40  | 69 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                          |          |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|--------------------------------------------------|----------|----------|
|     | PMG: 1 <sup>h</sup> 45 <sup>m</sup> 3 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 30 <sup>m</sup> |          | Mag: -1.7<br>PMG: 13 <sup>h</sup> 21 <sup>m</sup> |          | Mag: +0.2<br>PMG: 9 <sup>h</sup> 22 <sup>m</sup> |          |          |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                             | Dec      |          |
| h   | °                                     | '    | °                                                | '    | °                                                 | '        | °                                                 | '        | °                                                | '        |          |
| 0   | 333                                   | 35.7 | 226                                              | 00.0 | +19 46.3                                          | 172 21.5 | +9 04.8                                           | 159 16.6 | +3 38.3                                          | 219 09.4 | +21 20.1 |
| 1   | 348                                   | 38.1 | 240                                              | 59.7 | 46.2                                              | 187 22.5 | 04.2                                              | 174 18.6 | 38.0                                             | 234 11.5 | 20.1     |
| 2   | 3                                     | 40.6 | 255                                              | 59.5 | 46.1                                              | 202 23.5 | 03.6                                              | 189 20.5 | 37.8                                             | 249 13.7 | 20.0     |
| 3   | 18                                    | 43.1 | 270                                              | 59.3 | 46.0                                              | 217 24.4 | 03.0                                              | 204 22.5 | 37.6                                             | 264 15.9 | 20.0     |
| 4   | 33                                    | 45.5 | 285                                              | 59.1 | 45.9                                              | 232 25.4 | 02.4                                              | 219 24.5 | 37.4                                             | 279 18.0 | 19.9     |
| 5   | 48                                    | 48.0 | 300                                              | 58.9 | +19 45.8                                          | 247 26.4 | +9 01.8                                           | 234 26.5 | +3 37.2                                          | 294 20.2 | +21 19.9 |
| 6   | 63                                    | 50.5 | 315                                              | 58.7 | +19 45.6                                          | 262 27.4 | +9 01.2                                           | 249 28.5 | +3 37.0                                          | 309 22.4 | +21 19.9 |
| 7   | 78                                    | 52.9 | 330                                              | 58.5 | 45.5                                              | 277 28.3 | +9 00.6                                           | 264 30.5 | 36.8                                             | 324 24.6 | 19.8     |
| 8   | 93                                    | 55.4 | 345                                              | 58.3 | 45.4                                              | 292 29.3 | +8 59.9                                           | 279 32.5 | 36.6                                             | 339 26.7 | 19.8     |
| 9   | 108                                   | 57.9 | 0                                                | 58.0 | 45.3                                              | 307 30.3 | 59.3                                              | 294 34.4 | 36.4                                             | 354 28.9 | 19.7     |
| 10  | 124                                   | 00.3 | 15                                               | 57.8 | 45.2                                              | 322 31.3 | 58.7                                              | 309 36.4 | 36.2                                             | 9 31.1   | 19.7     |
| 11  | 139                                   | 02.8 | 30                                               | 57.6 | +19 45.1                                          | 337 32.3 | +8 58.1                                           | 324 38.4 | +3 36.0                                          | 24 33.3  | +21 19.6 |
| 12  | 154                                   | 05.3 | 45                                               | 57.4 | +19 44.9                                          | 352 33.2 | +8 57.5                                           | 339 40.4 | +3 35.8                                          | 39 35.4  | +21 19.6 |
| 13  | 169                                   | 07.7 | 60                                               | 57.2 | 44.8                                              | 7 34.2   | 56.9                                              | 354 42.4 | 35.6                                             | 54 37.6  | 19.6     |
| 14  | 184                                   | 10.2 | 75                                               | 57.0 | 44.7                                              | 22 35.2  | 56.3                                              | 9 44.4   | 35.4                                             | 69 39.8  | 19.5     |
| 15  | 199                                   | 12.6 | 90                                               | 56.7 | 44.6                                              | 37 36.2  | 55.7                                              | 24 46.4  | 35.1                                             | 84 41.9  | 19.5     |
| 16  | 214                                   | 15.1 | 105                                              | 56.5 | 44.5                                              | 52 37.1  | 55.1                                              | 39 48.3  | 34.9                                             | 99 44.1  | 19.4     |
| 17  | 229                                   | 17.6 | 120                                              | 56.3 | +19 44.3                                          | 67 38.1  | +8 54.5                                           | 54 50.3  | +3 34.7                                          | 114 46.3 | +21 19.4 |
| 18  | 244                                   | 20.0 | 135                                              | 56.1 | +19 44.2                                          | 82 39.1  | +8 53.9                                           | 69 52.3  | +3 34.5                                          | 129 48.5 | +21 19.3 |
| 19  | 259                                   | 22.5 | 150                                              | 55.8 | 44.1                                              | 97 40.1  | 53.2                                              | 84 54.3  | 34.3                                             | 144 50.6 | 19.3     |
| 20  | 274                                   | 25.0 | 165                                              | 55.6 | 44.0                                              | 112 41.0 | 52.6                                              | 99 56.3  | 34.1                                             | 159 52.8 | 19.3     |
| 21  | 289                                   | 27.4 | 180                                              | 55.4 | 43.9                                              | 127 42.0 | 52.0                                              | 114 58.3 | 33.9                                             | 174 55.0 | 19.2     |
| 22  | 304                                   | 29.9 | 195                                              | 55.2 | 43.7                                              | 142 43.0 | 51.4                                              | 130 00.3 | 33.7                                             | 189 57.2 | 19.2     |
| 23  | 319                                   | 32.4 | 210                                              | 55.0 | 43.6                                              | 157 44.0 | 50.8                                              | 145 02.2 | 33.5                                             | 204 59.3 | 19.1     |
| 24  | 334                                   | 34.8 | 225                                              | 54.7 | +19 43.5                                          | 172 45.0 | +8 50.2                                           | 160 04.2 | +3 33.3                                          | 220 01.5 | +21 19.1 |
| Dif | —                                     |      | -2                                               | -1   |                                                   | +10      | -6                                                | +20      | -2                                               | +22      | 0        |

| UT | SOL                                                             |      |     | LUNA                                                                                                                                                                                                                   |     |      |     |          |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |     |   |
|----|-----------------------------------------------------------------|------|-----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|----------|---------|---------|--------------------------|------|---------------|----------------|------|----------------|-----|---|
|    | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> 7 |      |     | Edad: 9 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 60 <sup>o</sup> 0<br>12 <sup>h</sup> : 60 <sup>o</sup> 0<br>20 <sup>h</sup> : 60 <sup>o</sup> 0<br>PMG: 21 <sup>h</sup> 09 <sup>m</sup> R <sup>o</sup> : 62 <sup>m</sup> |     |      |     |          |         |         |                          |      |               |                |      |                |     |   |
|    | hG ☉                                                            | Dec  |     | hG ☾                                                                                                                                                                                                                   | Dif | Dec  |     | Dif      | Náutico |         | Civil                    | Hora |               | R <sup>o</sup> | Hora | R <sup>o</sup> |     |   |
| h  | °                                                               | '    | °   | '                                                                                                                                                                                                                      | °   | '    | °   | '        | °       | h       | m                        | h    | m             | h              | m    | h              | m   | m |
| 0  | 179                                                             | 32.5 | +10 | 22.1                                                                                                                                                                                                                   | 56  | 15.5 | -27 | 45.6     | 7       | 60 N    | 2 51                     | 3 54 | 4 41          | 19 14          | 17   | 23 10          | 112 |   |
| 1  | 194                                                             | 32.7 |     | 21.3                                                                                                                                                                                                                   | 70  | 36.9 | 24  | 44.9     | 10      | 58      | 3 07                     | 4 04 | 47            | 18 43          | 27   | 23 41          | 102 |   |
| 2  | 209                                                             | 32.9 |     | 20.4                                                                                                                                                                                                                   | 84  | 58.4 | 25  | 43.9     | 11      | 56      | 20                       | 12   | 53            | 20 33          |      | ** ** *        | **  |   |
| 3  | 224                                                             | 33.1 |     | 19.5                                                                                                                                                                                                                   | 99  | 19.9 | 25  | 42.8     | 11      | 54      | 31                       | 20   | 4 58          | 18 01          | 37   | ** ** *        | **  |   |
| 4  | 239                                                             | 33.2 |     | 18.7                                                                                                                                                                                                                   | 113 | 41.4 | 25  | 41.4     | 14      | 52      | 41                       | 26   | 5 02          | 17 45          | 40   | ** ** *        | **  |   |
| 5  | 254                                                             | 33.4 | +10 | 17.8                                                                                                                                                                                                                   | 128 | 02.9 | 25  | -27 39.9 | 15      | 50      | 3 50                     | 4 32 | 5 06          | 17 31          | 43   | ** ** *        | **  |   |
| 6  | 269                                                             | 33.6 | +10 | 16.9                                                                                                                                                                                                                   | 142 | 24.4 | 25  | -27 38.1 | 18      | 45      | 4 07                     | 4 44 | 5 15          | 17 03          | 47   | 0 07           | 72  |   |
| 7  | 284                                                             | 33.8 |     | 16.0                                                                                                                                                                                                                   | 156 | 45.9 | 25  | 36.1     | 20      | 40      | 20                       | 4 54 | 22            | 16 41          | 50   | 30             | 71  |   |
| 8  | 299                                                             | 33.9 |     | 15.2                                                                                                                                                                                                                   | 171 | 07.5 | 26  | 34.0     | 21      | 35      | 31                       | 5 02 | 28            | 22 53          |      | 0 50           | 69  |   |
| 9  | 314                                                             | 34.1 |     | 14.3                                                                                                                                                                                                                   | 185 | 29.0 | 25  | 31.6     | 24      | 30      | 40                       | 09   | 34            | 16 06          | 55   | 1 06           | 69  |   |
| 10 | 329                                                             | 34.3 |     | 13.4                                                                                                                                                                                                                   | 199 | 50.6 | 26  | 29.1     | 25      | 20      | 4 54                     | 20   | 43            | 15 39          | 58   | 34             | 67  |   |
| 11 | 344                                                             | 34.5 | +10 | 12.6                                                                                                                                                                                                                   | 214 | 12.2 | 26  | -27 26.3 | 28      | 10 N    | 5 05                     | 5 30 | 5 51          | 15 16          | 60   | 1 58           | 65  |   |
| 12 | 359                                                             | 34.7 | +10 | 11.7                                                                                                                                                                                                                   | 228 | 33.8 | 26  | -27 23.3 | 30      | 0       | 5 13                     | 5 37 | 5 58          | 14 54          | 63   | 2 20           | 64  |   |
| 13 | 14                                                              | 34.8 |     | 10.8                                                                                                                                                                                                                   | 242 | 55.4 | 26  | 20.2     | 31      | 10 S    | 20                       | 44   | 6 06          | 32 65          |      | 2 42           | 63  |   |
| 14 | 29                                                              | 35.0 |     | 09.9                                                                                                                                                                                                                   | 257 | 17.1 | 27  | 16.8     | 34      | 20      | 25                       | 51   | 13            | 14 09          | 67   | 3 06           | 61  |   |
| 15 | 44                                                              | 35.2 |     | 09.1                                                                                                                                                                                                                   | 271 | 38.8 | 27  | 13.3     | 35      | 30      | 30                       | 5 58 | 22            | 13 42          | 70   | 34             | 59  |   |
| 16 | 59                                                              | 35.4 |     | 08.2                                                                                                                                                                                                                   | 286 | 00.5 | 27  | 09.5     | 38      | 35      | 32                       | 6 01 | 27            | 26 72          |      | 3 50           | 58  |   |
| 17 | 74                                                              | 35.6 | +10 | 07.3                                                                                                                                                                                                                   | 300 | 22.3 | 28  | -27 05.5 | 40      | 40      | 5 33                     | 6 05 | 6 32          | 13 07          | 74   | 4 09           | 56  |   |
| 18 | 89                                                              | 35.7 | +10 | 06.4                                                                                                                                                                                                                   | 314 | 44.1 | 28  | -27 01.4 | 41      | 45      | 5 35                     | 6 09 | 6 39          | 12 44          | 77   | 4 32           | 54  |   |
| 19 | 104                                                             | 35.9 |     | 05.6                                                                                                                                                                                                                   | 329 | 05.9 | 28  | -26 57.1 | 43      | 50      | 36                       | 13   | 46            | 15 81          |      | 5 01           | 50  |   |
| 20 | 119                                                             | 36.1 |     | 04.7                                                                                                                                                                                                                   | 343 | 27.8 | 29  | 52.5     | 46      | 52      | 36                       | 15   | 50            | 12 01          | 83   | 15             | 49  |   |
| 21 | 134                                                             | 36.3 |     | 03.8                                                                                                                                                                                                                   | 357 | 49.8 | 30  | 47.8     | 47      | 54      | 37                       | 18   | 54            | 11 45          | 85   | 32             | 46  |   |
| 22 | 149                                                             | 36.5 |     | 02.9                                                                                                                                                                                                                   | 12  | 11.8 | 30  | 42.9     | 49      | 56      | 37                       | 20   | 6 58          | 25 89          |      | 5 52           | 43  |   |
| 23 | 164                                                             | 36.6 |     | 02.1                                                                                                                                                                                                                   | 26  | 33.8 | 30  | 37.7     | 52      | 58      | 37                       | 22   | 7 02          | 11 01          | 94   | 6 16           | 39  |   |
| 24 | 179                                                             | 36.8 | +10 | 01.2                                                                                                                                                                                                                   | 40  | 55.9 | 31  | -26 32.4 | 53      | 60 S    | 5 37                     | 6 25 | 7 08          | 10 28          | 103  | 6 49           | 30  |   |

| UT  | ARIES                                   |      | VENUS                                            |      |     | MARTE                                             |          |    | JÚPITER                                           |     |      | SATURNO                                          |      |     |      |     |      |
|-----|-----------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|----------|----|---------------------------------------------------|-----|------|--------------------------------------------------|------|-----|------|-----|------|
|     | PMG<br>1 <sup>h</sup> 41 <sup>m</sup> 4 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 56 <sup>m</sup> |      |     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 28 <sup>m</sup> |          |    | Mag: -1.7<br>PMG: 13 <sup>h</sup> 18 <sup>m</sup> |     |      | Mag: +0.2<br>PMG: 9 <sup>h</sup> 19 <sup>m</sup> |      |     |      |     |      |
|     | hG ♈                                    |      | hG ♀                                             | Dec  |     | hG ♂                                              | Dec      |    | hG ♃                                              | Dec |      | hG ♄                                             | Dec  |     |      |     |      |
| h   | °                                       | '    | °                                                | °    | '   | °                                                 | °        | '  | °                                                 | °   | '    | °                                                | °    | '   |      |     |      |
| 0   | 334                                     | 34.8 | 225                                              | 54.7 | +19 | 172                                               | 45.0     | +8 | 50.2                                              | 160 | 04.2 | +3                                               | 33.3 | 220 | 01.5 | +21 | 19.1 |
| 1   | 349                                     | 37.3 | 240                                              | 54.5 |     | 187                                               | 45.9     |    | 49.6                                              | 175 | 06.2 |                                                  | 33.1 | 235 | 03.7 |     | 19.1 |
| 2   | 4                                       | 39.8 | 255                                              | 54.3 |     | 202                                               | 46.9     |    | 49.0                                              | 190 | 08.2 |                                                  | 32.9 | 250 | 05.9 |     | 19.0 |
| 3   | 19                                      | 42.2 | 270                                              | 54.1 |     | 217                                               | 47.9     |    | 48.4                                              | 205 | 10.2 |                                                  | 32.7 | 265 | 08.0 |     | 19.0 |
| 4   | 34                                      | 44.7 | 285                                              | 53.8 |     | 232                                               | 48.9     |    | 47.7                                              | 220 | 12.2 |                                                  | 32.4 | 280 | 10.2 |     | 18.9 |
| 5   | 49                                      | 47.1 | 300                                              | 53.6 | +19 | 247                                               | 49.8     | +8 | 47.1                                              | 235 | 14.2 | +3                                               | 32.2 | 295 | 12.4 | +21 | 18.9 |
| 6   | 64                                      | 49.6 | 315                                              | 53.4 | +19 | 262                                               | 50.8     | +8 | 46.5                                              | 250 | 16.1 | +3                                               | 32.0 | 310 | 14.6 | +21 | 18.8 |
| 7   | 79                                      | 52.1 | 330                                              | 53.1 |     | 277                                               | 51.8     |    | 45.9                                              | 265 | 18.1 |                                                  | 31.8 | 325 | 16.7 |     | 18.8 |
| 8   | 94                                      | 54.5 | 345                                              | 52.9 |     | 292                                               | 52.8     |    | 45.3                                              | 280 | 20.1 |                                                  | 31.6 | 340 | 18.9 |     | 18.8 |
| 9   | 109                                     | 57.0 | 0                                                | 52.7 |     | 307                                               | 53.8     |    | 44.7                                              | 295 | 22.1 |                                                  | 31.4 | 355 | 21.1 |     | 18.7 |
| 10  | 124                                     | 59.5 | 15                                               | 52.5 |     | 322                                               | 54.7     |    | 44.1                                              | 310 | 24.1 |                                                  | 31.2 | 10  | 23.3 |     | 18.7 |
| 11  | 140                                     | 01.9 | 30                                               | 52.2 | +19 | 337                                               | 55.7     | +8 | 43.5                                              | 325 | 26.1 | +3                                               | 31.0 | 25  | 25.4 | +21 | 18.6 |
| 12  | 155                                     | 04.4 | 45                                               | 52.0 | +19 | 352                                               | 56.7     | +8 | 42.9                                              | 340 | 28.0 | +3                                               | 30.8 | 40  | 27.6 | +21 | 18.6 |
| 13  | 170                                     | 06.9 | 60                                               | 51.8 |     | 7                                                 | 57.7     |    | 42.2                                              | 355 | 30.0 |                                                  | 30.6 | 55  | 29.8 |     | 18.5 |
| 14  | 185                                     | 09.3 | 75                                               | 51.5 |     | 22                                                | 58.6     |    | 41.6                                              | 10  | 32.0 |                                                  | 30.4 | 70  | 32.0 |     | 18.5 |
| 15  | 200                                     | 11.8 | 90                                               | 51.3 |     | 37                                                | 59.6     |    | 41.0                                              | 25  | 34.0 |                                                  | 30.2 | 85  | 34.1 |     | 18.5 |
| 16  | 215                                     | 14.3 | 105                                              | 51.1 |     | 41.3                                              | 53 00.6  |    | 40.4                                              | 40  | 36.0 |                                                  | 29.9 | 100 | 36.3 |     | 18.4 |
| 17  | 230                                     | 16.7 | 120                                              | 50.8 | +19 | 41.2                                              | 68 01.6  | +8 | 39.8                                              | 55  | 38.0 | +3                                               | 29.7 | 115 | 38.5 | +21 | 18.4 |
| 18  | 245                                     | 19.2 | 135                                              | 50.6 | +19 | 41.0                                              | 83 02.6  | +8 | 39.2                                              | 70  | 39.9 | +3                                               | 29.5 | 130 | 40.7 | +21 | 18.3 |
| 19  | 260                                     | 21.6 | 150                                              | 50.4 |     | 40.9                                              | 98 03.5  |    | 38.6                                              | 85  | 41.9 |                                                  | 29.3 | 145 | 42.8 |     | 18.3 |
| 20  | 275                                     | 24.1 | 165                                              | 50.1 |     | 40.8                                              | 113 04.5 |    | 38.0                                              | 100 | 43.9 |                                                  | 29.1 | 160 | 45.0 |     | 18.3 |
| 21  | 290                                     | 26.6 | 180                                              | 49.9 |     | 40.6                                              | 128 05.5 |    | 37.3                                              | 115 | 45.9 |                                                  | 28.9 | 175 | 47.2 |     | 18.2 |
| 22  | 305                                     | 29.0 | 195                                              | 49.7 |     | 40.5                                              | 143 06.5 |    | 36.7                                              | 130 | 47.9 |                                                  | 28.7 | 190 | 49.4 |     | 18.2 |
| 23  | 320                                     | 31.5 | 210                                              | 49.4 |     | 40.3                                              | 158 07.5 |    | 36.1                                              | 145 | 49.9 |                                                  | 28.5 | 205 | 51.5 |     | 18.1 |
| 24  | 335                                     | 34.0 | 225                                              | 49.2 | +19 | 40.2                                              | 173 08.4 | +8 | 35.5                                              | 160 | 51.9 | +3                                               | 28.3 | 220 | 53.7 | +21 | 18.1 |
| Dif | —                                       |      | -2                                               |      | -1  | +10                                               |          | -6 |                                                   | +20 |      | -2                                               |      | +22 |      |     |      |

| UT | SOL                                    |      |          | LUNA                    |             |                                                                                                                                            | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |        | Puesta de Luna |         |
|----|----------------------------------------|------|----------|-------------------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|----------------------|---------|----------------|--------|----------------|---------|
|    | SD: 15 <sup>h</sup> 8                  |      |          | Edad: 10 <sup>d</sup> 9 | PHE {       | 4 <sup>h</sup> : 60 <sup>h</sup> /1<br>12 <sup>h</sup> : 60 <sup>h</sup> /1<br>20 <sup>h</sup> : 60 <sup>h</sup> /0<br>R°: 58 <sup>m</sup> |         |               |                      |         |                |        |                |         |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 4 |      |          |                         |             |                                                                                                                                            |         |               |                      |         |                |        |                |         |
|    | hG ☉                                   | Dec  |          | hG ☾                    | Dif         | Dec                                                                                                                                        | Dif     |               | Civil                | Náutico | Hora           | R°     | Hora           | R°      |
| h  | °                                      | '    | °        | °                       | '           | °                                                                                                                                          | '       | °             | h m                  | h m     | h m            | h m m  | h m m          | h m m   |
| 0  | 179                                    | 36.8 | +10 01.2 | 40                      | 55.9        | -26 32.4                                                                                                                                   | 55      | 60 N          | 19 18                | 20 04   | 21 05          | 19 31  | 7              | ** ** * |
| 1  | 194                                    | 37.0 | +10 00.3 | 55                      | 18.1        | 32 26.9                                                                                                                                    | 55      | 58            | 12                   | 19 55   | 20 50          | 19 10  | 14             | ** ** * |
| 2  | 209                                    | 37.2 | +9 59.4  | 69                      | 40.3        | 32 21.2                                                                                                                                    | 57      | 56            | 07                   | 47      | 38             | 18 53  | 19             | 0 03 97 |
| 3  | 224                                    | 37.4 | 58.5     | 84                      | 02.6        | 33 15.4                                                                                                                                    | 58      | 54            | 19 02                | 40      | 27             | 38 24  |                | 22 92   |
| 4  | 239                                    | 37.5 | 57.7     | 98                      | 25.0        | 34 09.3                                                                                                                                    | 61      | 52            | 18 58                | 34      | 18             | 25 27  |                | 38 88   |
| 5  | 254                                    | 37.7 | +9 56.8  | 112                     | 47.4        | 34 -26 03.1                                                                                                                                | 62      | 50            | 18 54                | 19 28   | 20 10          | 18 14  | 30             | 0 52 85 |
| 6  | 269                                    | 37.9 | +9 55.9  | 127                     | 09.9        | 35 -25 56.6                                                                                                                                | 65      | 45            | 18 46                | 19 16   | 19 53          | 17 50  | 36             | 1 19 81 |
| 7  | 284                                    | 38.1 | 55.0     | 141                     | 32.5        | 36 50.0                                                                                                                                    | 66      | 40            | 39                   | 19 07   | 40             | 31 40  |                | 41 77   |
| 8  | 299                                    | 38.3 | 54.2     | 155                     | 55.1        | 36 43.2                                                                                                                                    | 68      | 35            | 33                   | 18 59   | 30             | 15 43  |                | 1 59 74 |
| 9  | 314                                    | 38.5 | 53.3     | 170                     | 17.8        | 37 36.2                                                                                                                                    | 70      | 30            | 28                   | 53      | 21             | 17 01  | 46             | 2 15 71 |
| 10 | 329                                    | 38.6 | 52.4     | 184                     | 40.6        | 38 29.1                                                                                                                                    | 71      | 20            | 19                   | 42      | 19 08          | 16 37  | 51             | 2 41 67 |
| 11 | 344                                    | 38.8 | +9 51.5  | 199                     | 03.5        | 39 -25 21.7                                                                                                                                | 74      | 10 N          | 18 12                | 18 33   | 18 58          | 16 16  | 55             | 3 03 64 |
| 12 | 359                                    | 39.0 | +9 50.6  | 213                     | 26.4        | 39 -25 14.2                                                                                                                                | 75      | 0             | 18 05                | 18 26   | 18 50          | 15 57  | 59             | 3 24 61 |
| 13 | 14                                     | 39.2 | 49.8     | 227                     | 49.4        | 40 -25 06.5                                                                                                                                | 77      | 10 S          | 17 58                | 19      | 44             | 37 63  |                | 3 45 58 |
| 14 | 29                                     | 39.4 | 48.9     | 242                     | 12.6        | 42 -24 58.7                                                                                                                                | 78      | 20            | 51                   | 13      | 39             | 15 16  | 67             | 4 07 55 |
| 15 | 44                                     | 39.6 | 48.0     | 256                     | 35.8        | 42 50.6                                                                                                                                    | 81      | 30            | 42                   | 07      | 35             | 14 52  | 72             | 33 50   |
| 16 | 59                                     | 39.7 | 47.1     | 270                     | 59.1        | 43 42.4                                                                                                                                    | 82      | 35            | 38                   | 03      | 33             | 38 74  |                | 4 48 48 |
| 17 | 74                                     | 39.9 | +9 46.2  | 285                     | 22.4        | 43 -24 34.1                                                                                                                                | 83      | 40            | 17 33                | 18 00   | 18 31          | 14 21  | 78             | 5 05 45 |
| 18 | 89                                     | 40.1 | +9 45.4  | 299                     | 45.9        | 45 -24 25.5                                                                                                                                | 86      | 45            | 17 27                | 17 56   | 18 30          | 14 01  | 82             | 5 26 41 |
| 19 | 104                                    | 40.3 | 44.5     | 314                     | 09.5        | 46 16.8                                                                                                                                    | 87      | 50            | 19                   | 52      | 30             | 13 36  | 88             | 5 51 36 |
| 20 | 119                                    | 40.5 | 43.6     | 328                     | 33.1        | 46 -24 07.9                                                                                                                                | 89      | 52            | 16                   | 50      | 30             | 24 91  |                | 6 04 33 |
| 21 | 134                                    | 40.7 | 42.7     | 342                     | 56.9        | 48 -23 58.9                                                                                                                                | 90      | 54            | 12                   | 48      | 29             | 13 10  | 95             | 18 30   |
| 22 | 149                                    | 40.8 | 41.8     | 357                     | 20.7        | 48 49.7                                                                                                                                    | 92      | 56            | 08                   | 46      | 29             | 12 54  | 99             | 35 26   |
| 23 | 164                                    | 41.0 | 40.9     | 11 44.6                 | 49 40.4     | 93 30.9                                                                                                                                    | 95      | 58            | 17 04                | 44      | 30             | 35 104 |                | 6 55 20 |
| 24 | 179                                    | 41.2 | +9 40.1  | 26 08.7                 | 51 -23 30.9 | 95                                                                                                                                         |         | 60 S          | 16 59                | 17 42   | 18 30          | 12 11  | 112            | 7 19 13 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                          |          |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|--------------------------------------------------|----------|----------|
|     | PMG: 1 <sup>h</sup> 37 <sup>m</sup> 5 |      | Mag: -4.4<br>PMG: 8 <sup>h</sup> 57 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 27 <sup>m</sup> |          | Mag: -1.7<br>PMG: 13 <sup>h</sup> 15 <sup>m</sup> |          | Mag: +0.2<br>PMG: 9 <sup>h</sup> 15 <sup>m</sup> |          |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                             | Dec      |          |
| h   | °                                     | '    | °                                                | '    | °                                                 | '        | °                                                 | '        | °                                                | '        |          |
| 0   | 335                                   | 34.0 | 225                                              | 49.2 | +19 40.2                                          | 173 08.4 | +8 35.5                                           | 160 51.9 | +3 28.3                                          | 220 53.7 | +21 18.1 |
| 1   | 350                                   | 36.4 | 240                                              | 48.9 | 40.0                                              | 188 09.4 | 34.9                                              | 175 53.8 | 28.1                                             | 235 55.9 | 18.0     |
| 2   | 5                                     | 38.9 | 255                                              | 48.7 | 39.9                                              | 203 10.4 | 34.3                                              | 190 55.8 | 27.9                                             | 250 58.1 | 18.0     |
| 3   | 20                                    | 41.4 | 270                                              | 48.5 | 39.7                                              | 218 11.4 | 33.7                                              | 205 57.8 | 27.7                                             | 266 00.2 | 18.0     |
| 4   | 35                                    | 43.8 | 285                                              | 48.2 | 39.6                                              | 233 12.3 | 33.0                                              | 220 59.8 | 27.4                                             | 281 02.4 | 17.9     |
| 5   | 50                                    | 46.3 | 300                                              | 48.0 | +19 39.4                                          | 248 13.3 | +8 32.4                                           | 236 01.8 | +3 27.2                                          | 296 04.6 | +21 17.9 |
| 6   | 65                                    | 48.8 | 315                                              | 47.7 | +19 39.3                                          | 263 14.3 | +8 31.8                                           | 251 03.8 | +3 27.0                                          | 311 06.8 | +21 17.8 |
| 7   | 80                                    | 51.2 | 330                                              | 47.5 | 39.1                                              | 278 15.3 | 31.2                                              | 266 05.7 | 26.8                                             | 326 09.0 | 17.8     |
| 8   | 95                                    | 53.7 | 345                                              | 47.3 | 39.0                                              | 293 16.3 | 30.6                                              | 281 07.7 | 26.6                                             | 341 11.1 | 17.8     |
| 9   | 110                                   | 56.1 | 0                                                | 47.0 | 38.8                                              | 308 17.2 | 30.0                                              | 296 09.7 | 26.4                                             | 356 13.3 | 17.7     |
| 10  | 125                                   | 58.6 | 15                                               | 46.8 | 38.7                                              | 323 18.2 | 29.4                                              | 311 11.7 | 26.2                                             | 11 15.5  | 17.7     |
| 11  | 141                                   | 01.1 | 30                                               | 46.5 | +19 38.5                                          | 338 19.2 | +8 28.8                                           | 326 13.7 | +3 26.0                                          | 26 17.7  | +21 17.6 |
| 12  | 156                                   | 03.5 | 45                                               | 46.3 | +19 38.4                                          | 353 20.2 | +8 28.1                                           | 341 15.7 | +3 25.8                                          | 41 19.8  | +21 17.6 |
| 13  | 171                                   | 06.0 | 60                                               | 46.0 | 38.2                                              | 8 21.2   | 27.5                                              | 356 17.6 | 25.6                                             | 56 22.0  | 17.5     |
| 14  | 186                                   | 08.5 | 75                                               | 45.8 | 38.0                                              | 23 22.1  | 26.9                                              | 11 19.6  | 25.4                                             | 71 24.2  | 17.5     |
| 15  | 201                                   | 10.9 | 90                                               | 45.5 | 37.9                                              | 38 23.1  | 26.3                                              | 26 21.6  | 25.2                                             | 86 26.4  | 17.5     |
| 16  | 216                                   | 13.4 | 105                                              | 45.3 | 37.7                                              | 53 24.1  | 25.7                                              | 41 23.6  | 24.9                                             | 101 28.6 | 17.4     |
| 17  | 231                                   | 15.9 | 120                                              | 45.1 | +19 37.6                                          | 68 25.1  | +8 25.1                                           | 56 25.6  | +3 24.7                                          | 116 30.7 | +21 17.4 |
| 18  | 246                                   | 18.3 | 135                                              | 44.8 | +19 37.4                                          | 83 26.1  | +8 24.5                                           | 71 27.6  | +3 24.5                                          | 131 32.9 | +21 17.3 |
| 19  | 261                                   | 20.8 | 150                                              | 44.6 | 37.2                                              | 98 27.0  | 23.8                                              | 86 29.5  | 24.3                                             | 146 35.1 | 17.3     |
| 20  | 276                                   | 23.3 | 165                                              | 44.3 | 37.1                                              | 113 28.0 | 23.2                                              | 101 31.5 | 24.1                                             | 161 37.3 | 17.2     |
| 21  | 291                                   | 25.7 | 180                                              | 44.1 | 36.9                                              | 128 29.0 | 22.6                                              | 116 33.5 | 23.9                                             | 176 39.4 | 17.2     |
| 22  | 306                                   | 28.2 | 195                                              | 43.8 | 36.8                                              | 143 30.0 | 22.0                                              | 131 35.5 | 23.7                                             | 191 41.6 | 17.2     |
| 23  | 321                                   | 30.6 | 210                                              | 43.6 | 36.6                                              | 158 31.0 | 21.4                                              | 146 37.5 | 23.5                                             | 206 43.8 | 17.1     |
| 24  | 336                                   | 33.1 | 225                                              | 43.3 | +19 36.4                                          | 173 31.9 | +8 20.8                                           | 161 39.5 | +3 23.3                                          | 221 46.0 | +21 17.1 |
| Dif | —                                     |      | -2                                               | -2   |                                                   | +10      | -6                                                | +20      | -2                                               |          | +22      |

| UT | SOL                                    |      |         | LUNA                        |                                                                                                                  |             |     |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |      | Puesta de Luna |   |
|----|----------------------------------------|------|---------|-----------------------------|------------------------------------------------------------------------------------------------------------------|-------------|-----|---------|---------|--------------------------|------|---------------|----------------|------|----------------|---|
|    | SD: 15 <sup>h</sup> 8                  |      |         | Edad: 11 <sup>d</sup> 9 PHE | 4 <sup>h</sup> : 60 <sup>o</sup> 0<br>12 <sup>h</sup> : 59 <sup>o</sup> 9<br>20 <sup>h</sup> : 59 <sup>o</sup> 8 |             |     | Náutico |         | Civil                    | Hora |               | R°             | Hora | R°             |   |
|    | PMG: 12 <sup>h</sup> 01 <sup>m</sup> 1 |      |         |                             | SD: 16 <sup>h</sup> 3<br>PMG: 23 <sup>h</sup> 09 <sup>m</sup> R°: 53 <sup>m</sup>                                |             |     |         |         |                          |      |               |                |      |                |   |
|    | hG ☉                                   | Dec  |         | hG ☾                        | Dif                                                                                                              | Dec         | Dif |         |         |                          |      |               |                |      |                |   |
| h  | °                                      | '    | °       | °                           | '                                                                                                                | °           | '   | °       | h       | m                        | h    | m             | h              | m    | h              | m |
| 0  | 179                                    | 41.2 | +9 40.1 | 26                          | 08.7                                                                                                             | -23 30.9    | 97  | 60 N    | 2 58    | 4 00                     | 4 46 | 19 38         | 3              | 1 02 | 113            |   |
| 1  | 194                                    | 41.4 | 39.2    | 40                          | 32.8                                                                                                             | 51 21.2     | 97  | 58      | 3 13    | 09                       | 52   | 24            | 8              | 23   | 105            |   |
| 2  | 209                                    | 41.6 | 38.3    | 54                          | 57.1                                                                                                             | 53 11.4     | 98  | 56      | 26      | 17                       | 4 57 | 12            | 13             | 40   | 100            |   |
| 3  | 224                                    | 41.8 | 37.4    | 69                          | 21.4                                                                                                             | 53 -23 01.4 | 100 | 54      | 36      | 24                       | 5 01 | 19 02         | 16             | 1 54 | 95             |   |
| 4  | 239                                    | 42.0 | 36.5    | 83                          | 45.8                                                                                                             | 54 -22 51.3 | 101 | 52      | 45      | 30                       | 06   | 18 52         | 19             | 2 06 | 92             |   |
| 5  | 254                                    | 42.1 | +9 35.6 | 98                          | 10.4                                                                                                             | 56 -22 41.0 | 103 | 50      | 3 53    | 4 35                     | 5 09 | 18 44         | 22             | 2 17 | 89             |   |
| 6  | 269                                    | 42.3 | +9 34.8 | 112                         | 35.0                                                                                                             | 56 -22 30.6 | 104 | 45      | 4 10    | 4 47                     | 5 17 | 18 26         | 27             | 2 40 | 82             |   |
| 7  | 284                                    | 42.5 | 33.9    | 126                         | 59.8                                                                                                             | 58 20.0     | 106 | 40      | 23      | 4 56                     | 24   | 18 11         | 32             | 2 58 | 78             |   |
| 8  | 299                                    | 42.7 | 33.0    | 141                         | 24.7                                                                                                             | 59 -22 09.3 | 107 | 35      | 33      | 5 04                     | 30   | 17 58         | 36             | 3 13 | 74             |   |
| 9  | 314                                    | 42.9 | 32.1    | 155                         | 49.6                                                                                                             | 59 -21 58.5 | 108 | 30      | 41      | 10                       | 35   | 47            | 40             | 26   | 71             |   |
| 10 | 329                                    | 43.1 | 31.2    | 170                         | 14.7                                                                                                             | 61 47.5     | 110 | 20      | 4 55    | 21                       | 43   | 28            | 45             | 3 48 | 66             |   |
| 11 | 344                                    | 43.3 | +9 30.3 | 184                         | 39.9                                                                                                             | 62 -21 36.4 | 111 | 10 N    | 5 05    | 5 30                     | 5 51 | 17 11         | 50             | 4 07 | 61             |   |
| 12 | 359                                    | 43.4 | +9 29.4 | 199                         | 05.2                                                                                                             | 63 -21 25.1 | 113 | 0       | 5 12    | 5 37                     | 5 58 | 16 56         | 54             | 4 25 | 57             |   |
| 13 | 14                                     | 43.6 | 28.6    | 213                         | 30.5                                                                                                             | 63 13.7     | 114 | 10 S    | 19      | 43                       | 6 05 | 40            | 59             | 4 43 | 52             |   |
| 14 | 29                                     | 43.8 | 27.7    | 227                         | 56.1                                                                                                             | 66 -21 02.2 | 115 | 20      | 24      | 49                       | 12   | 23            | 64             | 5 02 | 48             |   |
| 15 | 44                                     | 44.0 | 26.8    | 242                         | 21.7                                                                                                             | 66 -20 50.6 | 116 | 30      | 28      | 55                       | 20   | 16 04         | 69             | 23   | 43             |   |
| 16 | 59                                     | 44.2 | 25.9    | 256                         | 47.4                                                                                                             | 67 38.8     | 118 | 35      | 29      | 5 59                     | 24   | 15 52         | 73             | 36   | 39             |   |
| 17 | 74                                     | 44.4 | +9 25.0 | 271                         | 13.2                                                                                                             | 68 -20 26.9 | 119 | 40      | 5 30    | 6 02                     | 6 29 | 15 39         | 77             | 5 50 | 36             |   |
| 18 | 89                                     | 44.6 | +9 24.1 | 285                         | 39.1                                                                                                             | 69 -20 14.9 | 120 | 45      | 5 31    | 6 05                     | 6 35 | 15 23         | 82             | 6 07 | 31             |   |
| 19 | 104                                    | 44.8 | 23.2    | 300                         | 05.2                                                                                                             | 71 -20 02.7 | 122 | 50      | 32      | 09                       | 42   | 15 04         | 88             | 27   | 26             |   |
| 20 | 119                                    | 44.9 | 22.3    | 314                         | 31.3                                                                                                             | 71 -19 50.5 | 122 | 52      | 32      | 11                       | 45   | 14 55         | 91             | 37   | 23             |   |
| 21 | 134                                    | 45.1 | 21.5    | 328                         | 57.6                                                                                                             | 73 38.1     | 124 | 54      | 32      | 13                       | 49   | 45            | 94             | 6 48 | 20             |   |
| 22 | 149                                    | 45.3 | 20.6    | 343                         | 24.0                                                                                                             | 74 25.6     | 125 | 56      | 32      | 15                       | 53   | 33            | 98             | 7 01 | 15             |   |
| 23 | 164                                    | 45.5 | 19.7    | 357                         | 50.5                                                                                                             | 75 13.0     | 126 | 58      | 32      | 17                       | 6 57 | 19            | 104            | 15   | 11             |   |
| 24 | 179                                    | 45.7 | +9 18.8 | 12                          | 17.1                                                                                                             | 76 -19 00.3 | 127 | 60 S    | 5 31    | 6 20                     | 7 02 | 14 03         | 110            | 7 32 | 5              |   |

| UT  | ARIES                                 |      | VENUS                                            |      |          | MARTE                                             |      |         | JÚPITER                                           |      |         | SATURNO                                          |      |          |   |
|-----|---------------------------------------|------|--------------------------------------------------|------|----------|---------------------------------------------------|------|---------|---------------------------------------------------|------|---------|--------------------------------------------------|------|----------|---|
|     | PMG: 1 <sup>h</sup> 33 <sup>m</sup> 5 |      | Mag: -4.3<br>PMG: 8 <sup>h</sup> 57 <sup>m</sup> |      |          | Mag: +1.8<br>PMG: 12 <sup>h</sup> 25 <sup>m</sup> |      |         | Mag: -1.7<br>PMG: 13 <sup>h</sup> 12 <sup>m</sup> |      |         | Mag: +0.2<br>PMG: 9 <sup>h</sup> 12 <sup>m</sup> |      |          |   |
|     | hG ♈                                  |      | hG ♀                                             | Dec  |          | hG ♂                                              | Dec  |         | hG ♃                                              | Dec  |         | hG ♄                                             | Dec  |          |   |
| h   | °                                     | '    | °                                                | '    | °        | '                                                 | °    | '       | °                                                 | '    | °       | '                                                | '    | °        | ' |
| 0   | 336                                   | 33.1 | 225                                              | 43.3 | +19 36.4 | 173                                               | 31.9 | +8 20.8 | 161                                               | 39.5 | +3 23.3 | 221                                              | 46.0 | +21 17.1 |   |
| 1   | 351                                   | 35.6 | 240                                              | 43.1 | 36.3     | 188                                               | 32.9 | 20.1    | 176                                               | 41.4 | 23.1    | 236                                              | 48.2 | 17.0     |   |
| 2   | 6                                     | 38.0 | 255                                              | 42.8 | 36.1     | 203                                               | 33.9 | 19.5    | 191                                               | 43.4 | 22.9    | 251                                              | 50.3 | 17.0     |   |
| 3   | 21                                    | 40.5 | 270                                              | 42.6 | 35.9     | 218                                               | 34.9 | 18.9    | 206                                               | 45.4 | 22.6    | 266                                              | 52.5 | 17.0     |   |
| 4   | 36                                    | 43.0 | 285                                              | 42.3 | 35.8     | 233                                               | 35.9 | 18.3    | 221                                               | 47.4 | 22.4    | 281                                              | 54.7 | 16.9     |   |
| 5   | 51                                    | 45.4 | 300                                              | 42.1 | +19 35.6 | 248                                               | 36.8 | +8 17.7 | 236                                               | 49.4 | +3 22.2 | 296                                              | 56.9 | +21 16.9 |   |
| 6   | 66                                    | 47.9 | 315                                              | 41.8 | +19 35.4 | 263                                               | 37.8 | +8 17.1 | 251                                               | 51.3 | +3 22.0 | 311                                              | 59.1 | +21 16.8 |   |
| 7   | 81                                    | 50.4 | 330                                              | 41.5 | 35.2     | 278                                               | 38.8 | 16.5    | 266                                               | 53.3 | 21.8    | 327                                              | 01.2 | 16.8     |   |
| 8   | 96                                    | 52.8 | 345                                              | 41.3 | 35.1     | 293                                               | 39.8 | 15.8    | 281                                               | 55.3 | 21.6    | 342                                              | 03.4 | 16.7     |   |
| 9   | 111                                   | 55.3 | 0                                                | 41.0 | 34.9     | 308                                               | 40.8 | 15.2    | 296                                               | 57.3 | 21.4    | 357                                              | 05.6 | 16.7     |   |
| 10  | 126                                   | 57.7 | 15                                               | 40.8 | 34.7     | 323                                               | 41.7 | 14.6    | 311                                               | 59.3 | 21.2    | 12                                               | 07.8 | 16.7     |   |
| 11  | 142                                   | 00.2 | 30                                               | 40.5 | +19 34.5 | 338                                               | 42.7 | +8 14.0 | 327                                               | 01.3 | +3 21.0 | 27                                               | 10.0 | +21 16.6 |   |
| 12  | 157                                   | 02.7 | 45                                               | 40.3 | +19 34.4 | 353                                               | 43.7 | +8 13.4 | 342                                               | 03.2 | +3 20.8 | 42                                               | 12.1 | +21 16.6 |   |
| 13  | 172                                   | 05.1 | 60                                               | 40.0 | 34.2     | 8                                                 | 44.7 | 12.8    | 357                                               | 05.2 | 20.6    | 57                                               | 14.3 | 16.5     |   |
| 14  | 187                                   | 07.6 | 75                                               | 39.7 | 34.0     | 23                                                | 45.7 | 12.1    | 12                                                | 07.2 | 20.4    | 72                                               | 16.5 | 16.5     |   |
| 15  | 202                                   | 10.1 | 90                                               | 39.5 | 33.8     | 38                                                | 46.6 | 11.5    | 27                                                | 09.2 | 20.1    | 87                                               | 18.7 | 16.5     |   |
| 16  | 217                                   | 12.5 | 105                                              | 39.2 | 33.7     | 53                                                | 47.6 | 10.9    | 42                                                | 11.2 | 19.9    | 102                                              | 20.9 | 16.4     |   |
| 17  | 232                                   | 15.0 | 120                                              | 39.0 | +19 33.5 | 68                                                | 48.6 | +8 10.3 | 57                                                | 13.1 | +3 19.7 | 117                                              | 23.0 | +21 16.4 |   |
| 18  | 247                                   | 17.5 | 135                                              | 38.7 | +19 33.3 | 83                                                | 49.6 | +8 09.7 | 72                                                | 15.1 | +3 19.5 | 132                                              | 25.2 | +21 16.3 |   |
| 19  | 262                                   | 19.9 | 150                                              | 38.5 | 33.1     | 98                                                | 50.6 | 09.1    | 87                                                | 17.1 | 19.3    | 147                                              | 27.4 | 16.3     |   |
| 20  | 277                                   | 22.4 | 165                                              | 38.2 | 32.9     | 113                                               | 51.6 | 08.4    | 102                                               | 19.1 | 19.1    | 162                                              | 29.6 | 16.2     |   |
| 21  | 292                                   | 24.9 | 180                                              | 37.9 | 32.8     | 128                                               | 52.5 | 07.8    | 117                                               | 21.1 | 18.9    | 177                                              | 31.8 | 16.2     |   |
| 22  | 307                                   | 27.3 | 195                                              | 37.7 | 32.6     | 143                                               | 53.5 | 07.2    | 132                                               | 23.1 | 18.7    | 192                                              | 33.9 | 16.2     |   |
| 23  | 322                                   | 29.8 | 210                                              | 37.4 | 32.4     | 158                                               | 54.5 | 06.6    | 147                                               | 25.0 | 18.5    | 207                                              | 36.1 | 16.1     |   |
| 24  | 337                                   | 32.2 | 225                                              | 37.1 | +19 32.2 | 173                                               | 55.5 | +8 06.0 | 162                                               | 27.0 | +3 18.3 | 222                                              | 38.3 | +21 16.1 |   |
| Dif | —                                     |      | -3                                               |      | -2       | +10                                               |      | -6      | +20                                               |      | -2      | +22                                              |      | 0        |   |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                              |          |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          |         | Salida de Luna                                   |          | Puesta de Luna |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|---------|--------------------------------------------------|----------|----------------|----|
|     | SD: 15'8<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 8 |      |                                                  | Edad: 12 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59'7<br>12 <sup>h</sup> : 59'5<br>20 <sup>h</sup> : 59'4<br>R°: ***m |          |                                                   |          |               | Civil                                             |          | Náutico | Hora                                             | R°       | Hora           | R° |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                | Dif      | Dec                                               |          |               | Dif                                               |          |         |                                                  |          |                |    |
| h   | °                                                  | '    | °                                                | °                                                                                                                   | '        | °                                                 | '        | °             | h m                                               | h m      | h m     | h m m                                            | h m m    | h m m          |    |
| 0   | 179                                                | 45.7 | +9 18.8                                          | 12                                                                                                                  | 17.1     | -19 00.3                                          | 76       | 60 N          | 19 12                                             | 19 57    | 20 57   | 19 41 1                                          | 2 55 107 |                |    |
| 1   | 194                                                | 45.9 | 17.9                                             | 26                                                                                                                  | 43.7     | -18 47.4                                          | 129      | 58            | 06                                                | 49       | 43      | 32 6                                             | 3 08 102 |                |    |
| 2   | 209                                                | 46.1 | 17.0                                             | 41                                                                                                                  | 10.6     | 34.5                                              | 129      | 56            | 19 01                                             | 41       | 31      | 25 8                                             | 20 96    |                |    |
| 3   | 224                                                | 46.3 | 16.1                                             | 55                                                                                                                  | 37.5     | 21.4                                              | 131      | 54            | 18 57                                             | 35       | 21      | 18 12                                            | 29 93    |                |    |
| 4   | 239                                                | 46.5 | 15.2                                             | 70                                                                                                                  | 04.5     | -18 08.3                                          | 131      | 52            | 53                                                | 29       | 13      | 11 15                                            | 38 90    |                |    |
| 5   | 254                                                | 46.6 | +9 14.3                                          | 84                                                                                                                  | 31.6     | -17 55.1                                          | 132      | 50            | 18 50                                             | 19 24    | 20 05   | 19 06 17                                         | 3 46 86  |                |    |
| 6   | 269                                                | 46.8 | +9 13.5                                          | 98                                                                                                                  | 58.9     | -17 41.7                                          | 134      | 45            | 18 42                                             | 19 13    | 19 49   | 18 53 23                                         | 4 02 81  |                |    |
| 7   | 284                                                | 47.0 | 12.6                                             | 113                                                                                                                 | 26.2     | 28.3                                              | 134      | 40            | 36                                                | 19 04    | 37      | 43 27                                            | 16 75    |                |    |
| 8   | 299                                                | 47.2 | 11.7                                             | 127                                                                                                                 | 53.7     | 14.7                                              | 136      | 35            | 30                                                | 18 56    | 27      | 34 31                                            | 27 72    |                |    |
| 9   | 314                                                | 47.4 | 10.8                                             | 142                                                                                                                 | 21.2     | -17 01.1                                          | 136      | 30            | 26                                                | 50       | 19      | 27 34                                            | 37 68    |                |    |
| 10  | 329                                                | 47.6 | 09.9                                             | 156                                                                                                                 | 48.9     | -16 47.4                                          | 137      | 20            | 18                                                | 40       | 19 06   | 13 40                                            | 4 54 62  |                |    |
| 11  | 344                                                | 47.8 | +9 09.0                                          | 171                                                                                                                 | 16.7     | -16 33.6                                          | 138      | 10 N          | 18 11                                             | 18 32    | 18 57   | 18 01 46                                         | 5 08 57  |                |    |
| 12  | 359                                                | 48.0 | +9 08.1                                          | 185                                                                                                                 | 44.5     | -16 19.7                                          | 139      | 0             | 18 04                                             | 18 25    | 18 49   | 17 50 50                                         | 5 22 52  |                |    |
| 13  | 14                                                 | 48.2 | 07.2                                             | 200                                                                                                                 | 12.5     | -16 05.7                                          | 140      | 10 S          | 17 58                                             | 19       | 44      | 39 55                                            | 35 48    |                |    |
| 14  | 29                                                 | 48.4 | 06.3                                             | 214                                                                                                                 | 40.6     | -15 51.6                                          | 141      | 20            | 51                                                | 13       | 39      | 27 60                                            | 5 50 42  |                |    |
| 15  | 44                                                 | 48.6 | 05.4                                             | 229                                                                                                                 | 08.8     | 37.5                                              | 141      | 30            | 44                                                | 08       | 36      | 13 66                                            | 6 06 37  |                |    |
| 16  | 59                                                 | 48.7 | 04.5                                             | 243                                                                                                                 | 37.1     | 23.2                                              | 143      | 35            | 39                                                | 05       | 34      | 17 05 70                                         | 15 34    |                |    |
| 17  | 74                                                 | 48.9 | +9 03.6                                          | 258                                                                                                                 | 05.4     | -15 08.9                                          | 143      | 40            | 17 34                                             | 18 02    | 18 33   | 16 56 73                                         | 6 26 30  |                |    |
| 18  | 89                                                 | 49.1 | +9 02.7                                          | 272                                                                                                                 | 33.9     | -14 54.5                                          | 144      | 45            | 17 29                                             | 17 59    | 18 33   | 16 45 78                                         | 6 38 25  |                |    |
| 19  | 104                                                | 49.3 | 01.9                                             | 287                                                                                                                 | 02.5     | 40.1                                              | 144      | 50            | 22                                                | 55       | 32      | 32 84                                            | 6 53 20  |                |    |
| 20  | 119                                                | 49.5 | 01.0                                             | 301                                                                                                                 | 31.2     | 25.6                                              | 145      | 52            | 19                                                | 53       | 33      | 26 87                                            | 7 00 17  |                |    |
| 21  | 134                                                | 49.7 | +9 00.1                                          | 316                                                                                                                 | 00.0     | -14 11.0                                          | 146      | 54            | 16                                                | 52       | 33      | 19 90                                            | 08 14    |                |    |
| 22  | 149                                                | 49.9 | +8 59.2                                          | 330                                                                                                                 | 28.9     | -13 56.3                                          | 147      | 56            | 12                                                | 50       | 33      | 11 94                                            | 16 11    |                |    |
| 23  | 164                                                | 50.1 | 58.3                                             | 344                                                                                                                 | 57.9     | 41.6                                              | 147      | 58            | 08                                                | 48       | 34      | 16 03 97                                         | 26 7     |                |    |
| 24  | 179                                                | 50.3 | +8 57.4                                          | 359                                                                                                                 | 26.9     | -13 26.8                                          | 148      | 60 S          | 17 04                                             | 17 46    | 18 34   | 15 53 102                                        | 7 37 2   |                |    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                     |          | MARTE                                             |          |               | JÚPITER                                           |          |         | SATURNO                                          |          |                |    |
|     | PMG: 1 <sup>h</sup> 29 <sup>m</sup> 6              |      | Mag: -4.3<br>PMG: 8 <sup>h</sup> 58 <sup>m</sup> |                                                                                                                     |          | Mag: +1.8<br>PMG: 12 <sup>h</sup> 23 <sup>m</sup> |          |               | Mag: -1.7<br>PMG: 13 <sup>h</sup> 08 <sup>m</sup> |          |         | Mag: +0.2<br>PMG: 9 <sup>h</sup> 08 <sup>m</sup> |          |                |    |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                 |          | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      |         | hG ♄                                             | Dec      |                |    |
| h   | °                                                  | '    | °                                                | °                                                                                                                   | '        | °                                                 | °        | '             | °                                                 | °        | '       | °                                                | °        | '              |    |
| 0   | 337                                                | 32.2 | 225 37.1                                         | +19 32.2                                                                                                            | 173 55.5 | +8 06.0                                           | 162 27.0 | +3 18.3       | 222 38.3                                          | +21 16.1 |         |                                                  |          |                |    |
| 1   | 352                                                | 34.7 | 240 36.9                                         | 32.0                                                                                                                | 188 56.5 | 05.4                                              | 177 29.0 | 18.1          | 237 40.5                                          | 16.0     |         |                                                  |          |                |    |
| 2   | 7                                                  | 37.2 | 255 36.6                                         | 31.8                                                                                                                | 203 57.4 | 04.7                                              | 192 31.0 | 17.8          | 252 42.7                                          | 16.0     |         |                                                  |          |                |    |
| 3   | 22                                                 | 39.6 | 270 36.4                                         | 31.6                                                                                                                | 218 58.4 | 04.1                                              | 207 33.0 | 17.6          | 267 44.8                                          | 16.0     |         |                                                  |          |                |    |
| 4   | 37                                                 | 42.1 | 285 36.1                                         | 31.5                                                                                                                | 233 59.4 | 03.5                                              | 222 34.9 | 17.4          | 282 47.0                                          | 15.9     |         |                                                  |          |                |    |
| 5   | 52                                                 | 44.6 | 300 35.8                                         | +19 31.3                                                                                                            | 249 00.4 | +8 02.9                                           | 237 36.9 | +3 17.2       | 297 49.2                                          | +21 15.9 |         |                                                  |          |                |    |
| 6   | 67                                                 | 47.0 | 315 35.6                                         | +19 31.1                                                                                                            | 264 01.4 | +8 02.3                                           | 252 38.9 | +3 17.0       | 312 51.4                                          | +21 15.8 |         |                                                  |          |                |    |
| 7   | 82                                                 | 49.5 | 330 35.3                                         | 30.9                                                                                                                | 279 02.3 | 01.6                                              | 267 40.9 | 16.8          | 327 53.6                                          | 15.8     |         |                                                  |          |                |    |
| 8   | 97                                                 | 52.0 | 345 35.0                                         | 30.7                                                                                                                | 294 03.3 | 01.0                                              | 282 42.9 | 16.6          | 342 55.8                                          | 15.8     |         |                                                  |          |                |    |
| 9   | 112                                                | 54.4 | 0 34.8                                           | 30.5                                                                                                                | 309 04.3 | +8 00.4                                           | 297 44.9 | 16.4          | 357 57.9                                          | 15.7     |         |                                                  |          |                |    |
| 10  | 127                                                | 56.9 | 15 34.5                                          | 30.3                                                                                                                | 324 05.3 | +7 59.8                                           | 312 46.8 | 16.2          | 13 00.1                                           | 15.7     |         |                                                  |          |                |    |
| 11  | 142                                                | 59.4 | 30 34.2                                          | +19 30.1                                                                                                            | 339 06.3 | +7 59.2                                           | 327 48.8 | +3 16.0       | 28 02.3                                           | +21 15.6 |         |                                                  |          |                |    |
| 12  | 158                                                | 01.8 | 45 34.0                                          | +19 29.9                                                                                                            | 354 07.3 | +7 58.6                                           | 342 50.8 | +3 15.7       | 43 04.5                                           | +21 15.6 |         |                                                  |          |                |    |
| 13  | 173                                                | 04.3 | 60 33.7                                          | 29.7                                                                                                                | 9 08.2   | 57.9                                              | 357 52.8 | 15.5          | 58 06.7                                           | 15.5     |         |                                                  |          |                |    |
| 14  | 188                                                | 06.7 | 75 33.4                                          | 29.5                                                                                                                | 24 09.2  | 57.3                                              | 12 54.8  | 15.3          | 73 08.8                                           | 15.5     |         |                                                  |          |                |    |
| 15  | 203                                                | 09.2 | 90 33.1                                          | 29.3                                                                                                                | 39 10.2  | 56.7                                              | 27 56.7  | 15.1          | 88 11.0                                           | 15.5     |         |                                                  |          |                |    |
| 16  | 218                                                | 11.7 | 105 32.9                                         | 29.1                                                                                                                | 54 11.2  | 56.1                                              | 42 58.7  | 14.9          | 103 13.2                                          | 15.4     |         |                                                  |          |                |    |
| 17  | 233                                                | 14.1 | 120 32.6                                         | +19 28.9                                                                                                            | 69 12.2  | +7 55.5                                           | 58 00.7  | +3 14.7       | 118 15.4                                          | +21 15.4 |         |                                                  |          |                |    |
| 18  | 248                                                | 16.6 | 135 32.3                                         | +19 28.7                                                                                                            | 84 13.1  | +7 54.8                                           | 73 02.7  | +3 14.5       | 133 17.6                                          | +21 15.3 |         |                                                  |          |                |    |
| 19  | 263                                                | 19.1 | 150 32.1                                         | 28.5                                                                                                                | 99 14.1  | 54.2                                              | 88 04.7  | 14.3          | 148 19.8                                          | 15.3     |         |                                                  |          |                |    |
| 20  | 278                                                | 21.5 | 165 31.8                                         | 28.3                                                                                                                | 114 15.1 | 53.6                                              | 103 06.6 | 14.1          | 163 21.9                                          | 15.3     |         |                                                  |          |                |    |
| 21  | 293                                                | 24.0 | 180 31.5                                         | 28.1                                                                                                                | 129 16.1 | 53.0                                              | 118 08.6 | 13.9          | 178 24.1                                          | 15.2     |         |                                                  |          |                |    |
| 22  | 308                                                | 26.5 | 195 31.2                                         | 27.9                                                                                                                | 144 17.1 | 52.4                                              | 133 10.6 | 13.7          | 193 26.3                                          | 15.2     |         |                                                  |          |                |    |
| 23  | 323                                                | 28.9 | 210 31.0                                         | 27.7                                                                                                                | 159 18.1 | 51.7                                              | 148 12.6 | 13.4          | 208 28.5                                          | 15.1     |         |                                                  |          |                |    |
| 24  | 338                                                | 31.4 | 225 30.7                                         | +19 27.5                                                                                                            | 174 19.0 | +7 51.1                                           | 163 14.6 | +3 13.2       | 223 30.7                                          | +21 15.1 |         |                                                  |          |                |    |
| Dif | —                                                  |      | -3                                               | -2                                                                                                                  | +10      | -6                                                | +20      | -2            | +22                                               | 0        |         |                                                  |          |                |    |

| UT  | SOL                                                |      |         | LUNA                                                                                                                                                                  |                     |                         |                                                   |         | Latitud | Principio del crepúsculo                          |      | Salida de Sol | Salida de Luna                                   |      | Puesta de Luna |   |   |  |
|-----|----------------------------------------------------|------|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------------------------------------------------|---------|---------|---------------------------------------------------|------|---------------|--------------------------------------------------|------|----------------|---|---|--|
|     | SD: 15/8<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 5 |      |         | Edad: 13 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 59/2<br>12 <sup>h</sup> : 59/0<br>20 <sup>h</sup> : 58/8<br>PMG: 0 <sup>h</sup> 02 <sup>m</sup> R°: 50 <sup>m</sup> |                     |                         |                                                   |         |         |                                                   |      |               |                                                  |      |                |   |   |  |
|     | hG ☉                                               | Dec  |         | hG ☾                                                                                                                                                                  | Dif                 | Dec                     | Dif                                               | Náutico |         | Civil                                             | Hora |               | R°                                               | Hora | R°             |   |   |  |
| h   | °                                                  | '    | °       | °                                                                                                                                                                     | '                   | °                       | '                                                 | °       | h       | m                                                 | h    | m             | h                                                | m    | h              | m |   |  |
| 0   | 179                                                | 50.3 | +8 57.4 | 359                                                                                                                                                                   | 26.9                | -13 26.8                |                                                   | 60 N    | 3 05    | 4 05                                              | 4 51 | 19 42         | 1                                                | 4 42 | 100            |   |   |  |
| 1   | 194                                                | 50.5 |         | 13                                                                                                                                                                    | 56.1 <sup>102</sup> | -13 11.9 <sup>149</sup> |                                                   | 58      | 19      | 14                                                | 4 56 | 38            | 3                                                | 50   | 95             |   |   |  |
| 2   | 209                                                | 50.7 |         | 28                                                                                                                                                                    | 25.4 <sup>103</sup> | -12 57.0 <sup>149</sup> |                                                   | 56      | 31      | 21                                                | 5 01 | 33            | 7                                                | 4 56 | 92             |   |   |  |
| 3   | 224                                                | 50.9 |         | 42                                                                                                                                                                    | 54.7 <sup>103</sup> | 42.0 <sup>150</sup>     |                                                   | 54      | 41      | 27                                                | 05   | 30            | 9                                                | 5 02 | 89             |   |   |  |
| 4   | 239                                                | 51.0 |         | 57                                                                                                                                                                    | 24.2 <sup>105</sup> | 27.0 <sup>150</sup>     |                                                   | 52      | 49      | 33                                                | 09   | 26            | 13                                               | 08   | 85             |   |   |  |
| 5   | 254                                                | 51.2 | +8 52.9 | 71                                                                                                                                                                    | 53.7 <sup>105</sup> | -12 11.9 <sup>151</sup> |                                                   | 50      | 3 57    | 4 38                                              | 5 12 | 19 23         | 15                                               | 5 12 | 83             |   |   |  |
| 6   | 269                                                | 51.4 | +8 52.0 | 86                                                                                                                                                                    | 23.3 <sup>106</sup> | -11 56.8 <sup>151</sup> |                                                   | 45      | 4 13    | 4 49                                              | 5 20 | 19 16         | 20                                               | 5 23 | 77             |   |   |  |
| 7   | 284                                                | 51.6 |         | 100                                                                                                                                                                   | 53.0 <sup>107</sup> | 41.6 <sup>152</sup>     |                                                   | 40      | 25      | 4 58                                              | 26   | 10            | 25                                               | 31   | 72             |   |   |  |
| 8   | 299                                                | 51.8 |         | 115                                                                                                                                                                   | 22.8 <sup>108</sup> | 26.4 <sup>152</sup>     |                                                   | 35      | 35      | 5 05                                              | 31   | 05            | 28                                               | 39   | 68             |   |   |  |
| 9   | 314                                                | 52.0 |         | 129                                                                                                                                                                   | 52.7 <sup>109</sup> | -11 11.1 <sup>153</sup> |                                                   | 30      | 43      | 12                                                | 36   | 19 01         | 31                                               | 45   | 65             |   |   |  |
| 10  | 329                                                | 52.2 |         | 144                                                                                                                                                                   | 22.7 <sup>110</sup> | -10 55.7 <sup>154</sup> |                                                   | 20      | 4 55    | 22                                                | 44   | 18 53         | 37                                               | 5 56 | 59             |   |   |  |
| 11  | 344                                                | 52.4 | +8 47.5 | 158                                                                                                                                                                   | 52.8 <sup>111</sup> | -10 40.4 <sup>153</sup> |                                                   | 10 N    | 5 05    | 5 30                                              | 5 51 | 18 47         | 42                                               | 6 05 | 54             |   |   |  |
| 12  | 359                                                | 52.6 | +8 46.6 | 173                                                                                                                                                                   | 22.9 <sup>111</sup> | -10 25.0 <sup>154</sup> |                                                   | 0       | 5 12    | 5 36                                              | 5 57 | 18 40         | 47                                               | 6 14 | 49             |   |   |  |
| 13  | 14                                                 | 52.8 |         | 187                                                                                                                                                                   | 53.1 <sup>112</sup> | -10 09.5 <sup>155</sup> |                                                   | 10 S    | 18      | 42                                                | 6 03 | 34            | 52                                               | 23   | 44             |   |   |  |
| 14  | 29                                                 | 53.0 |         | 202                                                                                                                                                                   | 23.4 <sup>113</sup> | -9 54.0 <sup>155</sup>  |                                                   | 20      | 22      | 48                                                | 10   | 27            | 57                                               | 32   | 39             |   |   |  |
| 15  | 44                                                 | 53.2 |         | 216                                                                                                                                                                   | 53.8 <sup>114</sup> | 38.5 <sup>155</sup>     |                                                   | 30      | 25      | 53                                                | 17   | 19            | 63                                               | 43   | 33             |   |   |  |
| 16  | 59                                                 | 53.4 |         | 231                                                                                                                                                                   | 24.3 <sup>115</sup> | 22.9 <sup>156</sup>     |                                                   | 35      | 27      | 56                                                | 21   | 15            | 66                                               | 49   | 29             |   |   |  |
| 17  | 74                                                 | 53.6 | +8 42.1 | 245                                                                                                                                                                   | 54.8 <sup>115</sup> | -9 07.3 <sup>156</sup>  |                                                   | 40      | 5 28    | 5 59                                              | 6 26 | 18 09         | 71                                               | 6 56 | 25             |   |   |  |
| 18  | 89                                                 | 53.8 | +8 41.2 | 260                                                                                                                                                                   | 25.5 <sup>117</sup> | -8 51.7 <sup>156</sup>  |                                                   | 45      | 5 28    | 6 02                                              | 6 32 | 18 03         | 75                                               | 7 03 | 22             |   |   |  |
| 19  | 104                                                | 54.0 |         | 274                                                                                                                                                                   | 56.2 <sup>117</sup> | 36.0 <sup>157</sup>     |                                                   | 50      | 28      | 05                                                | 38   | 17 56         | 81                                               | 13   | 16             |   |   |  |
| 20  | 119                                                | 54.2 |         | 289                                                                                                                                                                   | 26.9 <sup>117</sup> | 20.3 <sup>157</sup>     |                                                   | 52      | 28      | 07                                                | 41   | 53            | 83                                               | 17   | 14             |   |   |  |
| 21  | 134                                                | 54.3 |         | 303                                                                                                                                                                   | 57.8 <sup>119</sup> | -8 04.6 <sup>157</sup>  |                                                   | 54      | 28      | 09                                                | 44   | 49            | 86                                               | 22   | 11             |   |   |  |
| 22  | 149                                                | 54.5 |         | 318                                                                                                                                                                   | 28.7 <sup>119</sup> | -7 48.9 <sup>157</sup>  |                                                   | 56      | 27      | 10                                                | 48   | 45            | 89                                               | 27   | 8              |   |   |  |
| 23  | 164                                                | 54.7 |         | 332                                                                                                                                                                   | 59.7 <sup>120</sup> | 33.1 <sup>158</sup>     |                                                   | 58      | 27      | 12                                                | 52   | 40            | 93                                               | 33   | 4              |   |   |  |
| 24  | 179                                                | 54.9 | +8 35.8 | 347                                                                                                                                                                   | 30.8 <sup>121</sup> | -7 17.3 <sup>158</sup>  |                                                   | 60 S    | 5 26    | 6 14                                              | 6 56 | 17 35         | 97                                               | 7 39 | 1              |   |   |  |
| UT  | ARIES                                              |      |         | VENUS                                                                                                                                                                 |                     |                         | MARTE                                             |         |         | JÚPITER                                           |      |               | SATURNO                                          |      |                |   |   |  |
|     | PMG 1 <sup>h</sup> 25 <sup>m</sup> 7               |      |         | Mag: -4.3<br>PMG: 8 <sup>h</sup> 58 <sup>m</sup>                                                                                                                      |                     |                         | Mag: +1.8<br>PMG: 12 <sup>h</sup> 22 <sup>m</sup> |         |         | Mag: -1.7<br>PMG: 13 <sup>h</sup> 05 <sup>m</sup> |      |               | Mag: +0.2<br>PMG: 9 <sup>h</sup> 05 <sup>m</sup> |      |                |   |   |  |
|     | hG ♈                                               |      | Dec     | hG ♀                                                                                                                                                                  |                     | Dec                     | hG ♂                                              |         | Dec     | hG ♃                                              |      | Dec           | hG ♄                                             |      | Dec            |   |   |  |
| h   | °                                                  | '    | °       | °                                                                                                                                                                     | '                   | °                       | °                                                 | '       | °       | °                                                 | '    | °             | °                                                | '    | °              | ° | ' |  |
| 0   | 338                                                | 31.4 |         | 225                                                                                                                                                                   | 30.7                | +19 27.5                | 174                                               | 19.0    | +7 51.1 | 163                                               | 14.6 | +3 13.2       | 223                                              | 30.7 | +21 15.1       |   |   |  |
| 1   | 353                                                | 33.8 |         | 240                                                                                                                                                                   | 30.4                | 27.3                    | 189                                               | 20.0    | 50.5    | 178                                               | 16.5 | 13.0          | 238                                              | 32.9 | 15.0           |   |   |  |
| 2   | 8                                                  | 36.3 |         | 255                                                                                                                                                                   | 30.1                | 27.1                    | 204                                               | 21.0    | 49.9    | 193                                               | 18.5 | 12.8          | 253                                              | 35.1 | 15.0           |   |   |  |
| 3   | 23                                                 | 38.8 |         | 270                                                                                                                                                                   | 29.9                | 26.9                    | 219                                               | 22.0    | 49.3    | 208                                               | 20.5 | 12.6          | 268                                              | 37.2 | 15.0           |   |   |  |
| 4   | 38                                                 | 41.2 |         | 285                                                                                                                                                                   | 29.6                | 26.7                    | 234                                               | 23.0    | 48.6    | 223                                               | 22.5 | 12.4          | 283                                              | 39.4 | 14.9           |   |   |  |
| 5   | 53                                                 | 43.7 |         | 300                                                                                                                                                                   | 29.3                | +19 26.5                | 249                                               | 24.0    | +7 48.0 | 238                                               | 24.5 | +3 12.2       | 298                                              | 41.6 | +21 14.9       |   |   |  |
| 6   | 68                                                 | 46.2 |         | 315                                                                                                                                                                   | 29.0                | +19 26.3                | 264                                               | 24.9    | +7 47.4 | 253                                               | 26.4 | +3 12.0       | 313                                              | 43.8 | +21 14.8       |   |   |  |
| 7   | 83                                                 | 48.6 |         | 330                                                                                                                                                                   | 28.8                | 26.1                    | 279                                               | 25.9    | 46.8    | 268                                               | 28.4 | 11.8          | 328                                              | 46.0 | 14.8           |   |   |  |
| 8   | 98                                                 | 51.1 |         | 345                                                                                                                                                                   | 28.5                | 25.8                    | 294                                               | 26.9    | 46.2    | 283                                               | 30.4 | 11.6          | 343                                              | 48.2 | 14.8           |   |   |  |
| 9   | 113                                                | 53.6 |         | 0                                                                                                                                                                     | 28.2                | 25.6                    | 309                                               | 27.9    | 45.5    | 298                                               | 32.4 | 11.3          | 358                                              | 50.3 | 14.7           |   |   |  |
| 10  | 128                                                | 56.0 |         | 15                                                                                                                                                                    | 27.9                | 25.4                    | 324                                               | 28.9    | 44.9    | 313                                               | 34.4 | 11.1          | 13                                               | 52.5 | 14.7           |   |   |  |
| 11  | 143                                                | 58.5 |         | 30                                                                                                                                                                    | 27.6                | +19 25.2                | 339                                               | 29.9    | +7 44.3 | 328                                               | 36.4 | +3 10.9       | 28                                               | 54.7 | +21 14.6       |   |   |  |
| 12  | 159                                                | 01.0 |         | 45                                                                                                                                                                    | 27.4                | +19 25.0                | 354                                               | 30.8    | +7 43.7 | 343                                               | 38.3 | +3 10.7       | 43                                               | 56.9 | +21 14.6       |   |   |  |
| 13  | 174                                                | 03.4 |         | 60                                                                                                                                                                    | 27.1                | 24.8                    | 9                                                 | 31.8    | 43.1    | 358                                               | 40.3 | 10.5          | 58                                               | 59.1 | 14.6           |   |   |  |
| 14  | 189                                                | 05.9 |         | 75                                                                                                                                                                    | 26.8                | 24.6                    | 24                                                | 32.8    | 42.4    | 13                                                | 42.3 | 10.3          | 74                                               | 01.3 | 14.5           |   |   |  |
| 15  | 204                                                | 08.3 |         | 90                                                                                                                                                                    | 26.5                | 24.3                    | 39                                                | 33.8    | 41.8    | 28                                                | 44.3 | 10.1          | 89                                               | 03.5 | 14.5           |   |   |  |
| 16  | 219                                                | 10.8 |         | 105                                                                                                                                                                   | 26.2                | 24.1                    | 54                                                | 34.8    | 41.2    | 43                                                | 46.3 | 09.9          | 104                                              | 05.6 | 14.4           |   |   |  |
| 17  | 234                                                | 13.3 |         | 120                                                                                                                                                                   | 26.0                | +19 23.9                | 69                                                | 35.8    | +7 40.6 | 58                                                | 48.2 | +3 09.7       | 119                                              | 07.8 | +21 14.4       |   |   |  |
| 18  | 249                                                | 15.7 |         | 135                                                                                                                                                                   | 25.7                | +19 23.7                | 84                                                | 36.7    | +7 40.0 | 73                                                | 50.2 | +3 09.5       | 134                                              | 10.0 | +21 14.3       |   |   |  |
| 19  | 264                                                | 18.2 |         | 150                                                                                                                                                                   | 25.4                | 23.5                    | 99                                                | 37.7    | 39.3    | 88                                                | 52.2 | 09.2          | 149                                              | 12.2 | 14.3           |   |   |  |
| 20  | 279                                                | 20.7 |         | 165                                                                                                                                                                   | 25.1                | 23.2                    | 114                                               | 38.7    | 38.7    | 103                                               | 54.2 | 09.0          | 164                                              | 14.4 | 14.3           |   |   |  |
| 21  | 294                                                | 23.1 |         | 180                                                                                                                                                                   | 24.8                | 23.0                    | 129                                               | 39.7    | 38.1    | 118                                               | 56.1 | 08.8          | 179                                              | 16.6 | 14.2           |   |   |  |
| 22  | 309                                                | 25.6 |         | 195                                                                                                                                                                   | 24.5                | 22.8                    | 144                                               | 40.7    | 37.5    | 133                                               | 58.1 | 08.6          | 194                                              | 18.8 | 14.2           |   |   |  |
| 23  | 324                                                | 28.1 |         | 210                                                                                                                                                                   | 24.3                | 22.6                    | 159                                               | 41.7    | 36.9    | 149                                               | 00.1 | 08.4          | 209                                              | 20.9 | 14.1           |   |   |  |
| 24  | 339                                                | 30.5 |         | 225                                                                                                                                                                   | 24.0                | +19 22.3                | 174                                               | 42.6    | +7 36.2 | 164                                               | 02.1 | +3 08.2       | 224                                              | 23.1 | +21 14.1       |   |   |  |
| Dif | —                                                  |      |         | -3 -2                                                                                                                                                                 |                     |                         | +10 -6                                            |         |         | +20 -2                                            |      |               | +22 0                                            |      |                |   |   |  |

| UT  | SOL                                                             |      |                                                  | ☉ LUNA                                                                                                                                                                                                    |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna                                   |         | Puesta de Luna |          |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|--------------------------------------------------|---------|----------------|----------|
|     | SD: 15 <sup>h</sup> 8<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 2 |      |                                                  | Edad: 14 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 58 <sup>m</sup> 5<br>12 <sup>h</sup> : 58 <sup>m</sup> 3<br>20 <sup>h</sup> : 58 <sup>m</sup> 0<br>PMG: 0 <sup>h</sup> 52 <sup>m</sup> R°: 46 <sup>m</sup> |                     |                                                   |         |               |                                                   |       |                                                  |         |                |          |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                                                                                                                                      | Dif                 | Dec                                               |         |               | Dif                                               | Civil | Náutico                                          | Hora    | R°             | Hora     |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                         | °                   | '                                                 | °       | h m           | h m                                               | h m   | h m m                                            | h m m   | h m m          |          |
| 0   | 179                                                             | 54.9 | +8 35.8                                          | 347                                                                                                                                                                                                       | 30.8                | -7 17.3                                           | 60 N    | 19 06         | 19 51                                             | 20 49 | 19 43 0                                          | 6 22 95 |                |          |
| 1   | 194                                                             | 55.1 | 34.9                                             | 2                                                                                                                                                                                                         | 01.9 <sup>121</sup> | -7 01.5 <sup>158</sup>                            | 58      | 19 01         | 43                                                | 36    | 41 4                                             | 25 91   |                |          |
| 2   | 209                                                             | 55.3 | 34.0                                             | 16                                                                                                                                                                                                        | 33.1 <sup>122</sup> | -6 45.7 <sup>158</sup>                            | 56      | 18 56         | 36                                                | 25    | 40 7                                             | 28 87   |                |          |
| 3   | 224                                                             | 55.5 | 33.1                                             | 31                                                                                                                                                                                                        | 04.4 <sup>123</sup> | 29.8 <sup>159</sup>                               | 54      | 52            | 30                                                | 16    | 39 10                                            | 31 84   |                |          |
| 4   | 239                                                             | 55.7 | 32.2                                             | 45                                                                                                                                                                                                        | 35.7 <sup>123</sup> | -6 14.0 <sup>158</sup>                            | 52      | 49            | 24                                                | 08    | 39 11                                            | 33 82   |                |          |
| 5   | 254                                                             | 55.9 | +8 31.3                                          | 60                                                                                                                                                                                                        | 07.1 <sup>124</sup> | -5 58.1 <sup>159</sup>                            | 50      | 18 46         | 19 19                                             | 20 00 | 19 38 14                                         | 6 35 79 |                |          |
| 6   | 269                                                             | 56.1 | +8 30.4                                          | 74                                                                                                                                                                                                        | 38.5 <sup>124</sup> | -5 42.2 <sup>159</sup>                            | 45      | 18 39         | 19 09                                             | 19 45 | 19 36 19                                         | 6 40 73 |                |          |
| 7   | 284                                                             | 56.3 | 29.5                                             | 89                                                                                                                                                                                                        | 10.1 <sup>126</sup> | 26.3 <sup>159</sup>                               | 40      | 33            | 19 00                                             | 34    | 35 23                                            | 43 70   |                |          |
| 8   | 299                                                             | 56.5 | 28.6                                             | 103                                                                                                                                                                                                       | 41.6 <sup>125</sup> | -5 10.4 <sup>159</sup>                            | 35      | 28            | 18 54                                             | 24    | 33 27                                            | 47 65   |                |          |
| 9   | 314                                                             | 56.7 | 27.7                                             | 118                                                                                                                                                                                                       | 13.3 <sup>127</sup> | -4 54.5 <sup>159</sup>                            | 30      | 23            | 48                                                | 16    | 32 30                                            | 50 61   |                |          |
| 10  | 329                                                             | 56.9 | 26.8                                             | 132                                                                                                                                                                                                       | 45.0 <sup>127</sup> | 38.6 <sup>159</sup>                               | 20      | 16            | 38                                                | 19 04 | 30 36                                            | 55 55   |                |          |
| 11  | 344                                                             | 57.1 | +8 25.9                                          | 147                                                                                                                                                                                                       | 16.7 <sup>127</sup> | -4 22.6 <sup>160</sup>                            | 10 N    | 18 09         | 18 31                                             | 18 55 | 19 29 40                                         | 6 59 51 |                |          |
| 12  | 359                                                             | 57.3 | +8 25.0                                          | 161                                                                                                                                                                                                       | 48.5 <sup>128</sup> | -4 06.7 <sup>159</sup>                            | 0       | 18 03         | 18 24                                             | 18 49 | 19 27 45                                         | 7 03 46 |                |          |
| 13  | 14                                                              | 57.5 | 24.1                                             | 176                                                                                                                                                                                                       | 20.4 <sup>129</sup> | -3 50.8 <sup>159</sup>                            | 10 S    | 17 58         | 19                                                | 43    | 26 49                                            | 07 41   |                |          |
| 14  | 29                                                              | 57.7 | 23.2                                             | 190                                                                                                                                                                                                       | 52.3 <sup>129</sup> | 34.8 <sup>160</sup>                               | 20      | 51            | 14                                                | 39    | 24 55                                            | 11 36   |                |          |
| 15  | 44                                                              | 57.9 | 22.3                                             | 205                                                                                                                                                                                                       | 24.3 <sup>130</sup> | 18.9 <sup>159</sup>                               | 30      | 45            | 09                                                | 37    | 22 61                                            | 16 30   |                |          |
| 16  | 59                                                              | 58.1 | 21.4                                             | 219                                                                                                                                                                                                       | 56.3 <sup>130</sup> | -3 03.0 <sup>159</sup>                            | 35      | 41            | 06                                                | 36    | 21 64                                            | 18 27   |                |          |
| 17  | 74                                                              | 58.3 | +8 20.5                                          | 234                                                                                                                                                                                                       | 28.4 <sup>131</sup> | -2 47.0 <sup>160</sup>                            | 40      | 17 36         | 18 04                                             | 18 35 | 19 20 68                                         | 7 21 24 |                |          |
| 18  | 89                                                              | 58.5 | +8 19.6                                          | 249                                                                                                                                                                                                       | 00.5 <sup>131</sup> | -2 31.1 <sup>159</sup>                            | 45      | 17 31         | 18 01                                             | 18 35 | 19 18 73                                         | 7 25 19 |                |          |
| 19  | 104                                                             | 58.7 | 18.7                                             | 263                                                                                                                                                                                                       | 32.7 <sup>132</sup> | -2 15.2 <sup>159</sup>                            | 50      | 25            | 17 58                                             | 35    | 17 77                                            | 29 14   |                |          |
| 20  | 119                                                             | 58.9 | 17.8                                             | 278                                                                                                                                                                                                       | 04.9 <sup>132</sup> | -1 59.3 <sup>159</sup>                            | 52      | 22            | 56                                                | 36    | 16 80                                            | 31 12   |                |          |
| 21  | 134                                                             | 59.1 | 16.8                                             | 292                                                                                                                                                                                                       | 37.1 <sup>132</sup> | 43.4 <sup>159</sup>                               | 54      | 19            | 55                                                | 36    | 15 83                                            | 33 9    |                |          |
| 22  | 149                                                             | 59.3 | 15.9                                             | 307                                                                                                                                                                                                       | 09.4 <sup>133</sup> | 27.5 <sup>159</sup>                               | 56      | 16            | 54                                                | 37    | 14 86                                            | 35 7    |                |          |
| 23  | 164                                                             | 59.5 | 15.0                                             | 321                                                                                                                                                                                                       | 41.8 <sup>134</sup> | -1 11.6 <sup>159</sup>                            | 58      | 12            | 52                                                | 38    | 13 89                                            | 37 4    |                |          |
| 24  | 179                                                             | 59.7 | +8 14.1                                          | 336                                                                                                                                                                                                       | 14.2 <sup>134</sup> | -0 55.8 <sup>158</sup>                            | 60 S    | 17 08         | 17 50                                             | 18 39 | 19 12 93                                         | 7 40 0  |                |          |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                                                                                                                                           |                     | MARTE                                             |         |               | JÚPITER                                           |       | SATURNO                                          |         |                |          |
|     | PMG: 1 <sup>h</sup> 21 <sup>m</sup> 7                           |      | Mag: -4.3<br>PMG: 8 <sup>h</sup> 59 <sup>m</sup> |                                                                                                                                                                                                           |                     | Mag: +1.8<br>PMG: 12 <sup>h</sup> 20 <sup>m</sup> |         |               | Mag: -1.7<br>PMG: 13 <sup>h</sup> 02 <sup>m</sup> |       | Mag: +0.2<br>PMG: 9 <sup>h</sup> 01 <sup>m</sup> |         |                |          |
|     | hG ♈                                                            |      | hG ♀                                             | Dec                                                                                                                                                                                                       |                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec   | hG ♄                                             | Dec     |                |          |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                         | °                   | '                                                 | °       | '             | °                                                 | '     | °                                                | '       |                |          |
| 0   | 339                                                             | 30.5 | 225                                              | 24.0                                                                                                                                                                                                      | +19 22.3            | 174                                               | 42.6    | +7 36.2       | 164                                               | 02.1  | +3 08.2                                          | 224     | 23.1           | +21 14.1 |
| 1   | 354                                                             | 33.0 | 240                                              | 23.7                                                                                                                                                                                                      | 22.1                | 189                                               | 43.6    | 35.6          | 179                                               | 04.1  | 08.0                                             | 239     | 25.3           | 14.1     |
| 2   | 9                                                               | 35.4 | 255                                              | 23.4                                                                                                                                                                                                      | 21.9                | 204                                               | 44.6    | 35.0          | 194                                               | 06.0  | 07.8                                             | 254     | 27.5           | 14.0     |
| 3   | 24                                                              | 37.9 | 270                                              | 23.1                                                                                                                                                                                                      | 21.7                | 219                                               | 45.6    | 34.4          | 209                                               | 08.0  | 07.6                                             | 269     | 29.7           | 14.0     |
| 4   | 39                                                              | 40.4 | 285                                              | 22.8                                                                                                                                                                                                      | 21.4                | 234                                               | 46.6    | 33.7          | 224                                               | 10.0  | 07.4                                             | 284     | 31.9           | 13.9     |
| 5   | 54                                                              | 42.8 | 300                                              | 22.5                                                                                                                                                                                                      | +19 21.2            | 249                                               | 47.6    | +7 33.1       | 239                                               | 12.0  | +3 07.1                                          | 299     | 34.1           | +21 13.9 |
| 6   | 69                                                              | 45.3 | 315                                              | 22.2                                                                                                                                                                                                      | +19 21.0            | 264                                               | 48.5    | +7 32.5       | 254                                               | 14.0  | +3 06.9                                          | 314     | 36.2           | +21 13.9 |
| 7   | 84                                                              | 47.8 | 330                                              | 22.0                                                                                                                                                                                                      | 20.7                | 279                                               | 49.5    | 31.9          | 269                                               | 15.9  | 06.7                                             | 329     | 38.4           | 13.8     |
| 8   | 99                                                              | 50.2 | 345                                              | 21.7                                                                                                                                                                                                      | 20.5                | 294                                               | 50.5    | 31.3          | 284                                               | 17.9  | 06.5                                             | 344     | 40.6           | 13.8     |
| 9   | 114                                                             | 52.7 | 0                                                | 21.4                                                                                                                                                                                                      | 20.3                | 309                                               | 51.5    | 30.6          | 299                                               | 19.9  | 06.3                                             | 359     | 42.8           | 13.7     |
| 10  | 129                                                             | 55.2 | 15                                               | 21.1                                                                                                                                                                                                      | 20.0                | 324                                               | 52.5    | 30.0          | 314                                               | 21.9  | 06.1                                             | 14      | 45.0           | 13.7     |
| 11  | 144                                                             | 57.6 | 30                                               | 20.8                                                                                                                                                                                                      | +19 19.8            | 339                                               | 53.5    | +7 29.4       | 329                                               | 23.9  | +3 05.9                                          | 29      | 47.2           | +21 13.6 |
| 12  | 160                                                             | 00.1 | 45                                               | 20.5                                                                                                                                                                                                      | +19 19.6            | 354                                               | 54.4    | +7 28.8       | 344                                               | 25.8  | +3 05.7                                          | 44      | 49.4           | +21 13.6 |
| 13  | 175                                                             | 02.6 | 60                                               | 20.2                                                                                                                                                                                                      | 19.3                | 9                                                 | 55.4    | 28.1          | 359                                               | 27.8  | 05.5                                             | 59      | 51.6           | 13.6     |
| 14  | 190                                                             | 05.0 | 75                                               | 19.9                                                                                                                                                                                                      | 19.1                | 24                                                | 56.4    | 27.5          | 14                                                | 29.8  | 05.3                                             | 74      | 53.7           | 13.5     |
| 15  | 205                                                             | 07.5 | 90                                               | 19.6                                                                                                                                                                                                      | 18.9                | 39                                                | 57.4    | 26.9          | 29                                                | 31.8  | 05.0                                             | 89      | 55.9           | 13.5     |
| 16  | 220                                                             | 09.9 | 105                                              | 19.3                                                                                                                                                                                                      | 18.6                | 54                                                | 58.4    | 26.3          | 44                                                | 33.8  | 04.8                                             | 104     | 58.1           | 13.4     |
| 17  | 235                                                             | 12.4 | 120                                              | 19.0                                                                                                                                                                                                      | +19 18.4            | 69                                                | 59.4    | +7 25.7       | 59                                                | 35.7  | +3 04.6                                          | 120     | 00.3           | +21 13.4 |
| 18  | 250                                                             | 14.9 | 135                                              | 18.8                                                                                                                                                                                                      | +19 18.2            | 85                                                | 00.3    | +7 25.0       | 74                                                | 37.7  | +3 04.4                                          | 135     | 02.5           | +21 13.4 |
| 19  | 265                                                             | 17.3 | 150                                              | 18.5                                                                                                                                                                                                      | 17.9                | 100                                               | 01.3    | 24.4          | 89                                                | 39.7  | 04.2                                             | 150     | 04.7           | 13.3     |
| 20  | 280                                                             | 19.8 | 165                                              | 18.2                                                                                                                                                                                                      | 17.7                | 115                                               | 02.3    | 23.8          | 104                                               | 41.7  | 04.0                                             | 165     | 06.9           | 13.3     |
| 21  | 295                                                             | 22.3 | 180                                              | 17.9                                                                                                                                                                                                      | 17.4                | 130                                               | 03.3    | 23.2          | 119                                               | 43.6  | 03.8                                             | 180     | 09.1           | 13.2     |
| 22  | 310                                                             | 24.7 | 195                                              | 17.6                                                                                                                                                                                                      | 17.2                | 145                                               | 04.3    | 22.5          | 134                                               | 45.6  | 03.6                                             | 195     | 11.3           | 13.2     |
| 23  | 325                                                             | 27.2 | 210                                              | 17.3                                                                                                                                                                                                      | 16.9                | 160                                               | 05.3    | 21.9          | 149                                               | 47.6  | 03.4                                             | 210     | 13.4           | 13.2     |
| 24  | 340                                                             | 29.7 | 225                                              | 17.0                                                                                                                                                                                                      | +19 16.7            | 175                                               | 06.3    | +7 21.3       | 164                                               | 49.6  | +3 03.1                                          | 225     | 15.6           | +21 13.1 |
| Dif | —                                                               |      | -3                                               |                                                                                                                                                                                                           | -2                  | +10                                               |         | -6            | +20                                               |       | -2                                               | +22     |                | 0        |

| UT | SOL                                                |      |    | LUNA                                                                                                                                                                              |     |                     |     |                        | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |    |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-----|------------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|----|----|----|
|    | SD: 15'8<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 9 |      |    | Edad: 15 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 57'8<br>12 <sup>h</sup> : 57'5<br>20 <sup>h</sup> : 57'2<br>SD: 15'8<br>PMG: 1 <sup>h</sup> 38 <sup>m</sup> R°: 45 <sup>m</sup> |     |                     |     |                        |         |                          |       |               |                |    |                |    |    |    |    |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                              | Dif | Dec                 | Dif |                        |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |    |    |    |
| h  | °                                                  | '    | °  | '                                                                                                                                                                                 | °   | '                   | °   | '                      | °       | h                        | m     | h             | m              | h  | m              | h  | m  |    |    |    |
| 0  | 179                                                | 59.7 | +8 | 14.1                                                                                                                                                                              | 336 | 14.2                | -0  | 55.8                   | 60 N    | 3                        | 12    | 4             | 10             | 4  | 55             | 19 | 43 |    |    |    |
| 1  | 194                                                | 59.9 |    | 13.2                                                                                                                                                                              | 350 | 46.6 <sup>134</sup> |     | 39.9 <sup>159</sup>    | 58      | 25                       | 18    | 5             | 00             |    | 45             | 3  | 56 |    |    |    |
| 2  | 210                                                | 00.1 |    | 12.3                                                                                                                                                                              | 5   | 19.1 <sup>135</sup> |     | 24.1 <sup>158</sup>    | 56      | 36                       | 25    | 05            |                | 47 | 6              | 55 | 85 |    |    |    |
| 3  | 225                                                | 00.3 |    | 11.4                                                                                                                                                                              | 19  | 51.6 <sup>135</sup> |     | -0 08.3 <sup>158</sup> | 54      | 45                       | 31    | 09            |                | 49 | 9              | 55 | 82 |    |    |    |
| 4  | 240                                                | 00.5 |    | 10.5                                                                                                                                                                              | 34  | 24.1 <sup>135</sup> |     | +0 07.5 <sup>158</sup> | 52      | 3                        | 53    | 37            | 12             |    | 50             | 12 | 55 | 79 |    |    |
| 5  | 255                                                | 00.7 | +8 | 09.6                                                                                                                                                                              | 48  | 56.7 <sup>136</sup> |     | +0 23.3 <sup>158</sup> | 50      | 4                        | 01    | 4             | 42             | 5  | 15             | 19 | 52 | 7  | 54 | 77 |
| 6  | 270                                                | 00.9 | +8 | 08.7                                                                                                                                                                              | 63  | 29.3 <sup>136</sup> |     | +0 39.1 <sup>158</sup> | 45      | 4                        | 15    | 4             | 52             | 5  | 22             | 19 | 55 | 7  | 53 | 72 |
| 7  | 285                                                | 01.1 |    | 07.8                                                                                                                                                                              | 78  | 01.9 <sup>136</sup> |     | +0 54.8 <sup>157</sup> | 40      | 27                       | 5     | 00            | 28             |    | 19             | 58 | 23 | 53 | 67 |    |
| 8  | 300                                                | 01.3 |    | 06.9                                                                                                                                                                              | 92  | 34.6 <sup>137</sup> |     | +1 10.5 <sup>157</sup> | 35      | 36                       | 07    | 33            |                | 20 | 00             | 27 | 52 | 63 |    |    |
| 9  | 315                                                | 01.5 |    | 06.0                                                                                                                                                                              | 107 | 07.3 <sup>137</sup> |     | 26.2 <sup>157</sup>    | 30      | 44                       | 13    | 37            |                | 02 | 30             | 51 | 60 |    |    |    |
| 10 | 330                                                | 01.7 |    | 05.0                                                                                                                                                                              | 121 | 40.0 <sup>137</sup> |     | 41.9 <sup>157</sup>    | 20      | 4                        | 56    | 22            | 44             |    | 06             | 35 | 50 | 55 |    |    |
| 11 | 345                                                | 01.9 | +8 | 04.1                                                                                                                                                                              | 136 | 12.8 <sup>138</sup> | +1  | 57.5 <sup>156</sup>    | 10 N    | 5                        | 05    | 5             | 29             | 5  | 51             | 20 | 09 | 7  | 50 | 49 |
| 12 | 0                                                  | 02.1 | +8 | 03.2                                                                                                                                                                              | 150 | 45.6 <sup>138</sup> | +2  | 13.2 <sup>157</sup>    | 0       | 5                        | 11    | 5             | 36             | 5  | 57             | 20 | 12 | 7  | 49 | 44 |
| 13 | 15                                                 | 02.3 |    | 02.3                                                                                                                                                                              | 165 | 18.4 <sup>138</sup> |     | 28.7 <sup>155</sup>    | 10 S    | 17                       |       | 41            | 6              | 02 | 15             | 49 |    | 48 | 40 |    |
| 14 | 30                                                 | 02.5 |    | 01.4                                                                                                                                                                              | 179 | 51.2 <sup>138</sup> |     | 44.3 <sup>156</sup>    | 20      | 20                       | 46    | 08            |                |    | 19             | 54 |    | 47 | 35 |    |
| 15 | 45                                                 | 02.7 | +8 | 00.5                                                                                                                                                                              | 194 | 24.1 <sup>139</sup> | +2  | 59.8 <sup>155</sup>    | 30      | 23                       | 51    | 15            |                |    | 23             | 59 |    | 46 | 30 |    |
| 16 | 60                                                 | 02.9 | +7 | 59.6                                                                                                                                                                              | 208 | 57.0 <sup>139</sup> | +3  | 15.3 <sup>155</sup>    | 35      | 24                       | 53    | 19            |                |    | 25             | 63 |    | 45 | 27 |    |
| 17 | 75                                                 | 03.1 | +7 | 58.7                                                                                                                                                                              | 223 | 29.9 <sup>139</sup> | +3  | 30.8 <sup>155</sup>    | 40      | 5                        | 25    | 5             | 56             | 6  | 23             | 20 | 28 | 7  | 45 | 23 |
| 18 | 90                                                 | 03.3 | +7 | 57.8                                                                                                                                                                              | 238 | 02.8 <sup>139</sup> | +3  | 46.2 <sup>154</sup>    | 45      | 5                        | 25    | 5             | 59             | 6  | 28             | 20 | 31 | 7  | 44 | 19 |
| 19 | 105                                                | 03.5 |    | 56.9                                                                                                                                                                              | 252 | 35.7 <sup>139</sup> | +4  | 01.6 <sup>154</sup>    | 50      | 24                       | 6     | 01            | 34             |    | 34             | 76 |    | 43 | 14 |    |
| 20 | 120                                                | 03.7 |    | 55.9                                                                                                                                                                              | 267 | 08.7 <sup>140</sup> |     | 16.9 <sup>153</sup>    | 52      | 24                       | 03    | 37            |                |    | 36             | 78 |    | 43 | 11 |    |
| 21 | 135                                                | 03.9 |    | 55.0                                                                                                                                                                              | 281 | 41.7 <sup>140</sup> |     | 32.3 <sup>154</sup>    | 54      | 23                       | 04    | 39            |                |    | 38             | 81 |    | 42 | 9  |    |
| 22 | 150                                                | 04.1 |    | 54.1                                                                                                                                                                              | 296 | 14.7 <sup>140</sup> | +4  | 47.5 <sup>152</sup>    | 56      | 22                       | 05    | 43            |                |    | 40             | 84 |    | 42 | 6  |    |
| 23 | 165                                                | 04.3 |    | 53.2                                                                                                                                                                              | 310 | 47.7 <sup>140</sup> | +5  | 02.8 <sup>153</sup>    | 58      | 21                       | 07    | 46            |                |    | 42             | 88 |    | 41 | 4  |    |
| 24 | 180                                                | 04.5 | +7 | 52.3                                                                                                                                                                              | 325 | 20.7 <sup>140</sup> | +5  | 18.0 <sup>152</sup>    | 60 S    | 5                        | 20    | 6             | 08             | 6  | 50             | 20 | 45 | 7  | 40 | 1  |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 1 <sup>h</sup> 17 <sup>m</sup> 8 |      | Mag: -4.3<br>PMG: 8 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 19 <sup>m</sup> |      | Mag: -1.7<br>PMG: 12 <sup>h</sup> 59 <sup>m</sup> |      | Mag: +0.2<br>PMG: 8 <sup>h</sup> 58 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 340                                   | 29.7 | 225                                              | 17.0 | 175                                               | 06.3 | 164                                               | 49.6 | 225                                              | 15.6 |
| 1   | 355                                   | 32.1 | 240                                              | 16.7 | 190                                               | 07.2 | 179                                               | 51.6 | 240                                              | 17.8 |
| 2   | 10                                    | 34.6 | 255                                              | 16.4 | 205                                               | 08.2 | 194                                               | 53.5 | 255                                              | 20.0 |
| 3   | 25                                    | 37.1 | 270                                              | 16.1 | 220                                               | 09.2 | 209                                               | 55.5 | 270                                              | 22.2 |
| 4   | 40                                    | 39.5 | 285                                              | 15.8 | 235                                               | 10.2 | 224                                               | 57.5 | 285                                              | 24.4 |
| 5   | 55                                    | 42.0 | 300                                              | 15.5 | 250                                               | 11.2 | 239                                               | 59.5 | 300                                              | 26.6 |
| 6   | 70                                    | 44.4 | 315                                              | 15.2 | 265                                               | 12.2 | 255                                               | 01.5 | 315                                              | 28.8 |
| 7   | 85                                    | 46.9 | 330                                              | 14.9 | 280                                               | 13.1 | 270                                               | 03.4 | 330                                              | 31.0 |
| 8   | 100                                   | 49.4 | 345                                              | 14.6 | 295                                               | 14.1 | 285                                               | 05.4 | 345                                              | 33.1 |
| 9   | 115                                   | 51.8 | 0                                                | 14.3 | 310                                               | 15.1 | 300                                               | 07.4 | 0                                                | 35.3 |
| 10  | 130                                   | 54.3 | 15                                               | 14.0 | 325                                               | 16.1 | 315                                               | 09.4 | 15                                               | 37.5 |
| 11  | 145                                   | 56.8 | 30                                               | 13.7 | 340                                               | 17.1 | 330                                               | 11.3 | 30                                               | 39.7 |
| 12  | 160                                   | 59.2 | 45                                               | 13.4 | 355                                               | 18.1 | 345                                               | 13.3 | 45                                               | 41.9 |
| 13  | 176                                   | 01.7 | 60                                               | 13.1 | 10                                                | 19.1 | 0                                                 | 15.3 | 60                                               | 44.1 |
| 14  | 191                                   | 04.2 | 75                                               | 12.8 | 25                                                | 20.0 | 15                                                | 17.3 | 75                                               | 46.3 |
| 15  | 206                                   | 06.6 | 90                                               | 12.5 | 40                                                | 21.0 | 30                                                | 19.3 | 90                                               | 48.5 |
| 16  | 221                                   | 09.1 | 105                                              | 12.2 | 55                                                | 22.0 | 45                                                | 21.2 | 105                                              | 50.7 |
| 17  | 236                                   | 11.5 | 120                                              | 11.9 | 70                                                | 23.0 | 60                                                | 23.2 | 120                                              | 52.9 |
| 18  | 251                                   | 14.0 | 135                                              | 11.6 | 85                                                | 24.0 | 75                                                | 25.2 | 135                                              | 55.0 |
| 19  | 266                                   | 16.5 | 150                                              | 11.3 | 100                                               | 25.0 | 90                                                | 27.2 | 150                                              | 57.2 |
| 20  | 281                                   | 18.9 | 165                                              | 11.0 | 115                                               | 26.0 | 105                                               | 29.1 | 165                                              | 59.4 |
| 21  | 296                                   | 21.4 | 180                                              | 10.7 | 130                                               | 26.9 | 120                                               | 31.1 | 181                                              | 01.6 |
| 22  | 311                                   | 23.9 | 195                                              | 10.4 | 145                                               | 27.9 | 135                                               | 33.1 | 196                                              | 03.8 |
| 23  | 326                                   | 26.3 | 210                                              | 10.1 | 160                                               | 28.9 | 150                                               | 35.1 | 211                                              | 06.0 |
| 24  | 341                                   | 28.8 | 225                                              | 09.8 | 175                                               | 29.9 | 165                                               | 37.1 | 226                                              | 08.2 |
| Dif | —                                     |      | -3                                               | -3   | +10                                               | -6   | +20                                               | -2   | +22                                              | 0    |



| UT | SOL                                                |      |    | ☉ LUNA                                                                                                                                                                               |     |                     | Latitud | Puesta de Sol       | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |         |
|----|----------------------------------------------------|------|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|---------------------|----------------------|-------|----------------|-------|----------------|---------|
|    | SD: 15'9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 5 |      |    | Edad: 16 <sup>d</sup> 9 PHE {<br>SD: 15'6<br>PMG: 2 <sup>h</sup> 23 <sup>m</sup><br>4 <sup>h</sup> : 57'0<br>12 <sup>h</sup> : 56'7<br>20 <sup>h</sup> : 56'5<br>R°: 44 <sup>m</sup> |     |                     |         |                     |                      |       |                |       |                |         |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                                 | Dif | Dec                 |         |                     | Dif                  | Civil | Náutico        | Hora  | R°             | Hora    |
| h  | °                                                  | '    | °  | '                                                                                                                                                                                    | °   | '                   | °       | '                   | h m                  | h m   | h m            | h m m | h m m          | h m m   |
| 0  | 180                                                | 04.5 | +7 | 52.3                                                                                                                                                                                 | 325 | 20.7                | +5      | 18.0                | 60 N                 | 19 00 | 19 44          | 20 41 | 19 43 1        | 9 29 91 |
| 1  | 195                                                | 04.7 |    | 51.4                                                                                                                                                                                 | 339 | 53.7 <sup>140</sup> |         | 33.1 <sup>151</sup> | 58                   | 18 55 | 37             | 29    | 48 5           | 24 87   |
| 2  | 210                                                | 04.9 |    | 50.5                                                                                                                                                                                 | 354 | 26.8 <sup>141</sup> | +5      | 48.2 <sup>151</sup> | 56                   | 51    | 30             | 19    | 53 8           | 20 84   |
| 3  | 225                                                | 05.1 |    | 49.6                                                                                                                                                                                 | 8   | 59.8 <sup>140</sup> | +6      | 03.3 <sup>151</sup> | 54                   | 48    | 24             | 10    | 19 58 11       | 17 80   |
| 4  | 240                                                | 05.3 |    | 48.6                                                                                                                                                                                 | 23  | 32.9 <sup>141</sup> |         | 18.3 <sup>150</sup> | 52                   | 44    | 19             | 20 02 | 20 02 13       | 14 78   |
| 5  | 255                                                | 05.5 | +7 | 47.7                                                                                                                                                                                 | 38  | 06.0 <sup>141</sup> | +6      | 33.3 <sup>150</sup> | 50                   | 18 41 | 19 15          | 19 55 | 20 06 16       | 9 11 75 |
| 6  | 270                                                | 05.7 | +7 | 46.8                                                                                                                                                                                 | 52  | 39.1 <sup>141</sup> | +6      | 48.2 <sup>149</sup> | 45                   | 18 35 | 19 05          | 19 41 | 20 14 21       | 9 05 70 |
| 7  | 285                                                | 05.9 |    | 45.9                                                                                                                                                                                 | 67  | 12.1 <sup>140</sup> | +7      | 03.1 <sup>149</sup> | 40                   | 30    | 18 57          | 30    | 21 24          | 9 00 65 |
| 8  | 300                                                | 06.1 |    | 45.0                                                                                                                                                                                 | 81  | 45.2 <sup>141</sup> |         | 18.0 <sup>149</sup> | 35                   | 25    | 51             | 21    | 27 28          | 8 55 62 |
| 9  | 315                                                | 06.3 |    | 44.1                                                                                                                                                                                 | 96  | 18.3 <sup>141</sup> |         | 32.7 <sup>147</sup> | 30                   | 21    | 45             | 14    | 32 31          | 51 59   |
| 10 | 330                                                | 06.5 |    | 43.2                                                                                                                                                                                 | 110 | 51.4 <sup>141</sup> | +7      | 47.5 <sup>148</sup> | 20                   | 14    | 36             | 19 02 | 41 36          | 45 53   |
| 11 | 345                                                | 06.7 | +7 | 42.3                                                                                                                                                                                 | 125 | 24.5 <sup>141</sup> | +8      | 02.2 <sup>147</sup> | 10 N                 | 18 08 | 18 29          | 18 54 | 20 49 41       | 8 39 49 |
| 12 | 0                                                  | 06.9 | +7 | 41.3                                                                                                                                                                                 | 139 | 57.6 <sup>141</sup> | +8      | 16.8 <sup>146</sup> | 0                    | 18 03 | 18 24          | 18 48 | 20 57 44       | 8 33 45 |
| 13 | 15                                                 | 07.1 |    | 40.4                                                                                                                                                                                 | 154 | 30.7 <sup>141</sup> |         | 31.4 <sup>146</sup> | 10 S                 | 17 57 | 19             | 43    | 21 04 49       | 28 40   |
| 14 | 30                                                 | 07.3 |    | 39.5                                                                                                                                                                                 | 169 | 03.8 <sup>141</sup> | +8      | 45.9 <sup>145</sup> | 20                   | 52    | 14             | 40    | 13 53          | 22 36   |
| 15 | 45                                                 | 07.5 |    | 38.6                                                                                                                                                                                 | 183 | 36.9 <sup>141</sup> | +9      | 00.4 <sup>145</sup> | 30                   | 46    | 10             | 38    | 22 59          | 16 30   |
| 16 | 60                                                 | 07.7 |    | 37.7                                                                                                                                                                                 | 198 | 10.0 <sup>141</sup> |         | 14.8 <sup>144</sup> | 35                   | 42    | 08             | 37    | 28 61          | 12 27   |
| 17 | 75                                                 | 07.9 | +7 | 36.8                                                                                                                                                                                 | 212 | 43.1 <sup>141</sup> | +9      | 29.1 <sup>143</sup> | 40                   | 17 38 | 18 05          | 18 37 | 21 34 65       | 8 08 24 |
| 18 | 90                                                 | 08.1 | +7 | 35.8                                                                                                                                                                                 | 227 | 16.2 <sup>141</sup> | +9      | 43.4 <sup>143</sup> | 45                   | 17 34 | 18 03          | 18 37 | 21 41 70       | 8 03 20 |
| 19 | 105                                                | 08.3 |    | 34.9                                                                                                                                                                                 | 241 | 49.3 <sup>141</sup> | +9      | 57.7 <sup>143</sup> | 50                   | 28    | 01             | 38    | 50 75          | 7 57 15 |
| 20 | 120                                                | 08.5 |    | 34.0                                                                                                                                                                                 | 256 | 22.3 <sup>140</sup> | +10     | 11.9 <sup>142</sup> | 52                   | 26    | 18 00          | 39    | 54 78          | 54 13   |
| 21 | 135                                                | 08.7 |    | 33.1                                                                                                                                                                                 | 270 | 55.4 <sup>141</sup> |         | 26.0 <sup>141</sup> | 54                   | 23    | 17 58          | 39    | 21 59 80       | 51 10   |
| 22 | 150                                                | 08.9 |    | 32.2                                                                                                                                                                                 | 285 | 28.5 <sup>141</sup> |         | 40.0 <sup>140</sup> | 56                   | 20    | 57             | 40    | 22 04 83       | 48 7    |
| 23 | 165                                                | 09.1 |    | 31.3                                                                                                                                                                                 | 300 | 01.5 <sup>140</sup> | +10     | 54.0 <sup>140</sup> | 58                   | 17    | 56             | 42    | 10 87          | 45 4    |
| 24 | 180                                                | 09.3 | +7 | 30.3                                                                                                                                                                                 | 314 | 34.5 <sup>140</sup> | +11     | 08.0 <sup>140</sup> | 60 S                 | 17 13 | 17 55          | 18 43 | 22 16 92       | 7 41 0  |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 1 <sup>h</sup> 13 <sup>m</sup> 9 |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 00 <sup>m</sup> |      | Mag: +1.8<br>PMG: 12 <sup>h</sup> 17 <sup>m</sup> |      | Mag: -1.7<br>PMG: 12 <sup>h</sup> 56 <sup>m</sup> |      | Mag: +0.2<br>PMG: 8 <sup>h</sup> 54 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 341                                   | 28.8 | 225                                              | 09.8 | +19                                               | 10.6 | 175                                               | 29.9 | +2                                               | 58.1 |
| 1   | 356                                   | 31.3 | 240                                              | 09.5 |                                                   | 10.3 | 190                                               | 30.9 |                                                  | 57.9 |
| 2   | 11                                    | 33.7 | 255                                              | 09.2 |                                                   | 10.0 | 205                                               | 31.9 |                                                  | 57.7 |
| 3   | 26                                    | 36.2 | 270                                              | 08.9 |                                                   | 09.8 | 220                                               | 32.9 |                                                  | 57.5 |
| 4   | 41                                    | 38.7 | 285                                              | 08.5 |                                                   | 09.5 | 235                                               | 33.8 |                                                  | 57.2 |
| 5   | 56                                    | 41.1 | 300                                              | 08.2 | +19                                               | 09.2 | 250                                               | 34.8 | +7                                               | 03.2 |
| 6   | 71                                    | 43.6 | 315                                              | 07.9 | +19                                               | 08.9 | 265                                               | 35.8 | +7                                               | 02.5 |
| 7   | 86                                    | 46.0 | 330                                              | 07.6 |                                                   | 08.7 | 280                                               | 36.8 |                                                  | 01.9 |
| 8   | 101                                   | 48.5 | 345                                              | 07.3 |                                                   | 08.4 | 295                                               | 37.8 |                                                  | 01.3 |
| 9   | 116                                   | 51.0 | 0                                                | 07.0 |                                                   | 08.1 | 310                                               | 38.8 | +7                                               | 00.7 |
| 10  | 131                                   | 53.4 | 15                                               | 06.7 |                                                   | 07.9 | 325                                               | 39.8 | +7                                               | 00.0 |
| 11  | 146                                   | 55.9 | 30                                               | 06.4 | +19                                               | 07.6 | 340                                               | 40.7 | +6                                               | 59.4 |
| 12  | 161                                   | 58.4 | 45                                               | 06.1 | +19                                               | 07.3 | 355                                               | 41.7 | +6                                               | 58.8 |
| 13  | 177                                   | 00.8 | 60                                               | 05.8 |                                                   | 07.0 | 10                                                | 42.7 |                                                  | 58.2 |
| 14  | 192                                   | 03.3 | 75                                               | 05.5 |                                                   | 06.8 | 25                                                | 43.7 |                                                  | 57.5 |
| 15  | 207                                   | 05.8 | 90                                               | 05.1 |                                                   | 06.5 | 40                                                | 44.7 |                                                  | 56.9 |
| 16  | 222                                   | 08.2 | 105                                              | 04.8 |                                                   | 06.2 | 55                                                | 45.7 |                                                  | 56.3 |
| 17  | 237                                   | 10.7 | 120                                              | 04.5 | +19                                               | 05.9 | 70                                                | 46.7 | +6                                               | 55.7 |
| 18  | 252                                   | 13.1 | 135                                              | 04.2 | +19                                               | 05.6 | 85                                                | 47.6 | +6                                               | 55.0 |
| 19  | 267                                   | 15.6 | 150                                              | 03.9 |                                                   | 05.4 | 100                                               | 48.6 |                                                  | 54.4 |
| 20  | 282                                   | 18.1 | 165                                              | 03.6 |                                                   | 05.1 | 115                                               | 49.6 |                                                  | 53.8 |
| 21  | 297                                   | 20.5 | 180                                              | 03.3 |                                                   | 04.8 | 130                                               | 50.6 |                                                  | 53.1 |
| 22  | 312                                   | 23.0 | 195                                              | 03.0 |                                                   | 04.5 | 145                                               | 51.6 |                                                  | 52.5 |
| 23  | 327                                   | 25.5 | 210                                              | 02.6 |                                                   | 04.2 | 160                                               | 52.6 |                                                  | 51.9 |
| 24  | 342                                   | 27.9 | 225                                              | 02.3 | +19                                               | 03.9 | 175                                               | 53.6 | +6                                               | 51.3 |
| Dif | —                                     |      | -3                                               |      | -3                                                |      | +10                                               |      | -6                                               |      |
|     |                                       |      |                                                  |      |                                                   |      | +20                                               |      | -2                                               |      |
|     |                                       |      |                                                  |      |                                                   |      |                                                   |      | +22                                              |      |
|     |                                       |      |                                                  |      |                                                   |      |                                                   |      | 0                                                |      |

| UT  | SOL                                                |      |         | LUNA                                                                                                                                                                           |                     |                         |                                                   |         |         | Latitud                                           | Principio del crepúsculo |      | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna |   |
|-----|----------------------------------------------------|------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------------------------------------------------|---------|---------|---------------------------------------------------|--------------------------|------|--------------------------------------------------|----------------|------|----------------|---|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 2 |      |         | Edad: 17 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 56'2<br>12 <sup>h</sup> : 56'0<br>20 <sup>h</sup> : 55'7<br>SD: 15'3<br>PMG: 3 <sup>h</sup> 07 <sup>m</sup> R°: 45 <sup>m</sup> |                     |                         |                                                   |         |         |                                                   |                          |      |                                                  |                |      |                |   |
|     | hG ☉                                               | Dec  |         | hG ☾                                                                                                                                                                           | Dif                 | Dec                     | Dif                                               |         | Náutico |                                                   | Civil                    | Hora |                                                  | R°             | Hora | R°             |   |
| h   | °                                                  | '    | °       | '                                                                                                                                                                              | °                   | '                       | °                                                 | '       | °       | h                                                 | m                        | h    | m                                                | h              | m    | h              | m |
| 0   | 180                                                | 09.3 | +7 30.3 | 314                                                                                                                                                                            | 34.5                | +11 08.0                | 60 N                                              | 3 18    | 4 16    | 5 00                                              | 19 44                    | 2    | 11 00                                            | 92             |      |                |   |
| 1   | 195                                                | 09.6 | 29.4    | 329                                                                                                                                                                            | 07.6 <sup>141</sup> | 21.8 <sup>138</sup>     | 58                                                | 30      | 23      | 05                                                | 19 53                    | 7    | 10 51                                            | 87             |      |                |   |
| 2   | 210                                                | 09.8 | 28.5    | 343                                                                                                                                                                            | 40.6 <sup>140</sup> | 35.6 <sup>138</sup>     | 56                                                | 41      | 29      | 09                                                | 20 01                    | 11   | 44                                               | 83             |      |                |   |
| 3   | 225                                                | 10.0 | 27.6    | 358                                                                                                                                                                            | 13.6 <sup>140</sup> | +11 49.4 <sup>138</sup> | 54                                                | 50      | 35      | 12                                                | 09 13                    |      | 37                                               | 80             |      |                |   |
| 4   | 240                                                | 10.2 | 26.7    | 12                                                                                                                                                                             | 46.5 <sup>139</sup> | +12 03.0 <sup>136</sup> | 52                                                | 3 57    | 40      | 15                                                | 15 17                    |      | 32                                               | 77             |      |                |   |
| 5   | 255                                                | 10.4 | +7 25.8 | 27                                                                                                                                                                             | 19.5 <sup>140</sup> | +12 16.6 <sup>136</sup> | 50                                                | 4 04    | 4 45    | 5 18                                              | 20 22                    | 18   | 10 26                                            | 75             |      |                |   |
| 6   | 270                                                | 10.6 | +7 24.8 | 41                                                                                                                                                                             | 52.5 <sup>140</sup> | +12 30.2 <sup>136</sup> | 45                                                | 4 18    | 4 54    | 5 25                                              | 20 35                    | 23   | 10 15                                            | 69             |      |                |   |
| 7   | 285                                                | 10.8 | 23.9    | 56                                                                                                                                                                             | 25.4 <sup>139</sup> | 43.6 <sup>134</sup>     | 40                                                | 29      | 5 02    | 30                                                | 45 28                    |      | 10 05                                            | 66             |      |                |   |
| 8   | 300                                                | 11.0 | 23.0    | 70                                                                                                                                                                             | 58.3 <sup>139</sup> | +12 57.0 <sup>134</sup> | 35                                                | 38      | 08      | 34                                                | 20 55                    | 30   | 9 57                                             | 62             |      |                |   |
| 9   | 315                                                | 11.2 | 22.1    | 85                                                                                                                                                                             | 31.2 <sup>139</sup> | +13 10.3 <sup>133</sup> | 30                                                | 45      | 14      | 38                                                | 21 03                    | 33   | 50                                               | 59             |      |                |   |
| 10  | 330                                                | 11.4 | 21.2    | 100                                                                                                                                                                            | 04.1 <sup>139</sup> | 23.6 <sup>133</sup>     | 20                                                | 4 57    | 23      | 45                                                | 17 38                    |      | 38                                               | 54             |      |                |   |
| 11  | 345                                                | 11.6 | +7 20.2 | 114                                                                                                                                                                            | 36.9 <sup>138</sup> | +13 36.8 <sup>132</sup> | 10 N                                              | 5 05    | 5 29    | 5 51                                              | 21 30                    | 42   | 9 28                                             | 49             |      |                |   |
| 12  | 0                                                  | 11.8 | +7 19.3 | 129                                                                                                                                                                            | 09.8 <sup>139</sup> | +13 49.9 <sup>131</sup> | 0                                                 | 5 11    | 5 35    | 5 56                                              | 21 41                    | 46   | 9 18                                             | 45             |      |                |   |
| 13  | 15                                                 | 12.0 | 18.4    | 143                                                                                                                                                                            | 42.6 <sup>138</sup> | +14 02.9 <sup>130</sup> | 10 S                                              | 16      | 40      | 6 01                                              | 21 53                    | 50   | 9 08                                             | 42             |      |                |   |
| 14  | 30                                                 | 12.2 | 17.5    | 158                                                                                                                                                                            | 15.4 <sup>138</sup> | 15.9 <sup>130</sup>     | 20                                                | 19      | 44      | 07                                                | 22 06                    | 54   | 8 58                                             | 37             |      |                |   |
| 15  | 45                                                 | 12.4 | 16.6    | 172                                                                                                                                                                            | 48.2 <sup>138</sup> | 28.8 <sup>129</sup>     | 30                                                | 21      | 49      | 13                                                | 21 58                    |      | 46                                               | 32             |      |                |   |
| 16  | 60                                                 | 12.6 | 15.6    | 187                                                                                                                                                                            | 20.9 <sup>137</sup> | 41.6 <sup>128</sup>     | 35                                                | 21      | 51      | 16                                                | 29 62                    |      | 39                                               | 29             |      |                |   |
| 17  | 75                                                 | 12.8 | +7 14.7 | 201                                                                                                                                                                            | 53.6 <sup>137</sup> | +14 54.3 <sup>127</sup> | 40                                                | 5 21    | 5 53    | 6 20                                              | 22 39                    | 65   | 8 32                                             | 25             |      |                |   |
| 18  | 90                                                 | 13.0 | +7 13.8 | 216                                                                                                                                                                            | 26.3 <sup>137</sup> | +15 07.0 <sup>127</sup> | 45                                                | 5 21    | 5 55    | 6 24                                              | 22 51                    | 69   | 8 23                                             | 21             |      |                |   |
| 19  | 105                                                | 13.2 | 12.9    | 230                                                                                                                                                                            | 59.0 <sup>137</sup> | 19.5 <sup>125</sup>     | 50                                                | 20      | 57      | 30                                                | 23 05                    | 74   | 12                                               | 17             |      |                |   |
| 20  | 120                                                | 13.5 | 12.0    | 245                                                                                                                                                                            | 31.6 <sup>136</sup> | 32.0 <sup>125</sup>     | 52                                                | 19      | 58      | 32                                                | 12 76                    |      | 07                                               | 15             |      |                |   |
| 21  | 135                                                | 13.7 | 11.0    | 260                                                                                                                                                                            | 04.2 <sup>136</sup> | 44.4 <sup>124</sup>     | 54                                                | 18      | 5 59    | 35                                                | 19 80                    |      | 8 01                                             | 12             |      |                |   |
| 22  | 150                                                | 13.9 | 10.1    | 274                                                                                                                                                                            | 36.8 <sup>136</sup> | +15 56.8 <sup>124</sup> | 56                                                | 17      | 6 00    | 38                                                | 27 83                    |      | 7 55                                             | 9              |      |                |   |
| 23  | 165                                                | 14.1 | 09.2    | 289                                                                                                                                                                            | 09.4 <sup>136</sup> | +16 09.0 <sup>122</sup> | 58                                                | 16      | 01      | 41                                                | 37 87                    |      | 49                                               | 5              |      |                |   |
| 24  | 180                                                | 14.3 | +7 08.3 | 303                                                                                                                                                                            | 41.9 <sup>135</sup> | +16 21.2 <sup>122</sup> | 60 S                                              | 5 15    | 6 03    | 6 44                                              | 23 48                    | 92   | 7 41                                             | 2              |      |                |   |
| UT  | ARIES                                              |      |         | VENUS                                                                                                                                                                          |                     |                         | MARTE                                             |         |         | JÚPITER                                           |                          |      | SATURNO                                          |                |      |                |   |
|     | PMG 1 <sup>h</sup> 09 <sup>m</sup> 9               |      |         | Mag: -4.3<br>PMG: 9 <sup>h</sup> 00 <sup>m</sup>                                                                                                                               |                     |                         | Mag: +1.8<br>PMG: 12 <sup>h</sup> 16 <sup>m</sup> |         |         | Mag: -1.7<br>PMG: 12 <sup>h</sup> 53 <sup>m</sup> |                          |      | Mag: +0.2<br>PMG: 8 <sup>h</sup> 51 <sup>m</sup> |                |      |                |   |
|     | hG ♈                                               | hG ♀ | Dec     | hG ♂                                                                                                                                                                           | Dec                 | hG ♃                    | Dec                                               | hG ♅    | Dec     | hG ♄                                              | Dec                      |      |                                                  |                |      |                |   |
| h   | °                                                  | '    | °       | '                                                                                                                                                                              | °                   | '                       | °                                                 | '       | °       | '                                                 | °                        | '    | °                                                | '              | °    | '              |   |
| 0   | 342                                                | 27.9 | 225     | 02.3                                                                                                                                                                           | +19 03.9            | 175                     | 53.6                                              | +6 51.3 | 166     | 24.5                                              | +2 53.0                  | 227  | 00.8                                             | +21 11.2       |      |                |   |
| 1   | 357                                                | 30.4 | 240     | 02.0                                                                                                                                                                           | 03.6                | 190                     | 54.5                                              | 50.6    | 181     | 26.5                                              | 52.8                     | 242  | 03.0                                             | 11.1           |      |                |   |
| 2   | 12                                                 | 32.9 | 255     | 01.7                                                                                                                                                                           | 03.4                | 205                     | 55.5                                              | 50.0    | 196     | 28.5                                              | 52.6                     | 257  | 05.2                                             | 11.1           |      |                |   |
| 3   | 27                                                 | 35.3 | 270     | 01.4                                                                                                                                                                           | 03.1                | 220                     | 56.5                                              | 49.4    | 211     | 30.4                                              | 52.4                     | 272  | 07.4                                             | 11.0           |      |                |   |
| 4   | 42                                                 | 37.8 | 285     | 01.1                                                                                                                                                                           | 02.8                | 235                     | 57.5                                              | 48.7    | 226     | 32.4                                              | 52.2                     | 287  | 09.6                                             | 11.0           |      |                |   |
| 5   | 57                                                 | 40.3 | 300     | 00.8                                                                                                                                                                           | +19 02.5            | 250                     | 58.5                                              | +6 48.1 | 241     | 34.4                                              | +2 52.0                  | 302  | 11.8                                             | +21 11.0       |      |                |   |
| 6   | 72                                                 | 42.7 | 315     | 00.4                                                                                                                                                                           | +19 02.2            | 265                     | 59.5                                              | +6 47.5 | 256     | 36.4                                              | +2 51.8                  | 317  | 14.0                                             | +21 10.9       |      |                |   |
| 7   | 87                                                 | 45.2 | 330     | 00.1                                                                                                                                                                           | 01.9                | 281                     | 00.5                                              | 46.9    | 271     | 38.3                                              | 51.5                     | 332  | 16.2                                             | 10.9           |      |                |   |
| 8   | 102                                                | 47.6 | 344     | 59.8                                                                                                                                                                           | 01.6                | 296                     | 01.4                                              | 46.2    | 286     | 40.3                                              | 51.3                     | 347  | 18.4                                             | 10.8           |      |                |   |
| 9   | 117                                                | 50.1 | 359     | 59.5                                                                                                                                                                           | 01.3                | 311                     | 02.4                                              | 45.6    | 301     | 42.3                                              | 51.1                     | 2    | 20.6                                             | 10.8           |      |                |   |
| 10  | 132                                                | 52.6 | 14      | 59.2                                                                                                                                                                           | 01.0                | 326                     | 03.4                                              | 45.0    | 316     | 44.3                                              | 50.9                     | 17   | 22.8                                             | 10.8           |      |                |   |
| 11  | 147                                                | 55.0 | 29      | 58.8                                                                                                                                                                           | +19 00.7            | 341                     | 04.4                                              | +6 44.4 | 331     | 46.2                                              | +2 50.7                  | 32   | 25.0                                             | +21 10.7       |      |                |   |
| 12  | 162                                                | 57.5 | 44      | 58.5                                                                                                                                                                           | +19 00.4            | 356                     | 05.4                                              | +6 43.7 | 346     | 48.2                                              | +2 50.5                  | 47   | 27.2                                             | +21 10.7       |      |                |   |
| 13  | 178                                                | 00.0 | 59      | 58.2                                                                                                                                                                           | +19 00.1            | 11                      | 06.4                                              | 43.1    | 1       | 50.2                                              | 50.3                     | 62   | 29.4                                             | 10.6           |      |                |   |
| 14  | 193                                                | 02.4 | 74      | 57.9                                                                                                                                                                           | +18 59.8            | 26                      | 07.4                                              | 42.5    | 16      | 52.2                                              | 50.1                     | 77   | 31.6                                             | 10.6           |      |                |   |
| 15  | 208                                                | 04.9 | 89      | 57.6                                                                                                                                                                           | 59.5                | 41                      | 08.4                                              | 41.8    | 31      | 54.2                                              | 49.9                     | 92   | 33.7                                             | 10.6           |      |                |   |
| 16  | 223                                                | 07.4 | 104     | 57.3                                                                                                                                                                           | 59.2                | 56                      | 09.3                                              | 41.2    | 46      | 56.1                                              | 49.6                     | 107  | 35.9                                             | 10.5           |      |                |   |
| 17  | 238                                                | 09.8 | 119     | 56.9                                                                                                                                                                           | +18 58.9            | 71                      | 10.3                                              | +6 40.6 | 61      | 58.1                                              | +2 49.4                  | 122  | 38.1                                             | +21 10.5       |      |                |   |
| 18  | 253                                                | 12.3 | 134     | 56.6                                                                                                                                                                           | +18 58.6            | 86                      | 11.3                                              | +6 40.0 | 77      | 00.1                                              | +2 49.2                  | 137  | 40.3                                             | +21 10.4       |      |                |   |
| 19  | 268                                                | 14.7 | 149     | 56.3                                                                                                                                                                           | 58.3                | 101                     | 12.3                                              | 39.3    | 92      | 02.1                                              | 49.0                     | 152  | 42.5                                             | 10.4           |      |                |   |
| 20  | 283                                                | 17.2 | 164     | 56.0                                                                                                                                                                           | 58.0                | 116                     | 13.3                                              | 38.7    | 107     | 04.0                                              | 48.8                     | 167  | 44.7                                             | 10.4           |      |                |   |
| 21  | 298                                                | 19.7 | 179     | 55.6                                                                                                                                                                           | 57.7                | 131                     | 14.3                                              | 38.1    | 122     | 06.0                                              | 48.6                     | 182  | 46.9                                             | 10.3           |      |                |   |
| 22  | 313                                                | 22.1 | 194     | 55.3                                                                                                                                                                           | 57.4                | 146                     | 15.3                                              | 37.4    | 137     | 08.0                                              | 48.4                     | 197  | 49.1                                             | 10.3           |      |                |   |
| 23  | 328                                                | 24.6 | 209     | 55.0                                                                                                                                                                           | 57.1                | 161                     | 16.3                                              | 36.8    | 152     | 10.0                                              | 48.2                     | 212  | 51.3                                             | 10.2           |      |                |   |
| 24  | 343                                                | 27.1 | 224     | 54.7                                                                                                                                                                           | +18 56.8            | 176                     | 17.2                                              | +6 36.2 | 167     | 11.9                                              | +2 47.9                  | 227  | 53.5                                             | +21 10.2       |      |                |   |
| Dif | —                                                  |      |         | -3 -3                                                                                                                                                                          |                     |                         | +10 -6                                            |         |         | +20 -2                                            |                          |      | +22 0                                            |                |      |                |   |

| UT | SOL                                                |      |         | ☾ LUNA                                                                                                                                                                         |                     |                         | Latitud | Puesta de Sol | Final del crepúsculo |       |          | Salida de Luna |       | Puesta de Luna |     |   |
|----|----------------------------------------------------|------|---------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|---------------|----------------------|-------|----------|----------------|-------|----------------|-----|---|
|    | SD: 15°9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 9 |      |         | Edad: 18 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 55°5<br>12 <sup>h</sup> : 55°3<br>20 <sup>h</sup> : 55°1<br>SD: 15°2<br>PMG: 3 <sup>h</sup> 52 <sup>m</sup> R°: 47 <sup>m</sup> |                     |                         |         |               |                      |       |          |                |       |                |     |   |
|    | hG ☉                                               | Dec  |         | hG ☾                                                                                                                                                                           | Dif                 | Dec                     |         |               | Dif                  | Civil | Náutico  | Hora           | R°    | Hora           | R°  |   |
| h  | °                                                  | '    | °       | '                                                                                                                                                                              | °                   | '                       | °       | h m           | h m                  | h m   | h m      | m              | h m   | m              | h m | m |
| 0  | 180                                                | 14.3 | +7 08.3 | 303                                                                                                                                                                            | 41.9                | +16 21.2                | 60 N    | 18 54         | 19 38                | 20 34 | 19 46    | 5              | 12 32 | 92             |     |   |
| 1  | 195                                                | 14.5 | 07.3    | 318                                                                                                                                                                            | 14.4 <sup>135</sup> | 33.3 <sup>121</sup>     | 58      | 50            | 31                   | 22    | 20 00    | 11             | 18    | 87             |     |   |
| 2  | 210                                                | 14.7 | 06.4    | 332                                                                                                                                                                            | 46.9 <sup>135</sup> | 45.3 <sup>120</sup>     | 56      | 46            | 25                   | 13    | 12 15    |                | 12 07 | 82             |     |   |
| 3  | 225                                                | 14.9 | 05.5    | 347                                                                                                                                                                            | 19.3 <sup>134</sup> | +16 57.2 <sup>119</sup> | 54      | 43            | 19                   | 20 04 | 22       | 19             | 11 57 | 79             |     |   |
| 4  | 240                                                | 15.1 | 04.6    | 1                                                                                                                                                                              | 51.7 <sup>134</sup> | +17 09.0 <sup>118</sup> | 52      | 40            | 15                   | 19 57 | 32       | 21             | 49    | 75             |     |   |
| 5  | 255                                                | 15.3 | +7 03.6 | 16                                                                                                                                                                             | 24.0 <sup>133</sup> | +17 20.8 <sup>118</sup> | 50      | 18 37         | 19 10                | 19 51 | 20 40    | 24             | 11 41 | 73             |     |   |
| 6  | 270                                                | 15.5 | +7 02.7 | 30                                                                                                                                                                             | 56.4 <sup>134</sup> | +17 32.4 <sup>116</sup> | 45      | 18 31         | 19 01                | 19 37 | 20 58    | 28             | 11 24 | 68             |     |   |
| 7  | 285                                                | 15.7 | 01.8    | 45                                                                                                                                                                             | 28.7 <sup>133</sup> | 44.0 <sup>116</sup>     | 40      | 26            | 18 54                | 27    | 21 13    | 32             | 11 11 | 64             |     |   |
| 8  | 300                                                | 15.9 | +7 00.9 | 60                                                                                                                                                                             | 00.9 <sup>132</sup> | +17 55.5 <sup>115</sup> | 35      | 22            | 48                   | 18    | 25 35    |                | 10 59 | 61             |     |   |
| 9  | 315                                                | 16.1 | +7 00.0 | 74                                                                                                                                                                             | 33.2 <sup>133</sup> | +18 06.9 <sup>114</sup> | 30      | 19            | 43                   | 11    | 36 37    |                | 49    | 59             |     |   |
| 10 | 330                                                | 16.4 | +6 59.0 | 89                                                                                                                                                                             | 05.4 <sup>132</sup> | 18.2 <sup>113</sup>     | 20      | 12            | 35                   | 19 01 | 21 55    | 41             | 32    | 54             |     |   |
| 11 | 345                                                | 16.6 | +6 58.1 | 103                                                                                                                                                                            | 37.5 <sup>131</sup> | +18 29.4 <sup>112</sup> | 10 N    | 18 07         | 18 28                | 18 53 | 22 12    | 44             | 10 17 | 50             |     |   |
| 12 | 0                                                  | 16.8 | +6 57.2 | 118                                                                                                                                                                            | 09.6 <sup>131</sup> | +18 40.5 <sup>111</sup> | 0       | 18 02         | 18 23                | 18 47 | 22 27    | 48             | 10 03 | 47             |     |   |
| 13 | 15                                                 | 17.0 | 56.3    | 132                                                                                                                                                                            | 41.7 <sup>131</sup> | +18 51.6 <sup>111</sup> | 10 S    | 17 57         | 18                   | 43    | 22 43    | 51             | 9 50  | 43             |     |   |
| 14 | 30                                                 | 17.2 | 55.3    | 147                                                                                                                                                                            | 13.8 <sup>131</sup> | +19 02.5 <sup>109</sup> | 20      | 52            | 14                   | 40    | 23 00    | 54             | 35    | 39             |     |   |
| 15 | 45                                                 | 17.4 | 54.4    | 161                                                                                                                                                                            | 45.8 <sup>130</sup> | 13.3 <sup>108</sup>     | 30      | 47            | 11                   | 39    | 19 59    |                | 18    | 35             |     |   |
| 16 | 60                                                 | 17.6 | 53.5    | 176                                                                                                                                                                            | 17.8 <sup>130</sup> | 24.1 <sup>108</sup>     | 35      | 44            | 09                   | 38    | 31 60    |                | 9 08  | 33             |     |   |
| 17 | 75                                                 | 17.8 | +6 52.6 | 190                                                                                                                                                                            | 49.7 <sup>129</sup> | +19 34.8 <sup>107</sup> | 40      | 17 40         | 18 07                | 18 39 | 23 44    | 63             | 8 57  | 30             |     |   |
| 18 | 90                                                 | 18.0 | +6 51.6 | 205                                                                                                                                                                            | 21.6 <sup>129</sup> | +19 45.3 <sup>105</sup> | 45      | 17 36         | 18 05                | 18 39 | *** ** * |                | 8 44  | 26             |     |   |
| 19 | 105                                                | 18.2 | 50.7    | 219                                                                                                                                                                            | 53.4 <sup>128</sup> | +19 55.8 <sup>105</sup> | 50      | 31            | 03                   | 41    | *** ** * |                | 29    | 21             |     |   |
| 20 | 120                                                | 18.4 | 49.8    | 234                                                                                                                                                                            | 25.2 <sup>128</sup> | +20 06.2 <sup>104</sup> | 52      | 29            | 03                   | 42    | *** ** * |                | 22    | 18             |     |   |
| 21 | 135                                                | 18.6 | 48.8    | 248                                                                                                                                                                            | 57.0 <sup>128</sup> | 16.4 <sup>102</sup>     | 54      | 26            | 02                   | 43    | *** ** * |                | 13    | 16             |     |   |
| 22 | 150                                                | 18.9 | 47.9    | 263                                                                                                                                                                            | 28.7 <sup>127</sup> | 26.6 <sup>102</sup>     | 56      | 24            | 01                   | 44    | *** ** * |                | 8 04  | 13             |     |   |
| 23 | 165                                                | 19.1 | 47.0    | 278                                                                                                                                                                            | 00.4 <sup>127</sup> | 36.7 <sup>101</sup>     | 58      | 21            | 18 00                | 46    | *** ** * |                | 7 54  | 8              |     |   |
| 24 | 180                                                | 19.3 | +6 46.1 | 292                                                                                                                                                                            | 32.1 <sup>127</sup> | +20 46.7 <sup>100</sup> | 60 S    | 17 17         | 17 59                | 18 47 | *** ** * |                | 7 43  | 3              |     |   |

| UT  | ARIES                                 |      | VENUS                                            |      |          | MARTE                                             |      |         | JÚPITER                                           |      |         | SATURNO                                          |      |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|----------|---------------------------------------------------|------|---------|---------------------------------------------------|------|---------|--------------------------------------------------|------|----------|
|     | PMG: 1 <sup>h</sup> 06 <sup>m</sup> 0 |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 01 <sup>m</sup> |      |          | Mag: +1.8<br>PMG: 12 <sup>h</sup> 14 <sup>m</sup> |      |         | Mag: -1.7<br>PMG: 12 <sup>h</sup> 50 <sup>m</sup> |      |         | Mag: +0.2<br>PMG: 8 <sup>h</sup> 47 <sup>m</sup> |      |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  |          | hG ♂                                              | Dec  |         | hG ♃                                              | Dec  |         | hG ♄                                             | Dec  |          |
| h   | °                                     | '    | °                                                | '    | °        | '                                                 | °    | '       | °                                                 | '    | °       | '                                                | °    | '        |
| 0   | 343                                   | 27.1 | 224                                              | 54.7 | +18 56.8 | 176                                               | 17.2 | +6 36.2 | 167                                               | 11.9 | +2 47.9 | 227                                              | 53.5 | +21 10.2 |
| 1   | 358                                   | 29.5 | 239                                              | 54.4 | 56.5     | 191                                               | 18.2 | 35.5    | 182                                               | 13.9 | 47.7    | 242                                              | 55.7 | 10.2     |
| 2   | 13                                    | 32.0 | 254                                              | 54.0 | 56.2     | 206                                               | 19.2 | 34.9    | 197                                               | 15.9 | 47.5    | 257                                              | 57.9 | 10.1     |
| 3   | 28                                    | 34.5 | 269                                              | 53.7 | 55.9     | 221                                               | 20.2 | 34.3    | 212                                               | 17.9 | 47.3    | 273                                              | 00.1 | 10.1     |
| 4   | 43                                    | 36.9 | 284                                              | 53.4 | 55.6     | 236                                               | 21.2 | 33.7    | 227                                               | 19.8 | 47.1    | 288                                              | 02.3 | 10.0     |
| 5   | 58                                    | 39.4 | 299                                              | 53.1 | +18 55.3 | 251                                               | 22.2 | +6 33.0 | 242                                               | 21.8 | +2 46.9 | 303                                              | 04.5 | +21 10.0 |
| 6   | 73                                    | 41.9 | 314                                              | 52.7 | +18 55.0 | 266                                               | 23.2 | +6 32.4 | 257                                               | 23.8 | +2 46.7 | 318                                              | 06.7 | +21 10.0 |
| 7   | 88                                    | 44.3 | 329                                              | 52.4 | 54.6     | 281                                               | 24.1 | 31.8    | 272                                               | 25.8 | 46.5    | 333                                              | 08.9 | 09.9     |
| 8   | 103                                   | 46.8 | 344                                              | 52.1 | 54.3     | 296                                               | 25.1 | 31.1    | 287                                               | 27.7 | 46.3    | 348                                              | 11.1 | 09.9     |
| 9   | 118                                   | 49.2 | 359                                              | 51.8 | 54.0     | 311                                               | 26.1 | 30.5    | 302                                               | 29.7 | 46.0    | 3                                                | 13.3 | 09.8     |
| 10  | 133                                   | 51.7 | 14                                               | 51.4 | 53.7     | 326                                               | 27.1 | 29.9    | 317                                               | 31.7 | 45.8    | 18                                               | 15.5 | 09.8     |
| 11  | 148                                   | 54.2 | 29                                               | 51.1 | +18 53.4 | 341                                               | 28.1 | +6 29.2 | 332                                               | 33.7 | +2 45.6 | 33                                               | 17.7 | +21 09.8 |
| 12  | 163                                   | 56.6 | 44                                               | 50.8 | +18 53.1 | 356                                               | 29.1 | +6 28.6 | 347                                               | 35.6 | +2 45.4 | 48                                               | 19.9 | +21 09.7 |
| 13  | 178                                   | 59.1 | 59                                               | 50.5 | 52.8     | 11                                                | 30.1 | 28.0    | 2                                                 | 37.6 | 45.2    | 63                                               | 22.1 | 09.7     |
| 14  | 194                                   | 01.6 | 74                                               | 50.1 | 52.4     | 26                                                | 31.1 | 27.4    | 17                                                | 39.6 | 45.0    | 78                                               | 24.3 | 09.6     |
| 15  | 209                                   | 04.0 | 89                                               | 49.8 | 52.1     | 41                                                | 32.0 | 26.7    | 32                                                | 41.6 | 44.8    | 93                                               | 26.5 | 09.6     |
| 16  | 224                                   | 06.5 | 104                                              | 49.5 | 51.8     | 56                                                | 33.0 | 26.1    | 47                                                | 43.5 | 44.6    | 108                                              | 28.7 | 09.6     |
| 17  | 239                                   | 09.0 | 119                                              | 49.1 | +18 51.5 | 71                                                | 34.0 | +6 25.5 | 62                                                | 45.5 | +2 44.3 | 123                                              | 30.9 | +21 09.5 |
| 18  | 254                                   | 11.4 | 134                                              | 48.8 | +18 51.2 | 86                                                | 35.0 | +6 24.8 | 77                                                | 47.5 | +2 44.1 | 138                                              | 33.1 | +21 09.5 |
| 19  | 269                                   | 13.9 | 149                                              | 48.5 | 50.8     | 101                                               | 36.0 | 24.2    | 92                                                | 49.5 | 43.9    | 153                                              | 35.3 | 09.4     |
| 20  | 284                                   | 16.4 | 164                                              | 48.2 | 50.5     | 116                                               | 37.0 | 23.6    | 107                                               | 51.4 | 43.7    | 168                                              | 37.5 | 09.4     |
| 21  | 299                                   | 18.8 | 179                                              | 47.8 | 50.2     | 131                                               | 38.0 | 22.9    | 122                                               | 53.4 | 43.5    | 183                                              | 39.7 | 09.4     |
| 22  | 314                                   | 21.3 | 194                                              | 47.5 | 49.9     | 146                                               | 39.0 | 22.3    | 137                                               | 55.4 | 43.3    | 198                                              | 41.9 | 09.3     |
| 23  | 329                                   | 23.7 | 209                                              | 47.2 | 49.5     | 161                                               | 39.9 | 21.7    | 152                                               | 57.4 | 43.1    | 213                                              | 44.1 | 09.3     |
| 24  | 344                                   | 26.2 | 224                                              | 46.8 | +18 49.2 | 176                                               | 40.9 | +6 21.0 | 167                                               | 59.3 | +2 42.9 | 228                                              | 46.3 | +21 09.2 |
| Dif | —                                     |      | -3                                               | -3   |          | +10                                               | -6   |         | +20                                               | -2   |         | +22                                              |      |          |

| UT | SOL                                                |      |    | LUNA                                                                                                                                                                              |     |                     | Latitud                | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |         | Puesta de Luna |       |       |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|------------------------|--------------------------|---------|---------------|----------------|---------|----------------|-------|-------|
|    | SD: 15'9<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 5 |      |    | Edad: 19 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 55'0<br>12 <sup>h</sup> : 54'8<br>20 <sup>h</sup> : 54'7<br>SD: 15'0<br>PMG: 4 <sup>h</sup> 39 <sup>m</sup> R°: 48 <sup>m</sup> |     |                     |                        |                          |         |               |                |         |                |       |       |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                              | Dif | Dec                 |                        | Dif                      | Náutico |               | Civil          | Hora    | R°             | Hora  | R°    |
| h  | °                                                  | '    | °  | '                                                                                                                                                                                 | °   | '                   | °                      | h                        | m       | h             | m              | h       | m              | h     | m     |
| 0  | 180                                                | 19.3 | +6 | 46.1                                                                                                                                                                              | 292 | 32.1                | +20 46.7               | 60 N                     | 3 25    | 4 21          | 5 05           | 19 51   | 11             | 14    | 04 91 |
| 1  | 195                                                | 19.5 |    | 45.1                                                                                                                                                                              | 307 | 03.7 <sup>126</sup> | +20 56.5 <sup>98</sup> | 58                       | 36      | 28            | 09             | 20 11   | 18             | 13 45 | 83    |
| 2  | 210                                                | 19.7 |    | 44.2                                                                                                                                                                              | 321 | 35.2 <sup>125</sup> | +21 06.3 <sup>97</sup> | 56                       | 46      | 34            | 12             | 27 22   |                | 29 79 |       |
| 3  | 225                                                | 19.9 |    | 43.3                                                                                                                                                                              | 336 | 06.8 <sup>126</sup> | 16.0 <sup>98</sup>     | 54                       | 3 54    | 39            | 16             | 41 26   |                | 16 75 |       |
| 4  | 240                                                | 20.1 |    | 42.4                                                                                                                                                                              | 350 | 38.2 <sup>124</sup> | 25.6 <sup>96</sup>     | 52                       | 4 01    | 44            | 19             | 20 53   | 29             | 13 04 | 72    |
| 5  | 255                                                | 20.3 | +6 | 41.4                                                                                                                                                                              | 5   | 09.7 <sup>125</sup> | +21 35.0 <sup>94</sup> | 50                       | 4 08    | 4 48          | 5 21           | 21 04   | 31             | 12 54 | 70    |
| 6  | 270                                                | 20.5 | +6 | 40.5                                                                                                                                                                              | 19  | 41.1 <sup>124</sup> | +21 44.4 <sup>94</sup> | 45                       | 4 21    | 4 57          | 5 27           | 21 26   | 35             | 12 32 | 66    |
| 7  | 285                                                | 20.7 |    | 39.6                                                                                                                                                                              | 34  | 12.4 <sup>123</sup> | +21 53.7 <sup>93</sup> | 40                       | 31      | 5 04          | 32             | 21 45   | 37             | 15 62 |       |
| 8  | 300                                                | 21.0 |    | 38.6                                                                                                                                                                              | 48  | 43.7 <sup>123</sup> | +22 02.8 <sup>91</sup> | 35                       | 40      | 10            | 36             | 22 00   | 40             | 12 00 | 60    |
| 9  | 315                                                | 21.2 |    | 37.7                                                                                                                                                                              | 63  | 15.0 <sup>123</sup> | 11.9 <sup>91</sup>     | 30                       | 47      | 15            | 39             | 13 42   |                | 11 48 | 57    |
| 10 | 330                                                | 21.4 |    | 36.8                                                                                                                                                                              | 77  | 46.2 <sup>122</sup> | 20.8 <sup>89</sup>     | 20                       | 4 57    | 23            | 45             | 36 45   |                | 26 54 |       |
| 11 | 345                                                | 21.6 | +6 | 35.9                                                                                                                                                                              | 92  | 17.4 <sup>122</sup> | +22 29.7 <sup>89</sup> | 10 N                     | 5 05    | 5 29          | 5 50           | 22 56   | 48             | 11 07 | 52    |
| 12 | 0                                                  | 21.8 | +6 | 34.9                                                                                                                                                                              | 106 | 48.5 <sup>121</sup> | +22 38.4 <sup>87</sup> | 0                        | 5 10    | 5 34          | 5 55           | 23 15   | 49             | 10 50 | 49    |
| 13 | 15                                                 | 22.0 |    | 34.0                                                                                                                                                                              | 121 | 19.6 <sup>121</sup> | 47.0 <sup>86</sup>     | 10 S                     | 14      | 39            | 6 00           | 34 52   |                | 33 46 |       |
| 14 | 30                                                 | 22.2 |    | 33.1                                                                                                                                                                              | 135 | 50.7 <sup>121</sup> | +22 55.5 <sup>85</sup> | 20                       | 17      | 43            | 05             | 23 54   | 54             | 10 14 | 43    |
| 15 | 45                                                 | 22.4 |    | 32.1                                                                                                                                                                              | 150 | 21.7 <sup>120</sup> | +23 04.0 <sup>85</sup> | 30                       | 19      | 46            | 10             | ** ** * | **             | 9 53  | 40    |
| 16 | 60                                                 | 22.6 |    | 31.2                                                                                                                                                                              | 164 | 52.6 <sup>119</sup> | 12.3 <sup>83</sup>     | 35                       | 19      | 48            | 13             | ** ** * | **             | 41 37 |       |
| 17 | 75                                                 | 22.8 | +6 | 30.3                                                                                                                                                                              | 179 | 23.5 <sup>119</sup> | +23 20.4 <sup>81</sup> | 40                       | 5 18    | 5 50          | 6 17           | ** ** * | **             | 9 27  | 34    |
| 18 | 90                                                 | 23.1 | +6 | 29.3                                                                                                                                                                              | 193 | 54.4 <sup>119</sup> | +23 28.5 <sup>81</sup> | 45                       | 5 17    | 5 51          | 6 21           | 0 00    | 67             | 9 10  | 31    |
| 19 | 105                                                | 23.3 |    | 28.4                                                                                                                                                                              | 208 | 25.2 <sup>118</sup> | 36.5 <sup>80</sup>     | 50                       | 16      | 53            | 25             | 19 72   |                | 8 50  | 26    |
| 20 | 120                                                | 23.5 |    | 27.5                                                                                                                                                                              | 222 | 56.0 <sup>118</sup> | 44.3 <sup>78</sup>     | 52                       | 15      | 54            | 28             | 28 75   |                | 40 24 |       |
| 21 | 135                                                | 23.7 |    | 26.6                                                                                                                                                                              | 237 | 26.8 <sup>118</sup> | 52.1 <sup>78</sup>     | 54                       | 14      | 55            | 30             | 39 77   |                | 29 22 |       |
| 22 | 150                                                | 23.9 |    | 25.6                                                                                                                                                                              | 251 | 57.5 <sup>117</sup> | +23 59.7 <sup>76</sup> | 56                       | 12      | 55            | 32             | 0 50    | 81             | 17 18 |       |
| 23 | 165                                                | 24.1 |    | 24.7                                                                                                                                                                              | 266 | 28.1 <sup>116</sup> | +24 07.2 <sup>75</sup> | 58                       | 11      | 56            | 35             | 1 04    | 86             | 8 02  | 14    |
| 24 | 180                                                | 24.3 | +6 | 23.8                                                                                                                                                                              | 280 | 58.7 <sup>116</sup> | +24 14.6 <sup>74</sup> | 60 S                     | 5 09    | 5 57          | 6 38           | 1 20    | 93             | 7 46  | 7     |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |  |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|--|
|     | PMG: 1 <sup>h</sup> 02 <sup>m</sup> 1 |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 01 <sup>m</sup> |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> |      | Mag: -1.7<br>PMG: 12 <sup>h</sup> 46 <sup>m</sup> |      | Mag: +0.2<br>PMG: 8 <sup>h</sup> 44 <sup>m</sup> |      |     |      |    |      |     |      |     |      |  |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |  |
| 0   | 344                                   | 26.2 | 224                                              | 46.8 | +18                                               | 49.2 | 176                                               | 40.9 | +6                                               | 21.0 | 167 | 59.3 | +2 | 42.9 | 228 | 46.3 | +21 | 09.2 |  |
| 1   | 359                                   | 28.7 | 239                                              | 46.5 |                                                   | 48.9 | 191                                               | 41.9 |                                                  | 20.4 | 183 | 01.3 |    | 42.7 | 243 | 48.5 |     | 09.2 |  |
| 2   | 14                                    | 31.1 | 254                                              | 46.2 |                                                   | 48.5 | 206                                               | 42.9 |                                                  | 19.8 | 198 | 03.3 |    | 42.4 | 258 | 50.7 |     | 09.2 |  |
| 3   | 29                                    | 33.6 | 269                                              | 45.8 |                                                   | 48.2 | 221                                               | 43.9 |                                                  | 19.2 | 213 | 05.3 |    | 42.2 | 273 | 52.9 |     | 09.1 |  |
| 4   | 44                                    | 36.1 | 284                                              | 45.5 |                                                   | 47.9 | 236                                               | 44.9 |                                                  | 18.5 | 228 | 07.2 |    | 42.0 | 288 | 55.1 |     | 09.1 |  |
| 5   | 59                                    | 38.5 | 299                                              | 45.2 | +18                                               | 47.6 | 251                                               | 45.9 | +6                                               | 17.9 | 243 | 09.2 | +2 | 41.8 | 303 | 57.3 | +21 | 09.0 |  |
| 6   | 74                                    | 41.0 | 314                                              | 44.9 | +18                                               | 47.2 | 266                                               | 46.9 | +6                                               | 17.3 | 258 | 11.2 | +2 | 41.6 | 318 | 59.5 | +21 | 09.0 |  |
| 7   | 89                                    | 43.5 | 329                                              | 44.5 |                                                   | 46.9 | 281                                               | 47.9 |                                                  | 16.6 | 273 | 13.2 |    | 41.4 | 334 | 01.7 |     | 09.0 |  |
| 8   | 104                                   | 45.9 | 344                                              | 44.2 |                                                   | 46.6 | 296                                               | 48.8 |                                                  | 16.0 | 288 | 15.1 |    | 41.2 | 349 | 03.9 |     | 08.9 |  |
| 9   | 119                                   | 48.4 | 359                                              | 43.9 |                                                   | 46.2 | 311                                               | 49.8 |                                                  | 15.4 | 303 | 17.1 |    | 41.0 | 4   | 06.1 |     | 08.9 |  |
| 10  | 134                                   | 50.8 | 14                                               | 43.5 |                                                   | 45.9 | 326                                               | 50.8 |                                                  | 14.7 | 318 | 19.1 |    | 40.7 | 19  | 08.3 |     | 08.8 |  |
| 11  | 149                                   | 53.3 | 29                                               | 43.2 | +18                                               | 45.6 | 341                                               | 51.8 | +6                                               | 14.1 | 333 | 21.1 | +2 | 40.5 | 34  | 10.5 | +21 | 08.8 |  |
| 12  | 164                                   | 55.8 | 44                                               | 42.9 | +18                                               | 45.2 | 356                                               | 52.8 | +6                                               | 13.5 | 348 | 23.0 | +2 | 40.3 | 49  | 12.7 | +21 | 08.8 |  |
| 13  | 179                                   | 58.2 | 59                                               | 42.5 |                                                   | 44.9 | 11                                                | 53.8 |                                                  | 12.8 | 3   | 25.0 |    | 40.1 | 64  | 14.9 |     | 08.7 |  |
| 14  | 195                                   | 00.7 | 74                                               | 42.2 |                                                   | 44.5 | 26                                                | 54.8 |                                                  | 12.2 | 18  | 27.0 |    | 39.9 | 79  | 17.1 |     | 08.7 |  |
| 15  | 210                                   | 03.2 | 89                                               | 41.9 |                                                   | 44.2 | 41                                                | 55.8 |                                                  | 11.6 | 33  | 29.0 |    | 39.7 | 94  | 19.3 |     | 08.6 |  |
| 16  | 225                                   | 05.6 | 104                                              | 41.5 |                                                   | 43.9 | 56                                                | 56.7 |                                                  | 10.9 | 48  | 30.9 |    | 39.5 | 109 | 21.5 |     | 08.6 |  |
| 17  | 240                                   | 08.1 | 119                                              | 41.2 | +18                                               | 43.5 | 71                                                | 57.7 | +6                                               | 10.3 | 63  | 32.9 | +2 | 39.3 | 124 | 23.7 | +21 | 08.6 |  |
| 18  | 255                                   | 10.6 | 134                                              | 40.8 | +18                                               | 43.2 | 86                                                | 58.7 | +6                                               | 09.7 | 78  | 34.9 | +2 | 39.0 | 139 | 25.9 | +21 | 08.5 |  |
| 19  | 270                                   | 13.0 | 149                                              | 40.5 |                                                   | 42.8 | 101                                               | 59.7 |                                                  | 09.0 | 93  | 36.9 |    | 38.8 | 154 | 28.1 |     | 08.5 |  |
| 20  | 285                                   | 15.5 | 164                                              | 40.2 |                                                   | 42.5 | 117                                               | 00.7 |                                                  | 08.4 | 108 | 38.8 |    | 38.6 | 169 | 30.3 |     | 08.4 |  |
| 21  | 300                                   | 18.0 | 179                                              | 39.8 |                                                   | 42.1 | 132                                               | 01.7 |                                                  | 07.8 | 123 | 40.8 |    | 38.4 | 184 | 32.5 |     | 08.4 |  |
| 22  | 315                                   | 20.4 | 194                                              | 39.5 |                                                   | 41.8 | 147                                               | 02.7 |                                                  | 07.1 | 138 | 42.8 |    | 38.2 | 199 | 34.7 |     | 08.4 |  |
| 23  | 330                                   | 22.9 | 209                                              | 39.2 |                                                   | 41.4 | 162                                               | 03.7 |                                                  | 06.5 | 153 | 44.8 |    | 38.0 | 214 | 36.9 |     | 08.3 |  |
| 24  | 345                                   | 25.3 | 224                                              | 38.8 | +18                                               | 41.1 | 177                                               | 04.7 | +6                                               | 05.9 | 168 | 46.7 | +2 | 37.8 | 229 | 39.1 | +21 | 08.3 |  |
| Dif | —                                     |      | -3                                               | -3   |                                                   |      | +10                                               | -6   |                                                  |      | +20 | -2   |    |      | +22 |      |     |      |  |

| UT | SOL                                    |      |         | ☾ LUNA                  |                                                                                                                              |                      | Latitud | Puesta de Sol | Final del crepúsculo |       |                | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------|------|---------|-------------------------|------------------------------------------------------------------------------------------------------------------------------|----------------------|---------|---------------|----------------------|-------|----------------|----------------|----------|----------------|-------|
|    | SD: 15 <sup>h</sup> 9                  |      |         | Edad: 20 <sup>d</sup> 9 | PHE {<br>4 <sup>h</sup> : 54 <sup>h</sup> /5<br>12 <sup>h</sup> : 54 <sup>h</sup> /4<br>20 <sup>h</sup> : 54 <sup>h</sup> /4 | Final del crepúsculo |         |               | Salida de Luna       |       | Puesta de Luna |                |          |                |       |
|    | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 2 |      |         |                         |                                                                                                                              | R°: 50 <sup>m</sup>  |         |               |                      |       |                |                |          |                |       |
|    | hG ☉                                   | Dec  |         | hG ☾                    | Dif                                                                                                                          | Dec                  | Dif     |               |                      | Civil | Náutico        | Hora           | R°       | Hora           | R°    |
| h  | °                                      | '    | °       | °                       | '                                                                                                                            | °                    | '       | °             | h m                  | h m   | h m            | h m m          | h m m    | h m m          | h m m |
| 0  | 180                                    | 24.3 | +6 23.8 | 280                     | 58.7                                                                                                                         | +24 14.6             | 73      | 60 N          | 18 48                | 19 31 | 20 26          | 20 02 25       | 15 35 80 |                |       |
| 1  | 195                                    | 24.5 | 22.8    | 295                     | 29.3 <sup>116</sup>                                                                                                          | 21.9                 | 73      | 58            | 44                   | 25    | 16             | 29 31          | 15 08 74 |                |       |
| 2  | 210                                    | 24.7 | 21.9    | 309                     | 59.8 <sup>115</sup>                                                                                                          | 29.1                 | 72      | 56            | 41                   | 19    | 20 07          | 20 49 35       | 14 48 70 |                |       |
| 3  | 225                                    | 25.0 | 21.0    | 324                     | 30.3 <sup>115</sup>                                                                                                          | 36.2                 | 71      | 54            | 38                   | 14    | 19 59          | 21 07 37       | 31 67    |                |       |
| 4  | 240                                    | 25.2 | 20.0    | 339                     | 00.7 <sup>114</sup>                                                                                                          | 43.1                 | 69      | 52            | 35                   | 10    | 52             | 22 39          | 16 65    |                |       |
| 5  | 255                                    | 25.4 | +6 19.1 | 353                     | 31.1 <sup>114</sup>                                                                                                          | +24 49.9             | 68      | 50            | 18 33                | 19 06 | 19 46          | 21 35 40       | 14 04 63 |                |       |
| 6  | 270                                    | 25.6 | +6 18.2 | 8                       | 01.5 <sup>114</sup>                                                                                                          | +24 56.6             | 67      | 45            | 18 27                | 18 57 | 19 33          | 22 01 43       | 13 38 60 |                |       |
| 7  | 285                                    | 25.8 | 17.2    | 22                      | 31.8 <sup>113</sup>                                                                                                          | +25 03.2             | 66      | 40            | 23                   | 51    | 23             | 22 45          | 17 59    |                |       |
| 8  | 300                                    | 26.0 | 16.3    | 37                      | 02.1 <sup>113</sup>                                                                                                          | 09.7                 | 65      | 35            | 19                   | 45    | 15             | 40 46          | 13 00 57 |                |       |
| 9  | 315                                    | 26.2 | 15.4    | 51                      | 32.3 <sup>112</sup>                                                                                                          | 16.0                 | 63      | 30            | 16                   | 40    | 19 09          | 22 55 47       | 12 45 56 |                |       |
| 10 | 330                                    | 26.4 | 14.4    | 66                      | 02.5 <sup>112</sup>                                                                                                          | 22.3                 | 63      | 20            | 11                   | 33    | 18 59          | 23 21 49       | 12 20 54 |                |       |
| 11 | 345                                    | 26.6 | +6 13.5 | 80                      | 32.7 <sup>112</sup>                                                                                                          | +25 28.4             | 61      | 10 N          | 18 06                | 18 27 | 18 52          | 23 44 49       | 11 59 52 |                |       |
| 12 | 0                                      | 26.9 | +6 12.6 | 95                      | 02.8 <sup>111</sup>                                                                                                          | +25 34.4             | 60      | 0             | 18 01                | 18 22 | 18 46          | ** ** *        | 11 39 50 |                |       |
| 13 | 15                                     | 27.1 | 11.6    | 109                     | 32.8 <sup>110</sup>                                                                                                          | 40.2                 | 58      | 10 S          | 17 57                | 18    | 43             | ** ** *        | 11 19 48 |                |       |
| 14 | 30                                     | 27.3 | 10.7    | 124                     | 02.9 <sup>111</sup>                                                                                                          | 46.0                 | 58      | 20            | 53                   | 15    | 40             | ** ** *        | 10 57 47 |                |       |
| 15 | 45                                     | 27.5 | 09.8    | 138                     | 32.9 <sup>110</sup>                                                                                                          | 51.6                 | 56      | 30            | 48                   | 12    | 40             | 0 18 56        | 33 44    |                |       |
| 16 | 60                                     | 27.7 | 08.8    | 153                     | 02.8 <sup>109</sup>                                                                                                          | +25 57.1             | 55      | 35            | 45                   | 10    | 40             | 31 59          | 18 43    |                |       |
| 17 | 75                                     | 27.9 | +6 07.9 | 167                     | 32.7 <sup>109</sup>                                                                                                          | +26 02.5             | 54      | 40            | 17 42                | 18 09 | 18 40          | 0 47 61        | 10 01 42 |                |       |
| 18 | 90                                     | 28.1 | +6 07.0 | 182                     | 02.6 <sup>109</sup>                                                                                                          | +26 07.7             | 52      | 45            | 17 38                | 18 08 | 18 42          | 1 07 63        | 9 41 39  |                |       |
| 19 | 105                                    | 28.3 | 06.0    | 196                     | 32.5 <sup>109</sup>                                                                                                          | 12.9                 | 52      | 50            | 34                   | 06    | 44             | 31 67          | 16 36    |                |       |
| 20 | 120                                    | 28.6 | 05.1    | 211                     | 02.3 <sup>108</sup>                                                                                                          | 17.9                 | 50      | 52            | 32                   | 06    | 45             | 43 69          | 9 04 34  |                |       |
| 21 | 135                                    | 28.8 | 04.1    | 225                     | 32.0 <sup>107</sup>                                                                                                          | 22.7                 | 48      | 54            | 30                   | 05    | 46             | 1 56 72        | 8 51 31  |                |       |
| 22 | 150                                    | 29.0 | 03.2    | 240                     | 01.8 <sup>108</sup>                                                                                                          | 27.5                 | 48      | 56            | 28                   | 05    | 48             | 2 11 76        | 35 28    |                |       |
| 23 | 165                                    | 29.2 | 02.3    | 254                     | 31.5 <sup>107</sup>                                                                                                          | 32.1                 | 46      | 58            | 25                   | 04    | 50             | 30 80          | 8 16 23  |                |       |
| 24 | 180                                    | 29.4 | +6 01.3 | 269                     | 01.1 <sup>106</sup>                                                                                                          | +26 36.6             | 45      | 60 S          | 17 22                | 18 04 | 18 52          | 2 53 88        | 7 53 15  |                |       |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                          |          |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|--------------------------------------------------|----------|----------|
|     | PMG: 0 <sup>h</sup> 58 <sup>m</sup> 2 |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 02 <sup>m</sup> |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 11 <sup>m</sup> |          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 43 <sup>m</sup> |          | Mag: +0.2<br>PMG: 8 <sup>h</sup> 40 <sup>m</sup> |          |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                             | Dec      |          |
| h   | °                                     | '    | °                                                | '    | °                                                 | '        | °                                                 | '        | °                                                | '        |          |
| 0   | 345                                   | 25.3 | 224                                              | 38.8 | +18 41.1                                          | 177 04.7 | +6 05.9                                           | 168 46.7 | +2 37.8                                          | 229 39.1 | +21 08.3 |
| 1   | 0                                     | 27.8 | 239                                              | 38.5 | 40.7                                              | 192 05.6 | 05.2                                              | 183 48.7 | 37.6                                             | 244 41.3 | 08.2     |
| 2   | 15                                    | 30.3 | 254                                              | 38.1 | 40.4                                              | 207 06.6 | 04.6                                              | 198 50.7 | 37.3                                             | 259 43.5 | 08.2     |
| 3   | 30                                    | 32.7 | 269                                              | 37.8 | 40.1                                              | 222 07.6 | 04.0                                              | 213 52.7 | 37.1                                             | 274 45.7 | 08.2     |
| 4   | 45                                    | 35.2 | 284                                              | 37.5 | 39.7                                              | 237 08.6 | 03.3                                              | 228 54.6 | 36.9                                             | 289 47.9 | 08.1     |
| 5   | 60                                    | 37.7 | 299                                              | 37.1 | +18 39.3                                          | 252 09.6 | +6 02.7                                           | 243 56.6 | +2 36.7                                          | 304 50.1 | +21 08.1 |
| 6   | 75                                    | 40.1 | 314                                              | 36.8 | +18 39.0                                          | 267 10.6 | +6 02.1                                           | 258 58.6 | +2 36.5                                          | 319 52.3 | +21 08.0 |
| 7   | 90                                    | 42.6 | 329                                              | 36.5 | 38.6                                              | 282 11.6 | 01.4                                              | 274 00.6 | 36.3                                             | 334 54.5 | 08.0     |
| 8   | 105                                   | 45.1 | 344                                              | 36.1 | 38.3                                              | 297 12.6 | 00.8                                              | 289 02.5 | 36.1                                             | 349 56.7 | 08.0     |
| 9   | 120                                   | 47.5 | 359                                              | 35.8 | 37.9                                              | 312 13.5 | +6 00.2                                           | 304 04.5 | 35.9                                             | 4 58.9   | 07.9     |
| 10  | 135                                   | 50.0 | 14                                               | 35.4 | 37.6                                              | 327 14.5 | +5 59.5                                           | 319 06.5 | 35.6                                             | 20 01.1  | 07.9     |
| 11  | 150                                   | 52.5 | 29                                               | 35.1 | +18 37.2                                          | 342 15.5 | +5 58.9                                           | 334 08.4 | +2 35.4                                          | 35 03.3  | +21 07.8 |
| 12  | 165                                   | 54.9 | 44                                               | 34.8 | +18 36.9                                          | 357 16.5 | +5 58.3                                           | 349 10.4 | +2 35.2                                          | 50 05.5  | +21 07.8 |
| 13  | 180                                   | 57.4 | 59                                               | 34.4 | 36.5                                              | 12 17.5  | 57.6                                              | 4 12.4   | 35.0                                             | 65 07.7  | 07.8     |
| 14  | 195                                   | 59.8 | 74                                               | 34.1 | 36.1                                              | 27 18.5  | 57.0                                              | 19 14.4  | 34.8                                             | 80 09.9  | 07.7     |
| 15  | 211                                   | 02.3 | 89                                               | 33.7 | 35.8                                              | 42 19.5  | 56.4                                              | 34 16.3  | 34.6                                             | 95 12.1  | 07.7     |
| 16  | 226                                   | 04.8 | 104                                              | 33.4 | 35.4                                              | 57 20.5  | 55.7                                              | 49 18.3  | 34.4                                             | 110 14.4 | 07.6     |
| 17  | 241                                   | 07.2 | 119                                              | 33.0 | +18 35.1                                          | 72 21.5  | +5 55.1                                           | 64 20.3  | +2 34.2                                          | 125 16.6 | +21 07.6 |
| 18  | 256                                   | 09.7 | 134                                              | 32.7 | +18 34.7                                          | 87 22.4  | +5 54.5                                           | 79 22.3  | +2 33.9                                          | 140 18.8 | +21 07.6 |
| 19  | 271                                   | 12.2 | 149                                              | 32.4 | 34.3                                              | 102 23.4 | 53.8                                              | 94 24.2  | 33.7                                             | 155 21.0 | 07.5     |
| 20  | 286                                   | 14.6 | 164                                              | 32.0 | 34.0                                              | 117 24.4 | 53.2                                              | 109 26.2 | 33.5                                             | 170 23.2 | 07.5     |
| 21  | 301                                   | 17.1 | 179                                              | 31.7 | 33.6                                              | 132 25.4 | 52.6                                              | 124 28.2 | 33.3                                             | 185 25.4 | 07.4     |
| 22  | 316                                   | 19.6 | 194                                              | 31.3 | 33.2                                              | 147 26.4 | 51.9                                              | 139 30.2 | 33.1                                             | 200 27.6 | 07.4     |
| 23  | 331                                   | 22.0 | 209                                              | 31.0 | 32.9                                              | 162 27.4 | 51.3                                              | 154 32.1 | 32.9                                             | 215 29.8 | 07.4     |
| 24  | 346                                   | 24.5 | 224                                              | 30.6 | +18 32.5                                          | 177 28.4 | +5 50.7                                           | 169 34.1 | +2 32.7                                          | 230 32.0 | +21 07.3 |
| Dif | —                                     |      | -3                                               | -4   |                                                   | +10      | -6                                                | +20      | -2                                               | +22      |          |

| UT  | SOL                                    |      |                                                  | ☾ LUNA                  |                                                                                    |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |          |       |
|-----|----------------------------------------|------|--------------------------------------------------|-------------------------|------------------------------------------------------------------------------------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|----------|-------|
|     | SD: 15'9                               |      |                                                  | Edad: 21 <sup>d</sup> 9 | PHE {<br>4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'2 | R°: 51 <sup>m</sup>                               |         | Náutico                  | Civil                                             |               | Hora           | R°                                               | Hora           | R°       |       |
|     | PMG: 11 <sup>h</sup> 57 <sup>m</sup> 9 |      |                                                  |                         |                                                                                    |                                                   |         |                          |                                                   |               |                |                                                  |                |          |       |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                    | Dif                                                                                | Dec                                               | Dif     |                          |                                                   |               |                |                                                  |                |          |       |
| h   | °                                      | '    | °                                                | °                       | '                                                                                  | °                                                 | '       | °                        | h m                                               | h m           | h m            | h m m                                            | h m m          | h m m    | h m m |
| 0   | 180                                    | 29.4 | +6 01.3                                          | 269                     | 01.1                                                                               | +26 36.6                                          | 44      | 60 N                     | 3 31                                              | 4 26          | 5 10           | 20 27 50                                         | 16 55 57       |          |       |
| 1   | 195                                    | 29.6 | +6 00.4                                          | 283                     | 30.8                                                                               | 41.0                                              | 107     | 58                       | 41                                                | 32            | 13             | 21 00 51                                         | 16 22 56       |          |       |
| 2   | 210                                    | 29.8 | +5 59.5                                          | 298                     | 00.4                                                                               | 45.2                                              | 42      | 56                       | 50                                                | 38            | 16             | 24 52                                            | 15 58 54       |          |       |
| 3   | 225                                    | 30.1 | 58.5                                             | 312                     | 29.9                                                                               | 49.4                                              | 105     | 54                       | 3 58                                              | 43            | 19             | 21 44 52                                         | 38 54          |          |       |
| 4   | 240                                    | 30.3 | 57.6                                             | 326                     | 59.5                                                                               | 53.4                                              | 106     | 52                       | 4 05                                              | 47            | 22             | 22 01 52                                         | 21 55          |          |       |
| 5   | 255                                    | 30.5 | +5 56.7                                          | 341                     | 29.0                                                                               | +26 57.2                                          | 38      | 50                       | 4 11                                              | 4 51          | 5 24           | 22 15 52                                         | 15 07 54       |          |       |
| 6   | 270                                    | 30.7 | +5 55.7                                          | 355                     | 58.5                                                                               | +27 01.0                                          | 38      | 45                       | 4 24                                              | 4 59          | 5 29           | 22 44 52                                         | 14 38 54       |          |       |
| 7   | 285                                    | 30.9 | 54.8                                             | 10                      | 27.9                                                                               | 04.6                                              | 104     | 40                       | 33                                                | 5 06          | 34             | 23 07 52                                         | 14 16 53       |          |       |
| 8   | 300                                    | 31.1 | 53.8                                             | 24                      | 57.3                                                                               | 08.0                                              | 34      | 35                       | 41                                                | 12            | 37             | 26 52                                            | 13 57 53       |          |       |
| 9   | 315                                    | 31.3 | 52.9                                             | 39                      | 26.7                                                                               | 11.4                                              | 34      | 30                       | 48                                                | 16            | 40             | 23 42 52                                         | 41 53          |          |       |
| 10  | 330                                    | 31.5 | 52.0                                             | 53                      | 56.1                                                                               | 14.6                                              | 32      | 20                       | 4 58                                              | 24            | 46             | ** ** *                                          | 13 14 52       |          |       |
| 11  | 345                                    | 31.8 | +5 51.0                                          | 68                      | 25.4                                                                               | +27 17.7                                          | 31      | 10 N                     | 5 05                                              | 5 29          | 5 50           | ** ** *                                          | 12 51 51       |          |       |
| 12  | 0                                      | 32.0 | +5 50.1                                          | 82                      | 54.7                                                                               | +27 20.7                                          | 30      | 0                        | 5 10                                              | 5 34          | 5 55           | 0 04 51                                          | 12 29 51       |          |       |
| 13  | 15                                     | 32.2 | 49.2                                             | 97                      | 24.0                                                                               | 23.5                                              | 28      | 10 S                     | 13                                                | 38            | 5 59           | 26 51                                            | 12 07 51       |          |       |
| 14  | 30                                     | 32.4 | 48.2                                             | 111                     | 53.3                                                                               | 26.2                                              | 27      | 20                       | 15                                                | 41            | 6 03           | 0 48 53                                          | 11 44 50       |          |       |
| 15  | 45                                     | 32.6 | 47.3                                             | 126                     | 22.6                                                                               | 28.7                                              | 25      | 30                       | 16                                                | 44            | 08             | 1 14 55                                          | 17 49          |          |       |
| 16  | 60                                     | 32.8 | 46.3                                             | 140                     | 51.8                                                                               | 31.2                                              | 25      | 35                       | 16                                                | 45            | 11             | 30 55                                            | 11 01 49       |          |       |
| 17  | 75                                     | 33.0 | +5 45.4                                          | 155                     | 21.0                                                                               | +27 33.5                                          | 23      | 40                       | 5 15                                              | 5 46          | 6 14           | 1 48 56                                          | 10 43 48       |          |       |
| 18  | 90                                     | 33.3 | +5 44.5                                          | 169                     | 50.2                                                                               | +27 35.6                                          | 21      | 45                       | 5 14                                              | 5 48          | 6 17           | 2 10 58                                          | 10 20 48       |          |       |
| 19  | 105                                    | 33.5 | 43.5                                             | 184                     | 19.3                                                                               | 37.7                                              | 21      | 50                       | 12                                                | 49            | 21             | 38 59                                            | 9 52 46        |          |       |
| 20  | 120                                    | 33.7 | 42.6                                             | 198                     | 48.5                                                                               | 39.6                                              | 19      | 52                       | 10                                                | 49            | 23             | 2 52 60                                          | 38 45          |          |       |
| 21  | 135                                    | 33.9 | 41.6                                             | 213                     | 17.6                                                                               | 41.3                                              | 17      | 54                       | 09                                                | 50            | 25             | 3 08 61                                          | 22 44          |          |       |
| 22  | 150                                    | 34.1 | 40.7                                             | 227                     | 46.7                                                                               | 43.0                                              | 17      | 56                       | 07                                                | 50            | 27             | 27 63                                            | 9 03 42        |          |       |
| 23  | 165                                    | 34.3 | 39.8                                             | 242                     | 15.8                                                                               | 44.5                                              | 15      | 58                       | 05                                                | 51            | 30             | 3 50 65                                          | 8 39 41        |          |       |
| 24  | 180                                    | 34.5 | +5 38.8                                          | 256                     | 44.9                                                                               | +27 45.9                                          | 14      | 60 S                     | 5 03                                              | 5 51          | 6 33           | 4 21 70                                          | 8 08 36        |          |       |
| UT  | ARIES                                  |      | VENUS                                            |                         |                                                                                    | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |          |       |
|     | PMG: 0 <sup>h</sup> 54 <sup>m</sup> 2  |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 02 <sup>m</sup> |                         |                                                                                    | Mag: +1.7<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 40 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 8 <sup>h</sup> 37 <sup>m</sup> |                |          |       |
|     | hG ♈                                   |      | hG ♀                                             | Dec                     |                                                                                    | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |          |       |
| h   | °                                      | '    | °                                                | '                       | °                                                                                  | '                                                 | °       | '                        | °                                                 | '             | °              | '                                                | '              | '        | '     |
| 0   | 346                                    | 24.5 | 224                                              | 30.6                    | +18 32.5                                                                           | 177                                               | 28.4    | +5 50.7                  | 169                                               | 34.1          | +2 32.7        | 230                                              | 32.0           | +21 07.3 |       |
| 1   | 1                                      | 27.0 | 239                                              | 30.3                    | 32.1                                                                               | 192                                               | 29.4    | 50.0                     | 184                                               | 36.1          | 32.5           | 245                                              | 34.2           | 07.3     |       |
| 2   | 16                                     | 29.4 | 254                                              | 30.0                    | 31.8                                                                               | 207                                               | 30.4    | 49.4                     | 199                                               | 38.0          | 32.2           | 260                                              | 36.4           | 07.2     |       |
| 3   | 31                                     | 31.9 | 269                                              | 29.6                    | 31.4                                                                               | 222                                               | 31.3    | 48.8                     | 214                                               | 40.0          | 32.0           | 275                                              | 38.6           | 07.2     |       |
| 4   | 46                                     | 34.3 | 284                                              | 29.3                    | 31.0                                                                               | 237                                               | 32.3    | 48.1                     | 229                                               | 42.0          | 31.8           | 290                                              | 40.8           | 07.2     |       |
| 5   | 61                                     | 36.8 | 299                                              | 28.9                    | +18 30.6                                                                           | 252                                               | 33.3    | +5 47.5                  | 244                                               | 44.0          | +2 31.6        | 305                                              | 43.0           | +21 07.1 |       |
| 6   | 76                                     | 39.3 | 314                                              | 28.6                    | +18 30.3                                                                           | 267                                               | 34.3    | +5 46.9                  | 259                                               | 45.9          | +2 31.4        | 320                                              | 45.2           | +21 07.1 |       |
| 7   | 91                                     | 41.7 | 329                                              | 28.2                    | 29.9                                                                               | 282                                               | 35.3    | 46.2                     | 274                                               | 47.9          | 31.2           | 335                                              | 47.4           | 07.1     |       |
| 8   | 106                                    | 44.2 | 344                                              | 27.9                    | 29.5                                                                               | 297                                               | 36.3    | 45.6                     | 289                                               | 49.9          | 31.0           | 350                                              | 49.6           | 07.0     |       |
| 9   | 121                                    | 46.7 | 359                                              | 27.5                    | 29.1                                                                               | 312                                               | 37.3    | 45.0                     | 304                                               | 51.9          | 30.8           | 5                                                | 51.8           | 07.0     |       |
| 10  | 136                                    | 49.1 | 14                                               | 27.2                    | 28.8                                                                               | 327                                               | 38.3    | 44.3                     | 319                                               | 53.8          | 30.5           | 20                                               | 54.1           | 06.9     |       |
| 11  | 151                                    | 51.6 | 29                                               | 26.8                    | +18 28.4                                                                           | 342                                               | 39.3    | +5 43.7                  | 334                                               | 55.8          | +2 30.3        | 35                                               | 56.3           | +21 06.9 |       |
| 12  | 166                                    | 54.1 | 44                                               | 26.5                    | +18 28.0                                                                           | 357                                               | 40.2    | +5 43.0                  | 349                                               | 57.8          | +2 30.1        | 50                                               | 58.5           | +21 06.9 |       |
| 13  | 181                                    | 56.5 | 59                                               | 26.2                    | 27.6                                                                               | 12                                                | 41.2    | 42.4                     | 4                                                 | 59.8          | 29.9           | 66                                               | 00.7           | 06.8     |       |
| 14  | 196                                    | 59.0 | 74                                               | 25.8                    | 27.2                                                                               | 27                                                | 42.2    | 41.8                     | 20                                                | 01.7          | 29.7           | 81                                               | 02.9           | 06.8     |       |
| 15  | 212                                    | 01.4 | 89                                               | 25.5                    | 26.9                                                                               | 42                                                | 43.2    | 41.1                     | 35                                                | 03.7          | 29.5           | 96                                               | 05.1           | 06.7     |       |
| 16  | 227                                    | 03.9 | 104                                              | 25.1                    | 26.5                                                                               | 57                                                | 44.2    | 40.5                     | 50                                                | 05.7          | 29.3           | 111                                              | 07.3           | 06.7     |       |
| 17  | 242                                    | 06.4 | 119                                              | 24.8                    | +18 26.1                                                                           | 72                                                | 45.2    | +5 39.9                  | 65                                                | 07.6          | +2 29.1        | 126                                              | 09.5           | +21 06.7 |       |
| 18  | 257                                    | 08.8 | 134                                              | 24.4                    | +18 25.7                                                                           | 87                                                | 46.2    | +5 39.2                  | 80                                                | 09.6          | +2 28.8        | 141                                              | 11.7           | +21 06.6 |       |
| 19  | 272                                    | 11.3 | 149                                              | 24.1                    | 25.3                                                                               | 102                                               | 47.2    | 38.6                     | 95                                                | 11.6          | 28.6           | 156                                              | 13.9           | 06.6     |       |
| 20  | 287                                    | 13.8 | 164                                              | 23.7                    | 24.9                                                                               | 117                                               | 48.2    | 38.0                     | 110                                               | 13.6          | 28.4           | 171                                              | 16.1           | 06.5     |       |
| 21  | 302                                    | 16.2 | 179                                              | 23.4                    | 24.6                                                                               | 132                                               | 49.2    | 37.3                     | 125                                               | 15.5          | 28.2           | 186                                              | 18.3           | 06.5     |       |
| 22  | 317                                    | 18.7 | 194                                              | 23.0                    | 24.2                                                                               | 147                                               | 50.1    | 36.7                     | 140                                               | 17.5          | 28.0           | 201                                              | 20.5           | 06.5     |       |
| 23  | 332                                    | 21.2 | 209                                              | 22.7                    | 23.8                                                                               | 162                                               | 51.1    | 36.1                     | 155                                               | 19.5          | 27.8           | 216                                              | 22.7           | 06.4     |       |
| 24  | 347                                    | 23.6 | 224                                              | 22.3                    | +18 23.4                                                                           | 177                                               | 52.1    | +5 35.4                  | 170                                               | 21.5          | +2 27.6        | 231                                              | 25.0           | +21 06.4 |       |
| Dif | —                                      |      | -3                                               | -4                      |                                                                                    | +10                                               | -6      |                          | +20                                               | -2            |                | +22                                              |                |          |       |

| UT  | SOL                                                |      | ☾ LUNA                                                                                                                                                                            |      |                                                   |          | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |             | Salida de Luna |          | Puesta de Luna |    |
|-----|----------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|---------------|--------------------------------------------------|-------------|----------------|----------|----------------|----|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 5 |      | Edad: 22 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'3<br>SD: 14'8<br>PMG: 7 <sup>h</sup> 08 <sup>m</sup> R°: 51 <sup>m</sup> |      |                                                   |          |                                                   |               |                                                  |             |                |          |                |    |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                                                                              | Dif  | Dec                                               | Dif      |                                                   |               | Civil                                            | Náutico     | Hora           | R°       | Hora           | R° |
| h   | °                                                  | '    | °                                                                                                                                                                                 | '    | °                                                 | '        | °                                                 | h m           | h m                                              | h m         | h m m          | h m m    | h m m          |    |
| 0   | 180                                                | 34.5 | +5 38.8                                                                                                                                                                           | 256  | 44.9                                              | +27 45.9 | 60 N                                              | 18 42         | 19 25                                            | 20 19       | 21 17 77       | 17 52 29 |                |    |
| 1   | 195                                                | 34.8 |                                                                                                                                                                                   | 271  | 13.9 <sup>100</sup>                               | 47.1     | 12                                                | 58            | 38                                               | 19 09       | 21 51 71       | 17 18 35 |                |    |
| 2   | 210                                                | 35.0 | 36.9                                                                                                                                                                              | 285  | 43.0 <sup>101</sup>                               | 48.2     | 11                                                | 56            | 35                                               | 14 20 01    | 22 16 67       | 16 52 39 |                |    |
| 3   | 225                                                | 35.2 | 36.0                                                                                                                                                                              | 300  | 12.0 <sup>100</sup>                               | 49.2     | 10                                                | 54            | 33                                               | 09 19 53    | 36 65          | 32 41    |                |    |
| 4   | 240                                                | 35.4 | 35.1                                                                                                                                                                              | 314  | 41.1 <sup>101</sup>                               | 50.0     | 8                                                 | 52            | 30                                               | 05 47       | 22 53 63       | 16 42    |                |    |
| 5   | 255                                                | 35.6 | +5 34.1                                                                                                                                                                           | 329  | 10.1 <sup>100</sup>                               | +27 50.7 | 7                                                 | 50            | 18 28                                            | 19 01 19 41 | 23 07 62       | 16 01 43 |                |    |
| 6   | 270                                                | 35.8 | +5 33.2                                                                                                                                                                           | 343  | 39.1 <sup>100</sup>                               | +27 51.3 | 6                                                 | 45            | 18 24                                            | 18 53 19 29 | 23 36 60       | 15 32 45 |                |    |
| 7   | 285                                                | 36.1 | 32.2                                                                                                                                                                              | 358  | 08.1 <sup>100</sup>                               | 51.7     | 4                                                 | 40            | 20                                               | 47 20       | 23 59 58       | 15 09 46 |                |    |
| 8   | 300                                                | 36.3 | 31.3                                                                                                                                                                              | 12   | 37.1 <sup>100</sup>                               | 52.0     | 3                                                 | 35            | 17                                               | 42 12       | ** ** *        | 14 50 47 |                |    |
| 9   | 315                                                | 36.5 | 30.4                                                                                                                                                                              | 27   | 06.1 <sup>100</sup>                               | 52.1     | 1                                                 | 30            | 14                                               | 38 19 06    | ** ** *        | 34 48    |                |    |
| 10  | 330                                                | 36.7 | 29.4                                                                                                                                                                              | 41   | 35.1 <sup>100</sup>                               | 52.2     | 1                                                 | 20            | 09                                               | 31 18 57    | 0 10 51        | 14 06 49 |                |    |
| 11  | 345                                                | 36.9 | +5 28.5                                                                                                                                                                           | 56   | 04.0 <sup>99</sup>                                | +27 52.1 | 1                                                 | 10 N          | 18 05                                            | 18 26 18 50 | 0 33 52        | 13 42 51 |                |    |
| 12  | 0                                                  | 37.1 | +5 27.5                                                                                                                                                                           | 70   | 33.0 <sup>100</sup>                               | +27 51.8 | 3                                                 | 0             | 18 01                                            | 18 22 18 46 | 0 55 52        | 13 20 51 |                |    |
| 13  | 15                                                 | 37.3 | 26.6                                                                                                                                                                              | 85   | 02.0 <sup>100</sup>                               | 51.4     | 4                                                 | 10 S          | 17 57                                            | 18 43       | 1 17 52        | 12 58 52 |                |    |
| 14  | 30                                                 | 37.6 | 25.6                                                                                                                                                                              | 99   | 31.0 <sup>100</sup>                               | 50.9     | 5                                                 | 20            | 53                                               | 15 41       | 1 41 51        | 34 53    |                |    |
| 15  | 45                                                 | 37.8 | 24.7                                                                                                                                                                              | 113  | 59.9 <sup>99</sup>                                | 50.3     | 6                                                 | 30            | 49                                               | 13 41       | 2 09 50        | 12 06 54 |                |    |
| 16  | 60                                                 | 38.0 | 23.8                                                                                                                                                                              | 128  | 28.9 <sup>100</sup>                               | 49.5     | 8                                                 | 35            | 46                                               | 12 41       | 25 50          | 11 50 55 |                |    |
| 17  | 75                                                 | 38.2 | +5 22.8                                                                                                                                                                           | 142  | 57.9 <sup>100</sup>                               | +27 48.6 | 9                                                 | 40            | 17 44                                            | 18 11 18 42 | 2 44 50        | 11 31 55 |                |    |
| 18  | 90                                                 | 38.4 | +5 21.9                                                                                                                                                                           | 157  | 26.9 <sup>100</sup>                               | +27 47.5 | 11                                                | 45            | 17 41                                            | 18 10 18 44 | 3 08 49        | 11 08 56 |                |    |
| 19  | 105                                                | 38.6 | 20.9                                                                                                                                                                              | 171  | 55.9 <sup>100</sup>                               | 46.3     | 12                                                | 50            | 37                                               | 09 47       | 37 49          | 10 38 57 |                |    |
| 20  | 120                                                | 38.9 | 20.0                                                                                                                                                                              | 186  | 24.8 <sup>99</sup>                                | 45.0     | 13                                                | 52            | 35                                               | 09 48       | 3 52 48        | 23 58    |                |    |
| 21  | 135                                                | 39.1 | 19.0                                                                                                                                                                              | 200  | 53.8 <sup>100</sup>                               | 43.5     | 15                                                | 54            | 33                                               | 09 50       | 4 09 47        | 10 06 59 |                |    |
| 22  | 150                                                | 39.3 | 18.1                                                                                                                                                                              | 215  | 22.8 <sup>100</sup>                               | 41.9     | 16                                                | 56            | 31                                               | 09 52       | 30 46          | 9 45 61  |                |    |
| 23  | 165                                                | 39.5 | 17.2                                                                                                                                                                              | 229  | 51.8 <sup>100</sup>                               | 40.2     | 17                                                | 58            | 29                                               | 08 54       | 4 55 45        | 9 20 61  |                |    |
| 24  | 180                                                | 39.7 | +5 16.2                                                                                                                                                                           | 244  | 20.9 <sup>101</sup>                               | +27 38.3 | 19                                                | 60 S          | 17 27                                            | 18 08 18 57 | 5 31 42        | 8 44 65  |                |    |
| UT  | ARIES                                              |      | VENUS                                                                                                                                                                             |      | MARTE                                             |          | JÚPITER                                           |               | SATURNO                                          |             |                |          |                |    |
|     | PMG: 0 <sup>h</sup> 50 <sup>m</sup> 3              |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 03 <sup>m</sup>                                                                                                                                  |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 08 <sup>m</sup> |          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 37 <sup>m</sup> |               | Mag: +0.2<br>PMG: 8 <sup>h</sup> 33 <sup>m</sup> |             |                |          |                |    |
|     | hG ♈                                               | Dec  | hG ♀                                                                                                                                                                              | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec           | hG ♄                                             | Dec         |                |          |                |    |
| h   | °                                                  | '    | °                                                                                                                                                                                 | '    | °                                                 | '        | °                                                 | '             | °                                                | '           |                |          |                |    |
| 0   | 347                                                | 23.6 | 224                                                                                                                                                                               | 22.3 | 177                                               | 52.1     | 170                                               | 21.5          | 231                                              | 25.0        |                |          |                |    |
| 1   | 2                                                  | 26.1 | 239                                                                                                                                                                               | 22.0 | 192                                               | 53.1     | 185                                               | 23.4          | 246                                              | 27.2        |                |          |                |    |
| 2   | 17                                                 | 28.6 | 254                                                                                                                                                                               | 21.6 | 207                                               | 54.1     | 200                                               | 25.4          | 261                                              | 29.4        |                |          |                |    |
| 3   | 32                                                 | 31.0 | 269                                                                                                                                                                               | 21.3 | 222                                               | 55.1     | 215                                               | 27.4          | 276                                              | 31.6        |                |          |                |    |
| 4   | 47                                                 | 33.5 | 284                                                                                                                                                                               | 20.9 | 237                                               | 56.1     | 230                                               | 29.3          | 291                                              | 33.8        |                |          |                |    |
| 5   | 62                                                 | 35.9 | 299                                                                                                                                                                               | 20.6 | 252                                               | 57.1     | 245                                               | 31.3          | 306                                              | 36.0        |                |          |                |    |
| 6   | 77                                                 | 38.4 | 314                                                                                                                                                                               | 20.2 | 267                                               | 58.1     | 260                                               | 33.3          | 321                                              | 38.2        |                |          |                |    |
| 7   | 92                                                 | 40.9 | 329                                                                                                                                                                               | 19.9 | 282                                               | 59.0     | 275                                               | 35.3          | 336                                              | 40.4        |                |          |                |    |
| 8   | 107                                                | 43.3 | 344                                                                                                                                                                               | 19.5 | 298                                               | 00.0     | 290                                               | 37.2          | 351                                              | 42.6        |                |          |                |    |
| 9   | 122                                                | 45.8 | 359                                                                                                                                                                               | 19.2 | 313                                               | 01.0     | 305                                               | 39.2          | 366                                              | 44.8        |                |          |                |    |
| 10  | 137                                                | 48.3 | 14                                                                                                                                                                                | 18.8 | 328                                               | 02.0     | 320                                               | 41.2          | 21                                               | 47.0        |                |          |                |    |
| 11  | 152                                                | 50.7 | 29                                                                                                                                                                                | 18.5 | 343                                               | 03.0     | 335                                               | 43.2          | 36                                               | 49.3        |                |          |                |    |
| 12  | 167                                                | 53.2 | 44                                                                                                                                                                                | 18.1 | 358                                               | 04.0     | 350                                               | 45.1          | 51                                               | 51.5        |                |          |                |    |
| 13  | 182                                                | 55.7 | 59                                                                                                                                                                                | 17.8 | 13                                                | 05.0     | 5                                                 | 47.1          | 66                                               | 53.7        |                |          |                |    |
| 14  | 197                                                | 58.1 | 74                                                                                                                                                                                | 17.4 | 28                                                | 06.0     | 20                                                | 49.1          | 81                                               | 55.9        |                |          |                |    |
| 15  | 213                                                | 00.6 | 89                                                                                                                                                                                | 17.0 | 43                                                | 07.0     | 35                                                | 51.0          | 96                                               | 58.1        |                |          |                |    |
| 16  | 228                                                | 03.1 | 104                                                                                                                                                                               | 16.7 | 58                                                | 08.0     | 50                                                | 53.0          | 112                                              | 00.3        |                |          |                |    |
| 17  | 243                                                | 05.5 | 119                                                                                                                                                                               | 16.3 | 73                                                | 08.9     | 65                                                | 55.0          | 127                                              | 02.5        |                |          |                |    |
| 18  | 258                                                | 08.0 | 134                                                                                                                                                                               | 16.0 | 88                                                | 09.9     | 80                                                | 57.0          | 142                                              | 04.7        |                |          |                |    |
| 19  | 273                                                | 10.4 | 149                                                                                                                                                                               | 15.6 | 103                                               | 10.9     | 95                                                | 58.9          | 157                                              | 06.9        |                |          |                |    |
| 20  | 288                                                | 12.9 | 164                                                                                                                                                                               | 15.3 | 118                                               | 11.9     | 111                                               | 00.9          | 172                                              | 09.1        |                |          |                |    |
| 21  | 303                                                | 15.4 | 179                                                                                                                                                                               | 14.9 | 133                                               | 12.9     | 126                                               | 02.9          | 187                                              | 11.4        |                |          |                |    |
| 22  | 318                                                | 17.8 | 194                                                                                                                                                                               | 14.6 | 148                                               | 13.9     | 141                                               | 04.8          | 202                                              | 13.6        |                |          |                |    |
| 23  | 333                                                | 20.3 | 209                                                                                                                                                                               | 14.2 | 163                                               | 14.9     | 156                                               | 06.8          | 217                                              | 15.8        |                |          |                |    |
| 24  | 348                                                | 22.8 | 224                                                                                                                                                                               | 13.9 | 178                                               | 15.9     | 171                                               | 08.8          | 232                                              | 18.0        |                |          |                |    |
| Dif | —                                                  |      | -4                                                                                                                                                                                | -4   | +10                                               | -6       | +20                                               | -2            | +22                                              | 0           |                |          |                |    |

| UT | SOL                                                |      |    |  LUNA |                                                                                    |                     | Latitud                | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |         | Puesta de Luna |       |      |    |
|----|----------------------------------------------------|------|----|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------|------------------------|--------------------------|------|---------------|----------------|---------|----------------|-------|------|----|
|    | SD: 15'9<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 2 |      |    | Edad: 23 <sup>d</sup> 9                                                                | PHE {<br>4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'5 |                     |                        |                          |      |               |                |         |                |       |      |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                   |                                                                                    | Dif                 |                        | Dec                      | Dif  |               | Náutico        | Civil   | Hora           | Rº    | Hora | Rº |
| h  | °                                                  | '    | °  | '                                                                                      | °                                                                                  | '                   | °                      | h                        | m    | h             | m              | h       | m              | h     | m    | m  |
| 0  | 180                                                | 39.7 | +5 | 16.2                                                                                   | 244                                                                                | 20.9                | +27 38.3               | 60 N                     | 3 37 | 4 31          | 5 14           | 22 34   | 91             | 18 21 | 13   |    |
| 1  | 195                                                | 39.9 |    | 15.3                                                                                   | 258                                                                                | 49.9 <sup>100</sup> | 36.3 <sup>20</sup>     | 58                       | 47   | 37            | 17             | 23 02   | 83             | 17 53 | 20   |    |
| 2  | 210                                                | 40.2 |    | 14.3                                                                                   | 273                                                                                | 18.9 <sup>100</sup> | 34.2 <sup>21</sup>     | 56                       | 3 55 | 42            | 20             | 23 79   |                | 31 25 |      |    |
| 3  | 225                                                | 40.4 |    | 13.4                                                                                   | 287                                                                                | 48.0 <sup>101</sup> | 32.0 <sup>22</sup>     | 54                       | 4 02 | 47            | 23             | 41 75   |                | 17 13 | 28   |    |
| 4  | 240                                                | 40.6 |    | 12.4                                                                                   | 302                                                                                | 17.1 <sup>101</sup> | 29.6 <sup>24</sup>     | 52                       | 09   | 51            | 25             | 23 56   | 72             | 16 58 | 30   |    |
| 5  | 255                                                | 40.8 | +5 | 11.5                                                                                   | 316                                                                                | 46.1 <sup>100</sup> | +27 27.0 <sup>26</sup> | 50                       | 4 15 | 4 54          | 5 27           | ** ** * |                | 16 44 | 33   |    |
| 6  | 270                                                | 41.0 | +5 | 10.5                                                                                   | 331                                                                                | 15.2 <sup>101</sup> | +27 24.4 <sup>26</sup> | 45                       | 4 26 | 5 02          | 5 32           | ** ** * |                | 16 17 | 37   |    |
| 7  | 285                                                | 41.2 |    | 09.6                                                                                   | 345                                                                                | 44.3 <sup>101</sup> | 21.6 <sup>28</sup>     | 40                       | 36   | 08            | 35             | ** ** * |                | 15 55 | 40   |    |
| 8  | 300                                                | 41.5 |    | 08.6                                                                                   | 0                                                                                  | 13.5 <sup>102</sup> | 18.6 <sup>30</sup>     | 35                       | 43   | 13            | 39             | 0 18    | 57             | 37    | 42   |    |
| 9  | 315                                                | 41.7 |    | 07.7                                                                                   | 14                                                                                 | 42.6 <sup>101</sup> | 15.6 <sup>30</sup>     | 30                       | 49   | 17            | 41             | 0 34    | 56             | 15 22 | 43   |    |
| 10 | 330                                                | 41.9 |    | 06.8                                                                                   | 29                                                                                 | 11.8 <sup>102</sup> | 12.4 <sup>32</sup>     | 20                       | 4 58 | 24            | 46             | 1 01    | 54             | 14 55 | 46   |    |
| 11 | 345                                                | 42.1 | +5 | 05.8                                                                                   | 43                                                                                 | 41.0 <sup>102</sup> | +27 09.0 <sup>34</sup> | 10 N                     | 5 05 | 5 29          | 5 50           | 1 25    | 52             | 14 33 | 48   |    |
| 12 | 0                                                  | 42.3 | +5 | 04.9                                                                                   | 58                                                                                 | 10.2 <sup>102</sup> | +27 05.6 <sup>34</sup> | 0                        | 5 09 | 5 33          | 5 54           | 1 47    | 51             | 14 11 | 51   |    |
| 13 | 15                                                 | 42.5 |    | 03.9                                                                                   | 72                                                                                 | 39.4 <sup>102</sup> | +27 02.0 <sup>36</sup> | 10 S                     | 12   | 36            | 5 58           | 2 09    | 49             | 13 50 | 52   |    |
| 14 | 30                                                 | 42.8 |    | 03.0                                                                                   | 87                                                                                 | 08.6 <sup>102</sup> | +26 58.2 <sup>38</sup> | 20                       | 14   | 39            | 6 01           | 32      | 48             | 27    | 55   |    |
| 15 | 45                                                 | 43.0 |    | 02.0                                                                                   | 101                                                                                | 37.9 <sup>103</sup> | 54.4 <sup>38</sup>     | 30                       | 14   | 41            | 05             | 2 59    | 46             | 13 00 | 57   |    |
| 16 | 60                                                 | 43.2 |    | 01.1                                                                                   | 116                                                                                | 07.2 <sup>103</sup> | 50.4 <sup>40</sup>     | 35                       | 13   | 42            | 08             | 3 15    | 45             | 12 45 | 58   |    |
| 17 | 75                                                 | 43.4 | +5 | 00.1                                                                                   | 130                                                                                | 36.5 <sup>103</sup> | +26 46.3 <sup>41</sup> | 40                       | 5 12 | 5 43          | 6 10           | 3 34    | 43             | 12 26 | 61   |    |
| 18 | 90                                                 | 43.6 | +4 | 59.2                                                                                   | 145                                                                                | 05.8 <sup>103</sup> | +26 42.0 <sup>43</sup> | 45                       | 5 10 | 5 44          | 6 13           | 3 57    | 41             | 12 04 | 63   |    |
| 19 | 105                                                | 43.8 |    | 58.2                                                                                   | 159                                                                                | 35.2 <sup>104</sup> | 37.6 <sup>44</sup>     | 50                       | 07   | 45            | 17             | 4 26    | 37             | 11 35 | 67   |    |
| 20 | 120                                                | 44.1 |    | 57.3                                                                                   | 174                                                                                | 04.6 <sup>104</sup> | 33.1 <sup>45</sup>     | 52                       | 06   | 45            | 18             | 40      | 36             | 21    | 69   |    |
| 21 | 135                                                | 44.3 |    | 56.3                                                                                   | 188                                                                                | 34.0 <sup>104</sup> | 28.5 <sup>46</sup>     | 54                       | 04   | 45            | 20             | 4 56    | 34             | 11 05 | 71   |    |
| 22 | 150                                                | 44.5 |    | 55.4                                                                                   | 203                                                                                | 03.5 <sup>105</sup> | 23.7 <sup>48</sup>     | 56                       | 02   | 45            | 22             | 5 16    | 31             | 10 46 | 73   |    |
| 23 | 165                                                | 44.7 |    | 54.4                                                                                   | 217                                                                                | 33.0 <sup>105</sup> | 18.8 <sup>49</sup>     | 58                       | 5 00 | 45            | 24             | 5 40    | 27             | 10 21 | 79   |    |
| 24 | 180                                                | 44.9 | +4 | 53.5                                                                                   | 232                                                                                | 02.5 <sup>105</sup> | +26 13.8 <sup>50</sup> | 60 S                     | 4 57 | 5 45          | 6 27           | 6 13    | 18             | 9 49  | 87   |    |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |     | SATURNO                                          |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|-----|--------------------------------------------------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 0 <sup>h</sup> 46 <sup>m</sup> 4 |      | Mag: -4.3<br>PMG: 9 <sup>h</sup> 03 <sup>m</sup> |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 06 <sup>m</sup> |     | Mag: -1.7<br>PMG: 12 <sup>h</sup> 34 <sup>m</sup> |     | Mag: +0.2<br>PMG: 8 <sup>h</sup> 30 <sup>m</sup> |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec | hG ♄                                             | Dec |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '   | °                                                 | '   | °                                                | '   |      |    |      |     |      |     |      |
| 0   | 348                                   | 22.8 | 224                                              | 13.9 | +18                                               | 178 | 15.9                                              | +5  | 20.1                                             | 171 | 08.8 | +2 | 22.4 | 232 | 18.0 | +21 | 05.5 |
| 1   | 3                                     | 25.2 | 239                                              | 13.5 |                                                   | 193 | 16.9                                              |     | 19.5                                             | 186 | 10.8 |    | 22.2 | 247 | 20.2 |     | 05.4 |
| 2   | 18                                    | 27.7 | 254                                              | 13.1 |                                                   | 208 | 17.9                                              |     | 18.9                                             | 201 | 12.7 |    | 22.0 | 262 | 22.4 |     | 05.4 |
| 3   | 33                                    | 30.2 | 269                                              | 12.8 |                                                   | 223 | 18.8                                              |     | 18.2                                             | 216 | 14.7 |    | 21.8 | 277 | 24.6 |     | 05.3 |
| 4   | 48                                    | 32.6 | 284                                              | 12.4 |                                                   | 238 | 19.8                                              |     | 17.6                                             | 231 | 16.7 |    | 21.6 | 292 | 26.8 |     | 05.3 |
| 5   | 63                                    | 35.1 | 299                                              | 12.1 | +18                                               | 253 | 20.8                                              | +5  | 16.9                                             | 246 | 18.7 | +2 | 21.4 | 307 | 29.0 | +21 | 05.3 |
| 6   | 78                                    | 37.6 | 314                                              | 11.7 | +18                                               | 268 | 21.8                                              | +5  | 16.3                                             | 261 | 20.6 | +2 | 21.2 | 322 | 31.3 | +21 | 05.2 |
| 7   | 93                                    | 40.0 | 329                                              | 11.4 |                                                   | 283 | 22.8                                              |     | 15.7                                             | 276 | 22.6 |    | 21.0 | 337 | 33.5 |     | 05.2 |
| 8   | 108                                   | 42.5 | 344                                              | 11.0 |                                                   | 298 | 23.8                                              |     | 15.0                                             | 291 | 24.6 |    | 20.7 | 352 | 35.7 |     | 05.1 |
| 9   | 123                                   | 44.9 | 359                                              | 10.7 |                                                   | 313 | 24.8                                              |     | 14.4                                             | 306 | 26.5 |    | 20.5 | 7   | 37.9 |     | 05.1 |
| 10  | 138                                   | 47.4 | 14                                               | 10.3 |                                                   | 328 | 25.8                                              |     | 13.7                                             | 321 | 28.5 |    | 20.3 | 22  | 40.1 |     | 05.1 |
| 11  | 153                                   | 49.9 | 29                                               | 09.9 | +18                                               | 343 | 26.8                                              | +5  | 13.1                                             | 336 | 30.5 | +2 | 20.1 | 37  | 42.3 | +21 | 05.0 |
| 12  | 168                                   | 52.3 | 44                                               | 09.6 | +18                                               | 358 | 27.8                                              | +5  | 12.5                                             | 351 | 32.5 | +2 | 19.9 | 52  | 44.5 | +21 | 05.0 |
| 13  | 183                                   | 54.8 | 59                                               | 09.2 |                                                   | 13  | 28.7                                              |     | 11.8                                             | 6   | 34.4 |    | 19.7 | 67  | 46.7 |     | 05.0 |
| 14  | 198                                   | 57.3 | 74                                               | 08.9 |                                                   | 28  | 29.7                                              |     | 11.2                                             | 21  | 36.4 |    | 19.5 | 82  | 49.0 |     | 04.9 |
| 15  | 213                                   | 59.7 | 89                                               | 08.5 |                                                   | 43  | 30.7                                              |     | 10.6                                             | 36  | 38.4 |    | 19.2 | 97  | 51.2 |     | 04.9 |
| 16  | 229                                   | 02.2 | 104                                              | 08.2 |                                                   | 58  | 31.7                                              |     | 09.9                                             | 51  | 40.3 |    | 19.0 | 112 | 53.4 |     | 04.8 |
| 17  | 244                                   | 04.7 | 119                                              | 07.8 | +18                                               | 73  | 32.7                                              | +5  | 09.3                                             | 66  | 42.3 | +2 | 18.8 | 127 | 55.6 | +21 | 04.8 |
| 18  | 259                                   | 07.1 | 134                                              | 07.4 | +18                                               | 88  | 33.7                                              | +5  | 08.6                                             | 81  | 44.3 | +2 | 18.6 | 142 | 57.8 | +21 | 04.8 |
| 19  | 274                                   | 09.6 | 149                                              | 07.1 |                                                   | 103 | 34.7                                              |     | 08.0                                             | 96  | 46.3 |    | 18.4 | 158 | 00.0 |     | 04.7 |
| 20  | 289                                   | 12.0 | 164                                              | 06.7 |                                                   | 118 | 35.7                                              |     | 07.4                                             | 111 | 48.2 |    | 18.2 | 173 | 02.2 |     | 04.7 |
| 21  | 304                                   | 14.5 | 179                                              | 06.4 |                                                   | 133 | 36.7                                              |     | 06.7                                             | 126 | 50.2 |    | 18.0 | 188 | 04.4 |     | 04.6 |
| 22  | 319                                   | 17.0 | 194                                              | 06.0 |                                                   | 148 | 37.7                                              |     | 06.1                                             | 141 | 52.2 |    | 17.8 | 203 | 06.7 |     | 04.6 |
| 23  | 334                                   | 19.4 | 209                                              | 05.6 |                                                   | 163 | 38.6                                              |     | 05.4                                             | 156 | 54.1 |    | 17.5 | 218 | 08.9 |     | 04.6 |
| 24  | 349                                   | 21.9 | 224                                              | 05.3 | +18                                               | 178 | 39.6                                              | +5  | 04.8                                             | 171 | 56.1 | +2 | 17.3 | 233 | 11.1 | +21 | 04.5 |
| Dif | —                                     |      | -4                                               | -4   |                                                   | +10 | -6                                                |     | -6                                               | +20 | -2   |    | -2   | +22 |      |     |      |



| UT  | SOL                                                |      | ☾ LUNA                                                                                                                                                                |      |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |          | Salida de Luna |         | Puesta de Luna |    |
|-----|----------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|--------------------------------------------------|----------|----------------|---------|----------------|----|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 8 |      | Edad: 24 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 54'5<br>12 <sup>h</sup> : 54'7<br>20 <sup>h</sup> : 54'8<br>PMG: 8 <sup>h</sup> 50 <sup>m</sup> R°: 49 <sup>m</sup> |      |                                                   |                     |                                                   |               |                                                  |          |                |         |                |    |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                                                                  | Dif  | Dec                                               | Dif                 |                                                   |               | Civil                                            | Náutico  | Hora           | R°      | Hora           | R° |
| h   | °                                                  | '    | °                                                                                                                                                                     | '    | °                                                 | '                   | °                                                 | h m           | h m                                              | h m      | h m m          |         | h m m          |    |
| 0   | 180                                                | 44.9 | +4                                                                                                                                                                    | 53.5 | 232                                               | 02.5                | +26 13.8                                          | 60 N          | 18 36                                            | 19 18    | 20 12          | ** ** * | 18 34          | 5  |
| 1   | 195                                                | 45.1 |                                                                                                                                                                       | 52.6 | 246                                               | 32.0 <sup>105</sup> | 08.6                                              | 58            | 33                                               | 13       | 20 02          | ** ** * | 18 13          | 12 |
| 2   | 210                                                | 45.4 |                                                                                                                                                                       | 51.6 | 261                                               | 01.6 <sup>106</sup> | +26 03.3                                          | 56            | 30                                               | 08       | 19 55          | ** ** * | 17 56          | 16 |
| 3   | 225                                                | 45.6 |                                                                                                                                                                       | 50.7 | 275                                               | 31.2 <sup>106</sup> | +25 57.9                                          | 54            | 28                                               | 04       | 48             | ** ** * | 41             | 20 |
| 4   | 240                                                | 45.8 |                                                                                                                                                                       | 49.7 | 290                                               | 00.8 <sup>106</sup> | 52.4                                              | 52            | 26                                               | 19 00    | 41             | ** ** * | 28             | 23 |
| 5   | 255                                                | 46.0 | +4                                                                                                                                                                    | 48.8 | 304                                               | 30.5 <sup>107</sup> | +25 46.7                                          | 50            | 18 24                                            | 18 57    | 19 36          | 0 09    | 70             | 25 |
| 6   | 270                                                | 46.2 | +4                                                                                                                                                                    | 47.8 | 319                                               | 00.2 <sup>107</sup> | +25 40.9                                          | 45            | 18 20                                            | 18 50    | 19 25          | 0 36    | 66             | 29 |
| 7   | 285                                                | 46.5 |                                                                                                                                                                       | 46.9 | 333                                               | 29.9 <sup>107</sup> | 35.0                                              | 40            | 17                                               | 44       | 16             | 0 57    | 63             | 33 |
| 8   | 300                                                | 46.7 |                                                                                                                                                                       | 45.9 | 347                                               | 59.7 <sup>108</sup> | 29.0                                              | 35            | 14                                               | 39       | 09             | 1 15    | 60             | 36 |
| 9   | 315                                                | 46.9 |                                                                                                                                                                       | 45.0 | 2                                                 | 29.5 <sup>108</sup> | 22.8                                              | 30            | 11                                               | 35       | 19 03          | 30      | 58             | 38 |
| 10  | 330                                                | 47.1 |                                                                                                                                                                       | 44.0 | 16                                                | 59.4 <sup>109</sup> | 16.5                                              | 20            | 07                                               | 29       | 18 55          | 1 55    | 55             | 43 |
| 11  | 345                                                | 47.3 | +4                                                                                                                                                                    | 43.1 | 31                                                | 29.3 <sup>109</sup> | +25 10.1                                          | 10 N          | 18 03                                            | 18 24    | 18 49          | 2 17    | 52             | 46 |
| 12  | 0                                                  | 47.5 | +4                                                                                                                                                                    | 42.1 | 45                                                | 59.2 <sup>109</sup> | +25 03.6                                          | 0             | 18 00                                            | 18 21    | 18 45          | 2 38    | 49             | 48 |
| 13  | 15                                                 | 47.8 |                                                                                                                                                                       | 41.2 | 60                                                | 29.1 <sup>109</sup> | +24 56.9                                          | 10 S          | 17 57                                            | 18       | 42             | 2 58    | 47             | 52 |
| 14  | 30                                                 | 48.0 |                                                                                                                                                                       | 40.2 | 74                                                | 59.1 <sup>110</sup> | 50.1                                              | 20            | 54                                               | 16       | 41             | 3 20    | 44             | 55 |
| 15  | 45                                                 | 48.2 |                                                                                                                                                                       | 39.3 | 89                                                | 29.2 <sup>111</sup> | 43.2                                              | 30            | 50                                               | 14       | 42             | 3 45    | 41             | 59 |
| 16  | 60                                                 | 48.4 |                                                                                                                                                                       | 38.3 | 103                                               | 59.3 <sup>111</sup> | 36.2                                              | 35            | 48                                               | 13       | 42             | 4 00    | 39             | 61 |
| 17  | 75                                                 | 48.6 | +4                                                                                                                                                                    | 37.4 | 118                                               | 29.4 <sup>111</sup> | +24 29.1                                          | 40            | 17 46                                            | 18 13    | 18 44          | 4 17    | 36             | 64 |
| 18  | 90                                                 | 48.9 | +4                                                                                                                                                                    | 36.4 | 132                                               | 59.5 <sup>111</sup> | +24 21.8                                          | 45            | 17 43                                            | 18 12    | 18 46          | 4 38    | 33             | 67 |
| 19  | 105                                                | 49.1 |                                                                                                                                                                       | 35.5 | 147                                               | 29.7 <sup>112</sup> | 14.4                                              | 50            | 40                                               | 12       | 50             | 5 03    | 29             | 72 |
| 20  | 120                                                | 49.3 |                                                                                                                                                                       | 34.5 | 162                                               | 00.0 <sup>113</sup> | +24 06.9                                          | 52            | 38                                               | 12       | 51             | 16      | 26             | 74 |
| 21  | 135                                                | 49.5 |                                                                                                                                                                       | 33.6 | 176                                               | 30.3 <sup>113</sup> | +23 59.3                                          | 54            | 37                                               | 12       | 53             | 30      | 24             | 77 |
| 22  | 150                                                | 49.7 |                                                                                                                                                                       | 32.6 | 191                                               | 00.6 <sup>113</sup> | 51.6                                              | 56            | 35                                               | 12       | 56             | 5 47    | 20             | 82 |
| 23  | 165                                                | 50.0 |                                                                                                                                                                       | 31.7 | 205                                               | 30.9 <sup>113</sup> | 43.7                                              | 58            | 33                                               | 13       | 18 58          | 6 07    | 15             | 86 |
| 24  | 180                                                | 50.2 | +4                                                                                                                                                                    | 30.7 | 220                                               | 01.3 <sup>114</sup> | +23 35.8                                          | 60 S          | 17 31                                            | 18 13    | 19 01          | 6 31    | 9              | 93 |
| UT  | ARIES                                              |      | VENUS                                                                                                                                                                 |      | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                          |          |                |         |                |    |
|     | PMG<br>0 <sup>h</sup> 42 <sup>m</sup> 4            |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 04 <sup>m</sup>                                                                                                                      |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 12 <sup>h</sup> 31 <sup>m</sup> |               | Mag: +0.2<br>PMG: 8 <sup>h</sup> 26 <sup>m</sup> |          |                |         |                |    |
|     | hG ♈                                               |      | hG ♀                                                                                                                                                                  | Dec  | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                             | Dec      |                |         |                |    |
| h   | °                                                  | '    | °                                                                                                                                                                     | '    | °                                                 | '                   | °                                                 | '             | °                                                | '        |                |         |                |    |
| 0   | 349                                                | 21.9 | 224                                                                                                                                                                   | 05.3 | +18 03.7                                          | 178 39.6            | +5 04.8                                           | 171 56.1      | +2 17.3                                          | 233 11.1 | +21 04.5       |         |                |    |
| 1   | 4                                                  | 24.4 | 239                                                                                                                                                                   | 04.9 | 03.3                                              | 193 40.6            | 04.2                                              | 186 58.1      | 17.1                                             | 248 13.3 | 04.5           |         |                |    |
| 2   | 19                                                 | 26.8 | 254                                                                                                                                                                   | 04.6 | 02.8                                              | 208 41.6            | 03.5                                              | 202 00.1      | 16.9                                             | 263 15.5 | 04.5           |         |                |    |
| 3   | 34                                                 | 29.3 | 269                                                                                                                                                                   | 04.2 | 02.4                                              | 223 42.6            | 02.9                                              | 217 02.0      | 16.7                                             | 278 17.7 | 04.4           |         |                |    |
| 4   | 49                                                 | 31.8 | 284                                                                                                                                                                   | 03.8 | 02.0                                              | 238 43.6            | 02.2                                              | 232 04.0      | 16.5                                             | 293 19.9 | 04.4           |         |                |    |
| 5   | 64                                                 | 34.2 | 299                                                                                                                                                                   | 03.5 | +18 01.5                                          | 253 44.6            | +5 01.6                                           | 247 06.0      | +2 16.3                                          | 308 22.2 | +21 04.3       |         |                |    |
| 6   | 79                                                 | 36.7 | 314                                                                                                                                                                   | 03.1 | +18 01.1                                          | 268 45.6            | +5 01.0                                           | 262 07.9      | +2 16.0                                          | 323 24.4 | +21 04.3       |         |                |    |
| 7   | 94                                                 | 39.2 | 329                                                                                                                                                                   | 02.8 | 00.7                                              | 283 46.6            | +5 00.3                                           | 277 09.9      | 15.8                                             | 338 26.6 | 04.3           |         |                |    |
| 8   | 109                                                | 41.6 | 344                                                                                                                                                                   | 02.4 | +18 00.2                                          | 298 47.6            | +4 59.7                                           | 292 11.9      | 15.6                                             | 353 28.8 | 04.2           |         |                |    |
| 9   | 124                                                | 44.1 | 359                                                                                                                                                                   | 02.0 | +17 59.8                                          | 313 48.6            | 59.0                                              | 307 13.9      | 15.4                                             | 8 31.0   | 04.2           |         |                |    |
| 10  | 139                                                | 46.5 | 14                                                                                                                                                                    | 01.7 | 59.4                                              | 328 49.5            | 58.4                                              | 322 15.8      | 15.2                                             | 23 33.2  | 04.1           |         |                |    |
| 11  | 154                                                | 49.0 | 29                                                                                                                                                                    | 01.3 | +17 58.9                                          | 343 50.5            | +4 57.8                                           | 337 17.8      | +2 15.0                                          | 38 35.5  | +21 04.1       |         |                |    |
| 12  | 169                                                | 51.5 | 44                                                                                                                                                                    | 00.9 | +17 58.5                                          | 358 51.5            | +4 57.1                                           | 352 19.8      | +2 14.8                                          | 53 37.7  | +21 04.1       |         |                |    |
| 13  | 184                                                | 53.9 | 59                                                                                                                                                                    | 00.6 | 58.0                                              | 13 52.5             | 56.5                                              | 7 21.7        | 14.6                                             | 68 39.9  | 04.0           |         |                |    |
| 14  | 199                                                | 56.4 | 74                                                                                                                                                                    | 00.2 | 57.6                                              | 28 53.5             | 55.8                                              | 22 23.7       | 14.3                                             | 83 42.1  | 04.0           |         |                |    |
| 15  | 214                                                | 58.9 | 88                                                                                                                                                                    | 59.9 | 57.1                                              | 43 54.5             | 55.2                                              | 37 25.7       | 14.1                                             | 98 44.3  | 04.0           |         |                |    |
| 16  | 230                                                | 01.3 | 103                                                                                                                                                                   | 59.5 | 56.7                                              | 58 55.5             | 54.6                                              | 52 27.7       | 13.9                                             | 113 46.5 | 03.9           |         |                |    |
| 17  | 245                                                | 03.8 | 118                                                                                                                                                                   | 59.1 | +17 56.3                                          | 73 56.5             | +4 53.9                                           | 67 29.6       | +2 13.7                                          | 128 48.8 | +21 03.9       |         |                |    |
| 18  | 260                                                | 06.3 | 133                                                                                                                                                                   | 58.8 | +17 55.8                                          | 88 57.5             | +4 53.3                                           | 82 31.6       | +2 13.5                                          | 143 51.0 | +21 03.8       |         |                |    |
| 19  | 275                                                | 08.7 | 148                                                                                                                                                                   | 58.4 | 55.4                                              | 103 58.5            | 52.6                                              | 97 33.6       | 13.3                                             | 158 53.2 | 03.8           |         |                |    |
| 20  | 290                                                | 11.2 | 163                                                                                                                                                                   | 58.0 | 54.9                                              | 118 59.4            | 52.0                                              | 112 35.5      | 13.1                                             | 173 55.4 | 03.8           |         |                |    |
| 21  | 305                                                | 13.7 | 178                                                                                                                                                                   | 57.7 | 54.5                                              | 134 00.4            | 51.4                                              | 127 37.5      | 12.8                                             | 188 57.6 | 03.7           |         |                |    |
| 22  | 320                                                | 16.1 | 193                                                                                                                                                                   | 57.3 | 54.0                                              | 149 01.4            | 50.7                                              | 142 39.5      | 12.6                                             | 203 59.8 | 03.7           |         |                |    |
| 23  | 335                                                | 18.6 | 208                                                                                                                                                                   | 57.0 | 53.6                                              | 164 02.4            | 50.1                                              | 157 41.4      | 12.4                                             | 219 02.1 | 03.7           |         |                |    |
| 24  | 350                                                | 21.0 | 223                                                                                                                                                                   | 56.6 | +17 53.1                                          | 179 03.4            | +4 49.4                                           | 172 43.4      | +2 12.2                                          | 234 04.3 | +21 03.6       |         |                |    |
| Dif | —                                                  |      | -4                                                                                                                                                                    | -4   | +10                                               | -6                  | +20                                               | -2            | +22                                              | 0        |                |         |                |    |

| UT  | SOL                                                |      |                                                  | ● LUNA                                                                                                                                                             |     |                                                   | Latitud                 | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |       |     |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|-------------------------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|-------|-----|------|-----|------|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 5 |      |                                                  | Edad: 25 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'9<br>12 <sup>h</sup> : 55'1<br>20 <sup>h</sup> : 55'2<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup> R°: 47 <sup>m</sup> |     |                                                   |                         |                          |                                                   |               |                |                                                  |                |       |     |      |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                               | Dif | Dec                                               |                         | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora  | R°  |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °                       | h                        | m                                                 | h             | m              | h                                                | m              | h     | m   |      |     |      |
| 0   | 180                                                | 50.2 | +4                                               | 30.7                                                                                                                                                               | 220 | 01.3                                              | +23 35.8                | 60 N                     | 3 43                                              | 4 36          | 5 19           | 0 05                                             | 94             | 18 39 | 3   |      |     |      |
| 1   | 195                                                | 50.4 |                                                  | 29.8                                                                                                                                                               | 234 | 31.8 <sup>115</sup>                               | 27.7 <sup>81</sup>      | 58                       | 3 52                                              | 41            | 22             | 25                                               | 88             | 25    | 7   |      |     |      |
| 2   | 210                                                | 50.6 |                                                  | 28.8                                                                                                                                                               | 249 | 02.3 <sup>115</sup>                               | 19.5 <sup>82</sup>      | 56                       | 4 00                                              | 46            | 24             | 42                                               | 83             | 12    | 11  |      |     |      |
| 3   | 225                                                | 50.8 |                                                  | 27.9                                                                                                                                                               | 263 | 32.8 <sup>115</sup>                               | 11.2 <sup>83</sup>      | 54                       | 07                                                | 50            | 26             | 0 56                                             | 79             | 18 01 | 14  |      |     |      |
| 4   | 240                                                | 51.0 |                                                  | 26.9                                                                                                                                                               | 278 | 03.4 <sup>116</sup>                               | +23 02.8 <sup>84</sup>  | 52                       | 13                                                | 54            | 28             | 1 08                                             | 76             | 17 51 | 17  |      |     |      |
| 5   | 255                                                | 51.3 | +4                                               | 26.0                                                                                                                                                               | 292 | 34.0 <sup>116</sup>                               | +22 54.2 <sup>86</sup>  | 50                       | 4 18                                              | 4 57          | 5 30           | 1 19                                             | 74             | 17 42 | 20  |      |     |      |
| 6   | 270                                                | 51.5 | +4                                               | 25.0                                                                                                                                                               | 307 | 04.7 <sup>117</sup>                               | +22 45.6 <sup>86</sup>  | 45                       | 4 29                                              | 5 04          | 5 34           | 1 42                                             | 68             | 17 23 | 25  |      |     |      |
| 7   | 285                                                | 51.7 |                                                  | 24.0                                                                                                                                                               | 321 | 35.4 <sup>117</sup>                               | 36.8 <sup>88</sup>      | 40                       | 38                                                | 10            | 37             | 2 00                                             | 64             | 17 08 | 28  |      |     |      |
| 8   | 300                                                | 51.9 |                                                  | 23.1                                                                                                                                                               | 336 | 06.2 <sup>118</sup>                               | 27.9 <sup>89</sup>      | 35                       | 45                                                | 15            | 40             | 15                                               | 61             | 16 55 | 32  |      |     |      |
| 9   | 315                                                | 52.1 |                                                  | 22.1                                                                                                                                                               | 350 | 37.0 <sup>118</sup>                               | 19.0 <sup>89</sup>      | 30                       | 50                                                | 18            | 42             | 28                                               | 59             | 43    | 35  |      |     |      |
| 10  | 330                                                | 52.4 |                                                  | 21.2                                                                                                                                                               | 5   | 07.8 <sup>118</sup>                               | 09.9 <sup>91</sup>      | 20                       | 4 59                                              | 24            | 47             | 2 50                                             | 55             | 24    | 39  |      |     |      |
| 11  | 345                                                | 52.6 | +4                                               | 20.2                                                                                                                                                               | 19  | 38.7 <sup>119</sup>                               | +22 00.7 <sup>92</sup>  | 10 N                     | 5 04                                              | 5 29          | 5 50           | 3 09                                             | 51             | 16 07 | 43  |      |     |      |
| 12  | 0                                                  | 52.8 | +4                                               | 19.3                                                                                                                                                               | 34  | 09.6 <sup>119</sup>                               | +21 51.4 <sup>93</sup>  | 0                        | 5 08                                              | 5 33          | 5 53           | 3 27                                             | 48             | 15 50 | 47  |      |     |      |
| 13  | 15                                                 | 53.0 |                                                  | 18.3                                                                                                                                                               | 48  | 40.6 <sup>120</sup>                               | 41.9 <sup>95</sup>      | 10 S                     | 11                                                | 35            | 56             | 3 45                                             | 44             | 34    | 51  |      |     |      |
| 14  | 30                                                 | 53.2 |                                                  | 17.4                                                                                                                                                               | 63  | 11.6 <sup>120</sup>                               | 32.4 <sup>95</sup>      | 20                       | 12                                                | 37            | 5 59           | 4 04                                             | 41             | 15 17 | 54  |      |     |      |
| 15  | 45                                                 | 53.5 |                                                  | 16.4                                                                                                                                                               | 77  | 42.7 <sup>121</sup>                               | 22.8 <sup>96</sup>      | 30                       | 11                                                | 39            | 6 03           | 26                                               | 36             | 14 56 | 59  |      |     |      |
| 16  | 60                                                 | 53.7 |                                                  | 15.5                                                                                                                                                               | 92  | 13.8 <sup>121</sup>                               | 13.1 <sup>97</sup>      | 35                       | 10                                                | 40            | 05             | 39                                               | 33             | 44    | 62  |      |     |      |
| 17  | 75                                                 | 53.9 | +4                                               | 14.5                                                                                                                                                               | 106 | 44.9 <sup>121</sup>                               | +21 03.2 <sup>99</sup>  | 40                       | 5 09                                              | 5 40          | 6 07           | 4 53                                             | 31             | 14 31 | 65  |      |     |      |
| 18  | 90                                                 | 54.1 | +4                                               | 13.6                                                                                                                                                               | 121 | 16.1 <sup>122</sup>                               | +20 53.3 <sup>99</sup>  | 45                       | 5 06                                              | 5 40          | 6 10           | 5 11                                             | 27             | 14 14 | 70  |      |     |      |
| 19  | 105                                                | 54.3 |                                                  | 12.6                                                                                                                                                               | 135 | 47.4 <sup>123</sup>                               | 43.2 <sup>101</sup>     | 50                       | 03                                                | 40            | 12             | 32                                               | 22             | 13 54 | 75  |      |     |      |
| 20  | 120                                                | 54.6 |                                                  | 11.7                                                                                                                                                               | 150 | 18.7 <sup>123</sup>                               | 33.1 <sup>101</sup>     | 52                       | 5 01                                              | 40            | 14             | 42                                               | 20             | 44    | 78  |      |     |      |
| 21  | 135                                                | 54.8 |                                                  | 10.7                                                                                                                                                               | 164 | 50.0 <sup>123</sup>                               | 22.8 <sup>103</sup>     | 54                       | 4 59                                              | 40            | 15             | 5 54                                             | 16             | 33    | 81  |      |     |      |
| 22  | 150                                                | 55.0 |                                                  | 09.7                                                                                                                                                               | 179 | 21.4 <sup>124</sup>                               | 12.5 <sup>103</sup>     | 56                       | 57                                                | 40            | 17             | 6 07                                             | 13             | 21    | 84  |      |     |      |
| 23  | 165                                                | 55.2 |                                                  | 08.8                                                                                                                                                               | 193 | 52.8 <sup>124</sup>                               | +20 02.0 <sup>105</sup> | 58                       | 54                                                | 40            | 19             | 22                                               | 9              | 13 06 | 89  |      |     |      |
| 24  | 180                                                | 55.4 | +4                                               | 07.8                                                                                                                                                               | 208 | 24.2 <sup>124</sup>                               | +19 51.5 <sup>105</sup> | 60 S                     | 4 51                                              | 5 39          | 6 21           | 6 40                                             | 3              | 12 49 | 94  |      |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                    |     | MARTE                                             |                         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |       |     |      |     |      |
|     | PMG: 0 <sup>h</sup> 38 <sup>m</sup> 5              |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 04 <sup>m</sup> |                                                                                                                                                                    |     | Mag: +1.7<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> |                         |                          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 27 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 8 <sup>h</sup> 22 <sup>m</sup> |                |       |     |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                |     | hG ♂                                              | Dec                     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |       |     |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °                       | '                        | °                                                 | '             | °              | '                                                | °              | '     |     |      |     |      |
| 0   | 350                                                | 21.0 | 223                                              | 56.6                                                                                                                                                               | +17 | 53.1                                              | 179                     | 03.4                     | +4                                                | 49.4          | 172            | 43.4                                             | +2             | 12.2  | 234 | 04.3 | +21 | 03.6 |
| 1   | 5                                                  | 23.5 | 238                                              | 56.2                                                                                                                                                               |     | 52.7                                              | 194                     | 04.4                     |                                                   | 48.8          | 187            | 45.4                                             |                | 12.0  | 249 | 06.5 |     | 03.6 |
| 2   | 20                                                 | 26.0 | 253                                              | 55.9                                                                                                                                                               |     | 52.2                                              | 209                     | 05.4                     |                                                   | 48.2          | 202            | 47.4                                             |                | 11.8  | 264 | 08.7 |     | 03.5 |
| 3   | 35                                                 | 28.4 | 268                                              | 55.5                                                                                                                                                               |     | 51.8                                              | 224                     | 06.4                     |                                                   | 47.5          | 217            | 49.3                                             |                | 11.6  | 279 | 10.9 |     | 03.5 |
| 4   | 50                                                 | 30.9 | 283                                              | 55.1                                                                                                                                                               |     | 51.3                                              | 239                     | 07.4                     |                                                   | 46.9          | 232            | 51.3                                             |                | 11.3  | 294 | 13.1 |     | 03.5 |
| 5   | 65                                                 | 33.4 | 298                                              | 54.8                                                                                                                                                               | +17 | 50.8                                              | 254                     | 08.4                     | +4                                                | 46.2          | 247            | 53.3                                             | +2             | 11.1  | 309 | 15.4 | +21 | 03.4 |
| 6   | 80                                                 | 35.8 | 313                                              | 54.4                                                                                                                                                               | +17 | 50.4                                              | 269                     | 09.4                     | +4                                                | 45.6          | 262            | 55.2                                             | +2             | 10.9  | 324 | 17.6 | +21 | 03.4 |
| 7   | 95                                                 | 38.3 | 328                                              | 54.0                                                                                                                                                               |     | 49.9                                              | 284                     | 10.3                     |                                                   | 45.0          | 277            | 57.2                                             |                | 10.7  | 339 | 19.8 |     | 03.3 |
| 8   | 110                                                | 40.8 | 343                                              | 53.7                                                                                                                                                               |     | 49.5                                              | 299                     | 11.3                     |                                                   | 44.3          | 292            | 59.2                                             |                | 10.5  | 354 | 22.0 |     | 03.3 |
| 9   | 125                                                | 43.2 | 358                                              | 53.3                                                                                                                                                               |     | 49.0                                              | 314                     | 12.3                     |                                                   | 43.7          | 308            | 01.2                                             |                | 10.3  | 9   | 24.2 |     | 03.3 |
| 10  | 140                                                | 45.7 | 13                                               | 52.9                                                                                                                                                               |     | 48.6                                              | 329                     | 13.3                     |                                                   | 43.0          | 323            | 03.1                                             |                | 10.1  | 24  | 26.4 |     | 03.2 |
| 11  | 155                                                | 48.2 | 28                                               | 52.6                                                                                                                                                               | +17 | 48.1                                              | 344                     | 14.3                     | +4                                                | 42.4          | 338            | 05.1                                             | +2             | 09.9  | 39  | 28.7 | +21 | 03.2 |
| 12  | 170                                                | 50.6 | 43                                               | 52.2                                                                                                                                                               | +17 | 47.6                                              | 359                     | 15.3                     | +4                                                | 41.7          | 353            | 07.1                                             | +2             | 09.6  | 54  | 30.9 | +21 | 03.2 |
| 13  | 185                                                | 53.1 | 58                                               | 51.8                                                                                                                                                               |     | 47.2                                              | 14                      | 16.3                     |                                                   | 41.1          | 8              | 09.0                                             |                | 09.4  | 69  | 33.1 |     | 03.1 |
| 14  | 200                                                | 55.5 | 73                                               | 51.5                                                                                                                                                               |     | 46.7                                              | 29                      | 17.3                     |                                                   | 40.5          | 23             | 11.0                                             |                | 09.2  | 84  | 35.3 |     | 03.1 |
| 15  | 215                                                | 58.0 | 88                                               | 51.1                                                                                                                                                               |     | 46.2                                              | 44                      | 18.3                     |                                                   | 39.8          | 38             | 13.0                                             |                | 09.0  | 99  | 37.5 |     | 03.0 |
| 16  | 231                                                | 00.5 | 103                                              | 50.7                                                                                                                                                               |     | 45.8                                              | 59                      | 19.3                     |                                                   | 39.2          | 53             | 14.9                                             |                | 08.8  | 114 | 39.8 |     | 03.0 |
| 17  | 246                                                | 02.9 | 118                                              | 50.4                                                                                                                                                               | +17 | 45.3                                              | 74                      | 20.3                     | +4                                                | 38.5          | 68             | 16.9                                             | +2             | 08.6  | 129 | 42.0 | +21 | 03.0 |
| 18  | 261                                                | 05.4 | 133                                              | 50.0                                                                                                                                                               | +17 | 44.8                                              | 89                      | 21.2                     | +4                                                | 37.9          | 83             | 18.9                                             | +2             | 08.4  | 144 | 44.2 | +21 | 02.9 |
| 19  | 276                                                | 07.9 | 148                                              | 49.6                                                                                                                                                               |     | 44.4                                              | 104                     | 22.2                     |                                                   | 37.3          | 98             | 20.9                                             |                | 08.1  | 159 | 46.4 |     | 02.9 |
| 20  | 291                                                | 10.3 | 163                                              | 49.3                                                                                                                                                               |     | 43.9                                              | 119                     | 23.2                     |                                                   | 36.6          | 113            | 22.8                                             |                | 07.9  | 174 | 48.6 |     | 02.9 |
| 21  | 306                                                | 12.8 | 178                                              | 48.9                                                                                                                                                               |     | 43.4                                              | 134                     | 24.2                     |                                                   | 36.0          | 128            | 24.8                                             |                | 07.7  | 189 | 50.9 |     | 02.8 |
| 22  | 321                                                | 15.3 | 193                                              | 48.5                                                                                                                                                               |     | 43.0                                              | 149                     | 25.2                     |                                                   | 35.3          | 143            | 26.8                                             |                | 07.5  | 204 | 53.1 |     | 02.8 |
| 23  | 336                                                | 17.7 | 208                                              | 48.2                                                                                                                                                               |     | 42.5                                              | 164                     | 26.2                     |                                                   | 34.7          | 158            | 28.7                                             |                | 07.3  | 219 | 55.3 |     | 02.7 |
| 24  | 351                                                | 20.2 | 223                                              | 47.8                                                                                                                                                               | +17 | 42.0                                              | 179                     | 27.2                     | +4                                                | 34.0          | 173            | 30.7                                             | +2             | 07.1  | 234 | 57.5 | +21 | 02.7 |
| Dif | —                                                  |      | -4                                               |                                                                                                                                                                    | -5  |                                                   | +10                     |                          | -6                                                |               | +20            |                                                  | -2             |       | +22 |      |     |      |

| UT  | SOL                                                |      | ● LUNA                                                                                                                                                                                |      |      |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                              |         | Salida de Luna |                                                  | Puesta de Luna |      |          |
|-----|----------------------------------------------------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|---------------------------------------------------|-------------------------|---------------|---------------------------------------------------|---------|----------------|--------------------------------------------------|----------------|------|----------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 1 |      | Edad: 26 <sup>d</sup> 9 PHE {<br>SD: 15°1<br>PMG: 10 <sup>h</sup> 26 <sup>m</sup><br>4 <sup>h</sup> : 55/4<br>12 <sup>h</sup> : 55/6<br>20 <sup>h</sup> : 55/7<br>R°: 46 <sup>m</sup> |      |      |                                                   |                         |               |                                                   |         |                |                                                  |                |      |          |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                                                                                  | Dif  | Dec  | Dif                                               |                         |               | Civil                                             | Náutico | Hora           | R°                                               | Hora           | R°   |          |
| h   | °                                                  | '    | °                                                                                                                                                                                     | '    | °    | '                                                 | °                       | h m           | h m                                               | h m     | h m m          | h m m                                            | h m m          |      |          |
| 0   | 180                                                | 55.4 | +4                                                                                                                                                                                    | 07.8 | 208  | 24.2                                              | +19 51.5                | 60 N          | 18 29                                             | 19 12   | 20 05          | 1 39 93                                          | 18 42 1        |      |          |
| 1   | 195                                                | 55.7 |                                                                                                                                                                                       | 06.9 | 222  | 55.8 <sup>126</sup>                               | 40.9 <sup>106</sup>     | 58            | 27                                                | 07      | 19 56          | 1 53 88                                          | 32 5           |      |          |
| 2   | 210                                                | 55.9 |                                                                                                                                                                                       | 05.9 | 237  | 27.3 <sup>125</sup>                               | 30.1 <sup>108</sup>     | 56            | 25                                                | 19 03   | 49             | 2 05 84                                          | 23 8           |      |          |
| 3   | 225                                                | 56.1 |                                                                                                                                                                                       | 05.0 | 251  | 58.9 <sup>126</sup>                               | 19.3 <sup>108</sup>     | 54            | 23                                                | 18 59   | 42             | 15 81                                            | 15 1           |      |          |
| 4   | 240                                                | 56.3 |                                                                                                                                                                                       | 04.0 | 266  | 30.5 <sup>126</sup>                               | +19 08.3 <sup>110</sup> | 52            | 21                                                | 55      | 36             | 24 78                                            | 08 14          |      |          |
| 5   | 255                                                | 56.5 | +4                                                                                                                                                                                    | 03.1 | 281  | 02.2 <sup>127</sup>                               | +18 57.3 <sup>110</sup> | 50            | 18 20                                             | 18 52   | 19 31          | 2 33 75                                          | 18 02 16       |      |          |
| 6   | 270                                                | 56.8 | +4                                                                                                                                                                                    | 02.1 | 295  | 33.9 <sup>127</sup>                               | +18 46.2 <sup>111</sup> | 45            | 18 16                                             | 18 46   | 19 21          | 2 50 70                                          | 17 48 21       |      |          |
| 7   | 285                                                | 57.0 |                                                                                                                                                                                       | 01.2 | 310  | 05.7 <sup>128</sup>                               | 35.0 <sup>112</sup>     | 40            | 13                                                | 41      | 13             | 3 04 66                                          | 36 26          |      |          |
| 8   | 300                                                | 57.2 | +4                                                                                                                                                                                    | 00.2 | 324  | 37.5 <sup>128</sup>                               | 23.7 <sup>113</sup>     | 35            | 11                                                | 36      | 06             | 16 63                                            | 27 28          |      |          |
| 9   | 315                                                | 57.4 | +3                                                                                                                                                                                    | 59.2 | 339  | 09.3 <sup>128</sup>                               | 12.3 <sup>114</sup>     | 30            | 09                                                | 33      | 19 01          | 27 59                                            | 18 31          |      |          |
| 10  | 330                                                | 57.6 |                                                                                                                                                                                       | 58.3 | 353  | 41.2 <sup>129</sup>                               | +18 00.8 <sup>115</sup> | 20            | 05                                                | 27      | 18 53          | 3 45 54                                          | 17 03 36       |      |          |
| 11  | 345                                                | 57.9 | +3                                                                                                                                                                                    | 57.3 | 8    | 13.1 <sup>129</sup>                               | +17 49.2 <sup>116</sup> | 10 N          | 18 02                                             | 18 23   | 18 48          | 4 00 50                                          | 16 50 41       |      |          |
| 12  | 0                                                  | 58.1 | +3                                                                                                                                                                                    | 56.4 | 22   | 45.1 <sup>130</sup>                               | +17 37.5 <sup>117</sup> | 0             | 17 59                                             | 18 20   | 18 44          | 4 15 46                                          | 16 37 45       |      |          |
| 13  | 15                                                 | 58.3 |                                                                                                                                                                                       | 55.4 | 37   | 17.1 <sup>130</sup>                               | 25.7 <sup>118</sup>     | 10 S          | 57                                                | 18      | 42             | 29 42                                            | 25 49          |      |          |
| 14  | 30                                                 | 58.5 |                                                                                                                                                                                       | 54.5 | 51   | 49.2 <sup>131</sup>                               | 13.9 <sup>118</sup>     | 20            | 54                                                | 16      | 42             | 4 45 37                                          | 16 11 54       |      |          |
| 15  | 45                                                 | 58.7 |                                                                                                                                                                                       | 53.5 | 66   | 21.2 <sup>130</sup>                               | +17 02.0 <sup>119</sup> | 30            | 51                                                | 15      | 43             | 5 02 33                                          | 15 55 60       |      |          |
| 16  | 60                                                 | 59.0 |                                                                                                                                                                                       | 52.6 | 80   | 53.4 <sup>132</sup>                               | +16 49.9 <sup>121</sup> | 35            | 49                                                | 15      | 44             | 12 30                                            | 46 63          |      |          |
| 17  | 75                                                 | 59.2 | +3                                                                                                                                                                                    | 51.6 | 95   | 25.5 <sup>131</sup>                               | +16 37.8 <sup>121</sup> | 40            | 17 47                                             | 18 14   | 18 46          | 5 24 27                                          | 15 36 66       |      |          |
| 18  | 90                                                 | 59.4 | +3                                                                                                                                                                                    | 50.6 | 109  | 57.7 <sup>132</sup>                               | +16 25.7 <sup>121</sup> | 45            | 17 45                                             | 18 15   | 18 49          | 5 38 22                                          | 15 24 70       |      |          |
| 19  | 105                                                | 59.6 |                                                                                                                                                                                       | 49.7 | 124  | 30.0 <sup>133</sup>                               | 13.4 <sup>123</sup>     | 50            | 43                                                | 15      | 53             | 5 54 18                                          | 09 75          |      |          |
| 20  | 120                                                | 59.8 |                                                                                                                                                                                       | 48.7 | 139  | 02.2 <sup>132</sup>                               | +16 01.0 <sup>124</sup> | 52            | 42                                                | 15      | 55             | 6 02 15                                          | 15 02 77       |      |          |
| 21  | 136                                                | 00.1 |                                                                                                                                                                                       | 47.8 | 153  | 34.5 <sup>133</sup>                               | +15 48.6 <sup>124</sup> | 54            | 40                                                | 16      | 18 57          | 10 13                                            | 14 54 80       |      |          |
| 22  | 151                                                | 00.3 |                                                                                                                                                                                       | 46.8 | 168  | 06.9 <sup>134</sup>                               | 36.1 <sup>125</sup>     | 56            | 39                                                | 16      | 19 00          | 20 9                                             | 45 84          |      |          |
| 23  | 166                                                | 00.5 |                                                                                                                                                                                       | 45.9 | 182  | 39.3 <sup>134</sup>                               | 23.5 <sup>126</sup>     | 58            | 38                                                | 17      | 03             | 31 6                                             | 35 88          |      |          |
| 24  | 181                                                | 00.7 | +3                                                                                                                                                                                    | 44.9 | 197  | 11.7 <sup>134</sup>                               | +15 10.8 <sup>127</sup> | 60 S          | 17 36                                             | 18 17   | 19 06          | 6 43 2                                           | 14 23 93       |      |          |
| UT  | ARIES                                              |      | VENUS                                                                                                                                                                                 |      |      | MARTE                                             |                         |               | JÚPITER                                           |         |                | SATURNO                                          |                |      |          |
|     | PMG: 0 <sup>h</sup> 34 <sup>m</sup> 6              |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 05 <sup>m</sup>                                                                                                                                      |      |      | Mag: +1.7<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> |                         |               | Mag: -1.7<br>PMG: 12 <sup>h</sup> 24 <sup>m</sup> |         |                | Mag: +0.2<br>PMG: 8 <sup>h</sup> 19 <sup>m</sup> |                |      |          |
|     | hG ♈                                               |      | hG ♀                                                                                                                                                                                  | Dec  |      | hG ♂                                              | Dec                     |               | hG ♃                                              | Dec     |                | hG ♄                                             | Dec            |      |          |
| h   | °                                                  | '    | °                                                                                                                                                                                     | '    | °    | '                                                 | °                       | '             | °                                                 | '       | °              | '                                                | °              | '    |          |
| 0   | 351                                                | 20.2 |                                                                                                                                                                                       | 223  | 47.8 | +17 42.0                                          | 179                     | 27.2          | +4 34.0                                           | 173     | 30.7           | +2 07.1                                          | 234            | 57.5 | +21 02.7 |
| 1   | 6                                                  | 22.6 |                                                                                                                                                                                       | 238  | 47.4 | 41.6                                              | 194                     | 28.2          | 33.4                                              | 188     | 32.7           | 06.9                                             | 249            | 59.7 | 02.7     |
| 2   | 21                                                 | 25.1 |                                                                                                                                                                                       | 253  | 47.1 | 41.1                                              | 209                     | 29.2          | 32.8                                              | 203     | 34.7           | 06.6                                             | 265            | 02.0 | 02.6     |
| 3   | 36                                                 | 27.6 |                                                                                                                                                                                       | 268  | 46.7 | 40.6                                              | 224                     | 30.2          | 32.1                                              | 218     | 36.6           | 06.4                                             | 280            | 04.2 | 02.6     |
| 4   | 51                                                 | 30.0 |                                                                                                                                                                                       | 283  | 46.3 | 40.1                                              | 239                     | 31.2          | 31.5                                              | 233     | 38.6           | 06.2                                             | 295            | 06.4 | 02.6     |
| 5   | 66                                                 | 32.5 |                                                                                                                                                                                       | 298  | 46.0 | +17 39.7                                          | 254                     | 32.1          | +4 30.8                                           | 248     | 40.6           | +2 06.0                                          | 310            | 08.6 | +21 02.5 |
| 6   | 81                                                 | 35.0 |                                                                                                                                                                                       | 313  | 45.6 | +17 39.2                                          | 269                     | 33.1          | +4 30.2                                           | 263     | 42.5           | +2 05.8                                          | 325            | 10.8 | +21 02.5 |
| 7   | 96                                                 | 37.4 |                                                                                                                                                                                       | 328  | 45.2 | 38.7                                              | 284                     | 34.1          | 29.6                                              | 278     | 44.5           | 05.6                                             | 340            | 13.1 | 02.4     |
| 8   | 111                                                | 39.9 |                                                                                                                                                                                       | 343  | 44.9 | 38.2                                              | 299                     | 35.1          | 28.9                                              | 293     | 46.5           | 05.4                                             | 355            | 15.3 | 02.4     |
| 9   | 126                                                | 42.4 |                                                                                                                                                                                       | 358  | 44.5 | 37.7                                              | 314                     | 36.1          | 28.3                                              | 308     | 48.4           | 05.1                                             | 10             | 17.5 | 02.4     |
| 10  | 141                                                | 44.8 |                                                                                                                                                                                       | 13   | 44.1 | 37.3                                              | 329                     | 37.1          | 27.6                                              | 323     | 50.4           | 04.9                                             | 25             | 19.7 | 02.3     |
| 11  | 156                                                | 47.3 |                                                                                                                                                                                       | 28   | 43.8 | +17 36.8                                          | 344                     | 38.1          | +4 27.0                                           | 338     | 52.4           | +2 04.7                                          | 40             | 22.0 | +21 02.3 |
| 12  | 171                                                | 49.8 |                                                                                                                                                                                       | 43   | 43.4 | +17 36.3                                          | 359                     | 39.1          | +4 26.3                                           | 353     | 54.4           | +2 04.5                                          | 55             | 24.2 | +21 02.3 |
| 13  | 186                                                | 52.2 |                                                                                                                                                                                       | 58   | 43.0 | 35.8                                              | 14                      | 40.1          | 25.7                                              | 8       | 56.3           | 04.3                                             | 70             | 26.4 | 02.2     |
| 14  | 201                                                | 54.7 |                                                                                                                                                                                       | 73   | 42.7 | 35.3                                              | 29                      | 41.1          | 25.1                                              | 23      | 58.3           | 04.1                                             | 85             | 28.6 | 02.2     |
| 15  | 216                                                | 57.1 |                                                                                                                                                                                       | 88   | 42.3 | 34.8                                              | 44                      | 42.1          | 24.4                                              | 39      | 00.3           | 03.9                                             | 100            | 30.8 | 02.1     |
| 16  | 231                                                | 59.6 |                                                                                                                                                                                       | 103  | 41.9 | 34.4                                              | 59                      | 43.0          | 23.8                                              | 54      | 02.2           | 03.7                                             | 115            | 33.1 | 02.1     |
| 17  | 247                                                | 02.1 |                                                                                                                                                                                       | 118  | 41.5 | +17 33.9                                          | 74                      | 44.0          | +4 23.1                                           | 69      | 04.2           | +2 03.4                                          | 130            | 35.3 | +21 02.1 |
| 18  | 262                                                | 04.5 |                                                                                                                                                                                       | 133  | 41.2 | +17 33.4                                          | 89                      | 45.0          | +4 22.5                                           | 84      | 06.2           | +2 03.2                                          | 145            | 37.5 | +21 02.0 |
| 19  | 277                                                | 07.0 |                                                                                                                                                                                       | 148  | 40.8 | 32.9                                              | 104                     | 46.0          | 21.8                                              | 99      | 08.1           | 03.0                                             | 160            | 39.7 | 02.0     |
| 20  | 292                                                | 09.5 |                                                                                                                                                                                       | 163  | 40.4 | 32.4                                              | 119                     | 47.0          | 21.2                                              | 114     | 10.1           | 02.8                                             | 175            | 42.0 | 02.0     |
| 21  | 307                                                | 11.9 |                                                                                                                                                                                       | 178  | 40.1 | 31.9                                              | 134                     | 48.0          | 20.6                                              | 129     | 12.1           | 02.6                                             | 190            | 44.2 | 01.9     |
| 22  | 322                                                | 14.4 |                                                                                                                                                                                       | 193  | 39.7 | 31.4                                              | 149                     | 49.0          | 19.9                                              | 144     | 14.1           | 02.4                                             | 205            | 46.4 | 01.9     |
| 23  | 337                                                | 16.9 |                                                                                                                                                                                       | 208  | 39.3 | 30.9                                              | 164                     | 50.0          | 19.3                                              | 159     | 16.0           | 02.2                                             | 220            | 48.6 | 01.8     |
| 24  | 352                                                | 19.3 |                                                                                                                                                                                       | 223  | 38.9 | +17 30.4                                          | 179                     | 51.0          | +4 18.6                                           | 174     | 18.0           | +2 01.9                                          | 235            | 50.8 | +21 01.8 |
| Dif | —                                                  |      | -4                                                                                                                                                                                    | -5   |      | +10                                               | -6                      |               | +20                                               | -2      |                | +22                                              |                |      | 0        |

| UT  | SOL                                                |      |                                                  | ● LUNA                                                                                                                         |                     |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |          |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|----------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> 8 |      |                                                  | Edad: 27 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 55°9<br>12 <sup>h</sup> : 56°1<br>20 <sup>h</sup> : 56°3<br>R°: 44 <sup>m</sup> |                     |                                                   |         |                          |                                                   |               |                |                                                  |                |          |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                           | Dif                 | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora     |
| h   | °                                                  | '    | °                                                | °                                                                                                                              | '                   | °                                                 | °       | h                        | m                                                 | h             | m              | h                                                | m              | m        |
| 0   | 181                                                | 00.7 | +3 44.9                                          | 197                                                                                                                            | 11.7                | +15 10.8                                          | 60 N    | 3 48                     | 4 41                                              | 5 24          | 3 12           | 91                                               | 18 43          | 0        |
| 1   | 196                                                | 00.9 |                                                  | 211                                                                                                                            | 44.1 <sup>134</sup> | +14 58.1 <sup>127</sup>                           | 58      | 3 57                     | 46                                                | 26            | 21             | 87                                               | 37             | 4        |
| 2   | 211                                                | 01.2 |                                                  | 226                                                                                                                            | 16.6 <sup>135</sup> | 45.2 <sup>129</sup>                               | 56      | 4 04                     | 50                                                | 28            | 29             | 84                                               | 31             | 7        |
| 3   | 226                                                | 01.4 |                                                  | 240                                                                                                                            | 49.1 <sup>135</sup> | 32.3 <sup>129</sup>                               | 54      | 11                       | 54                                                | 30            | 36             | 81                                               | 26             | 10       |
| 4   | 241                                                | 01.6 |                                                  | 255                                                                                                                            | 21.7 <sup>136</sup> | 19.3 <sup>130</sup>                               | 52      | 16                       | 4 57                                              | 32            | 42             | 78                                               | 22             | 12       |
| 5   | 256                                                | 01.8 | +3 40.1                                          | 269                                                                                                                            | 54.2 <sup>135</sup> | +14 06.3 <sup>130</sup>                           | 50      | 4 21                     | 5 00                                              | 5 33          | 3 48           | 75                                               | 18 18          | 14       |
| 6   | 271                                                | 02.0 | +3 39.1                                          | 284                                                                                                                            | 26.8 <sup>136</sup> | +13 53.2 <sup>131</sup>                           | 45      | 4 32                     | 5 07                                              | 5 36          | 4 00           | 70                                               | 18 09          | 19       |
| 7   | 286                                                | 02.3 |                                                  | 298                                                                                                                            | 59.5 <sup>137</sup> | 40.0 <sup>132</sup>                               | 40      | 40                       | 12                                                | 39            | 10             | 66                                               | 18 02          | 23       |
| 8   | 301                                                | 02.5 |                                                  | 313                                                                                                                            | 32.2 <sup>137</sup> | 26.7 <sup>133</sup>                               | 35      | 46                       | 16                                                | 42            | 19             | 62                                               | 17 55          | 27       |
| 9   | 316                                                | 02.7 |                                                  | 328                                                                                                                            | 04.8 <sup>136</sup> | +13 13.3 <sup>134</sup>                           | 30      | 51                       | 20                                                | 44            | 26             | 59                                               | 49             | 30       |
| 10  | 331                                                | 02.9 |                                                  | 342                                                                                                                            | 37.6 <sup>138</sup> | +12 59.9 <sup>134</sup>                           | 20      | 4 59                     | 25                                                | 47            | 39             | 54                                               | 39             | 36       |
| 11  | 346                                                | 03.2 | +3 34.4                                          | 357                                                                                                                            | 10.3 <sup>137</sup> | +12 46.5 <sup>134</sup>                           | 10 N    | 5 04                     | 5 29                                              | 5 50          | 4 50           | 49                                               | 17 31          | 40       |
| 12  | 1                                                  | 03.4 | +3 33.4                                          | 11                                                                                                                             | 43.1 <sup>138</sup> | +12 32.9 <sup>136</sup>                           | 0       | 5 08                     | 5 32                                              | 5 53          | 5 01           | 45                                               | 17 22          | 45       |
| 13  | 16                                                 | 03.6 |                                                  | 26                                                                                                                             | 15.9 <sup>138</sup> | 19.3 <sup>136</sup>                               | 10 S    | 10                       | 34                                                | 55            | 11             | 41                                               | 14             | 49       |
| 14  | 31                                                 | 03.8 |                                                  | 40                                                                                                                             | 48.7 <sup>138</sup> | +12 05.6 <sup>137</sup>                           | 20      | 10                       | 36                                                | 5 58          | 22             | 36                                               | 17 05          | 54       |
| 15  | 46                                                 | 04.0 |                                                  | 55                                                                                                                             | 21.6 <sup>139</sup> | +11 51.9 <sup>137</sup>                           | 30      | 09                       | 37                                                | 6 00          | 35             | 31                                               | 16 55          | 59       |
| 16  | 61                                                 | 04.3 |                                                  | 69                                                                                                                             | 54.5 <sup>139</sup> | 38.1 <sup>138</sup>                               | 35      | 08                       | 37                                                | 02            | 42             | 28                                               | 49             | 62       |
| 17  | 76                                                 | 04.5 | +3 28.6                                          | 84                                                                                                                             | 27.4 <sup>139</sup> | +11 24.2 <sup>139</sup>                           | 40      | 5 05                     | 5 37                                              | 6 04          | 5 51           | 24                                               | 16 42          | 66       |
| 18  | 91                                                 | 04.7 | +3 27.6                                          | 99                                                                                                                             | 00.3 <sup>139</sup> | +11 10.3 <sup>139</sup>                           | 45      | 5 03                     | 5 37                                              | 6 06          | 6 00           | 20                                               | 16 34          | 70       |
| 19  | 106                                                | 04.9 |                                                  | 113                                                                                                                            | 33.3 <sup>140</sup> | +10 56.3 <sup>140</sup>                           | 50      | 4 59                     | 36                                                | 08            | 12             | 15                                               | 24             | 76       |
| 20  | 121                                                | 05.1 |                                                  | 128                                                                                                                            | 06.2 <sup>139</sup> | 42.2 <sup>141</sup>                               | 52      | 56                       | 36                                                | 09            | 17             | 13                                               | 19             | 79       |
| 21  | 136                                                | 05.4 |                                                  | 142                                                                                                                            | 39.2 <sup>140</sup> | 28.1 <sup>141</sup>                               | 54      | 54                       | 35                                                | 10            | 23             | 10                                               | 14             | 81       |
| 22  | 151                                                | 05.6 |                                                  | 157                                                                                                                            | 12.2 <sup>140</sup> | +10 13.9 <sup>142</sup>                           | 56      | 51                       | 35                                                | 12            | 29             | 8                                                | 09             | 84       |
| 23  | 166                                                | 05.8 |                                                  | 171                                                                                                                            | 45.3 <sup>141</sup> | +9 59.7 <sup>142</sup>                            | 58      | 48                       | 34                                                | 13            | 37             | 4                                                | 16 03          | 87       |
| 24  | 181                                                | 06.0 | +3 21.9                                          | 186                                                                                                                            | 18.3 <sup>140</sup> | +9 45.4 <sup>143</sup>                            | 60 S    | 4 45                     | 5 33                                              | 6 15          | 6 45           | 0                                                | 15 56          | 91       |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                |                     | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |          |
|     | PMG: 0 <sup>h</sup> 30 <sup>m</sup> 6              |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 06 <sup>m</sup> |                                                                                                                                |                     | Mag: +1.7<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 21 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 8 <sup>h</sup> 15 <sup>m</sup> |                |          |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                            |                     | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |          |
| h   | °                                                  | '    | °                                                | °                                                                                                                              | '                   | °                                                 | °       | '                        | °                                                 | °             | '              | °                                                | °              | '        |
| 0   | 352                                                | 19.3 | 223                                              | 38.9                                                                                                                           | +17 30.4            | 179                                               | 51.0    | +4 18.6                  | 174                                               | 18.0          | +2 01.9        | 235                                              | 50.8           | +21 01.8 |
| 1   | 7                                                  | 21.8 | 238                                              | 38.6                                                                                                                           | 30.0                | 194                                               | 52.0    | 18.0                     | 189                                               | 20.0          | 01.7           | 250                                              | 53.1           | 01.8     |
| 2   | 22                                                 | 24.2 | 253                                              | 38.2                                                                                                                           | 29.5                | 209                                               | 53.0    | 17.3                     | 204                                               | 21.9          | 01.5           | 265                                              | 55.3           | 01.7     |
| 3   | 37                                                 | 26.7 | 268                                              | 37.8                                                                                                                           | 29.0                | 224                                               | 53.9    | 16.7                     | 219                                               | 23.9          | 01.3           | 280                                              | 57.5           | 01.7     |
| 4   | 52                                                 | 29.2 | 283                                              | 37.5                                                                                                                           | 28.5                | 239                                               | 54.9    | 16.0                     | 234                                               | 25.9          | 01.1           | 295                                              | 59.7           | 01.7     |
| 5   | 67                                                 | 31.6 | 298                                              | 37.1                                                                                                                           | +17 28.0            | 254                                               | 55.9    | +4 15.4                  | 249                                               | 27.8          | +2 00.9        | 311                                              | 02.0           | +21 01.6 |
| 6   | 82                                                 | 34.1 | 313                                              | 36.7                                                                                                                           | +17 27.5            | 269                                               | 56.9    | +4 14.8                  | 264                                               | 29.8          | +2 00.7        | 326                                              | 04.2           | +21 01.6 |
| 7   | 97                                                 | 36.6 | 328                                              | 36.4                                                                                                                           | 27.0                | 284                                               | 57.9    | 14.1                     | 279                                               | 31.8          | 00.4           | 341                                              | 06.4           | 01.5     |
| 8   | 112                                                | 39.0 | 343                                              | 36.0                                                                                                                           | 26.5                | 299                                               | 58.9    | 13.5                     | 294                                               | 33.8          | +2 00.2        | 356                                              | 08.6           | 01.5     |
| 9   | 127                                                | 41.5 | 358                                              | 35.6                                                                                                                           | 26.0                | 314                                               | 59.9    | 12.8                     | 309                                               | 35.7          | +2 00.0        | 11                                               | 10.9           | 01.5     |
| 10  | 142                                                | 44.0 | 13                                               | 35.2                                                                                                                           | 25.5                | 330                                               | 00.9    | 12.2                     | 324                                               | 37.7          | +1 59.8        | 26                                               | 13.1           | 01.4     |
| 11  | 157                                                | 46.4 | 28                                               | 34.9                                                                                                                           | +17 25.0            | 345                                               | 01.9    | +4 11.5                  | 339                                               | 39.7          | +1 59.6        | 41                                               | 15.3           | +21 01.4 |
| 12  | 172                                                | 48.9 | 43                                               | 34.5                                                                                                                           | +17 24.5            | 0                                                 | 02.9    | +4 10.9                  | 354                                               | 41.6          | +1 59.4        | 56                                               | 17.5           | +21 01.4 |
| 13  | 187                                                | 51.4 | 58                                               | 34.1                                                                                                                           | 24.0                | 15                                                | 03.9    | 10.3                     | 9                                                 | 43.6          | 59.2           | 71                                               | 19.8           | 01.3     |
| 14  | 202                                                | 53.8 | 73                                               | 33.7                                                                                                                           | 23.5                | 30                                                | 04.9    | 09.6                     | 24                                                | 45.6          | 58.9           | 86                                               | 22.0           | 01.3     |
| 15  | 217                                                | 56.3 | 88                                               | 33.4                                                                                                                           | 23.0                | 45                                                | 05.8    | 09.0                     | 39                                                | 47.5          | 58.7           | 101                                              | 24.2           | 01.3     |
| 16  | 232                                                | 58.7 | 103                                              | 33.0                                                                                                                           | 22.5                | 60                                                | 06.8    | 08.3                     | 54                                                | 49.5          | 58.5           | 116                                              | 26.4           | 01.2     |
| 17  | 248                                                | 01.2 | 118                                              | 32.6                                                                                                                           | +17 22.0            | 75                                                | 07.8    | +4 07.7                  | 69                                                | 51.5          | +1 58.3        | 131                                              | 28.7           | +21 01.2 |
| 18  | 263                                                | 03.7 | 133                                              | 32.3                                                                                                                           | +17 21.4            | 90                                                | 08.8    | +4 07.0                  | 84                                                | 53.4          | +1 58.1        | 146                                              | 30.9           | +21 01.1 |
| 19  | 278                                                | 06.1 | 148                                              | 31.9                                                                                                                           | 20.9                | 105                                               | 09.8    | 06.4                     | 99                                                | 55.4          | 57.9           | 161                                              | 33.1           | 01.1     |
| 20  | 293                                                | 08.6 | 163                                              | 31.5                                                                                                                           | 20.4                | 120                                               | 10.8    | 05.7                     | 114                                               | 57.4          | 57.7           | 176                                              | 35.3           | 01.1     |
| 21  | 308                                                | 11.1 | 178                                              | 31.1                                                                                                                           | 19.9                | 135                                               | 11.8    | 05.1                     | 129                                               | 59.4          | 57.4           | 191                                              | 37.6           | 01.0     |
| 22  | 323                                                | 13.5 | 193                                              | 30.8                                                                                                                           | 19.4                | 150                                               | 12.8    | 04.5                     | 145                                               | 01.3          | 57.2           | 206                                              | 39.8           | 01.0     |
| 23  | 338                                                | 16.0 | 208                                              | 30.4                                                                                                                           | 18.9                | 165                                               | 13.8    | 03.8                     | 160                                               | 03.3          | 57.0           | 221                                              | 42.0           | 01.0     |
| 24  | 353                                                | 18.5 | 223                                              | 30.0                                                                                                                           | +17 18.4            | 180                                               | 14.8    | +4 03.2                  | 175                                               | 05.3          | +1 56.8        | 236                                              | 44.3           | +21 00.9 |
| Dif | —                                                  |      | -4                                               | -5                                                                                                                             |                     | +10                                               | -6      |                          | +20                                               | -2            |                | +22                                              | 0              |          |

| UT  | SOL                                                |      | ● LUNA                                                                                                                            |      |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |         | Puesta de Luna |      |     |      |     |      |
|-----|----------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|--------------------------------------------------|---------|----------------|---------|----------------|------|-----|------|-----|------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> 4 |      | Edad: 28 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 56'5<br>12 <sup>h</sup> : 56'7<br>20 <sup>h</sup> : 56'9<br>R°: 44 <sup>m</sup> |      |                                                   |                     |                                                   |               |                                                  |         |                |         |                |      |     |      |     |      |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                              | Dif  | Dec                                               | Dif                 |                                                   |               | Civil                                            | Náutico | Hora           | R°      | Hora           | R°   |     |      |     |      |
| h   | °                                                  | '    | °                                                                                                                                 | '    | °                                                 | '                   | °                                                 | h m           | h m                                              | h m     | h m            | h m     | m              |      |     |      |     |      |
| 0   | 181                                                | 06.0 | +3                                                                                                                                | 21.9 | 186                                               | 18.3                | +9 45.4                                           | 60 N          | 18 23                                            | 19 06   | 19 58          | 4 43 92 | 18 43 0        |      |     |      |     |      |
| 1   | 196                                                | 06.2 |                                                                                                                                   | 20.9 | 200                                               | 51.4 <sup>141</sup> | 31.1 <sup>143</sup>                               | 58            | 21                                               | 19 01   | 50             | 48 88   | 41 3           |      |     |      |     |      |
| 2   | 211                                                | 06.5 |                                                                                                                                   | 20.0 | 215                                               | 24.4 <sup>140</sup> | 16.7 <sup>144</sup>                               | 56            | 20                                               | 18 57   | 43             | 53 84   | 38 6           |      |     |      |     |      |
| 3   | 226                                                | 06.7 |                                                                                                                                   | 19.0 | 229                                               | 57.5 <sup>141</sup> | +9 02.3 <sup>144</sup>                            | 54            | 18                                               | 54      | 37             | 4 57 81 | 36 9           |      |     |      |     |      |
| 4   | 241                                                | 06.9 |                                                                                                                                   | 18.0 | 244                                               | 30.6 <sup>141</sup> | +8 47.8 <sup>145</sup>                            | 52            | 17                                               | 51      | 31             | 5 00 79 | 34 11          |      |     |      |     |      |
| 5   | 256                                                | 07.1 | +3                                                                                                                                | 17.1 | 259                                               | 03.8 <sup>142</sup> | +8 33.2 <sup>146</sup>                            | 50            | 18 15                                            | 18 48   | 19 27          | 5 03 76 | 18 32 14       |      |     |      |     |      |
| 6   | 271                                                | 07.4 | +3                                                                                                                                | 16.1 | 273                                               | 36.9 <sup>141</sup> | +8 18.6 <sup>146</sup>                            | 45            | 18 12                                            | 18 42   | 19 17          | 5 10 71 | 18 28 18       |      |     |      |     |      |
| 7   | 286                                                | 07.6 |                                                                                                                                   | 15.2 | 288                                               | 10.0 <sup>141</sup> | +8 04.0 <sup>146</sup>                            | 40            | 10                                               | 37      | 09             | 16 66   | 25 22          |      |     |      |     |      |
| 8   | 301                                                | 07.8 |                                                                                                                                   | 14.2 | 302                                               | 43.2 <sup>142</sup> | +7 49.3 <sup>147</sup>                            | 35            | 08                                               | 33      | 19 03          | 21 63   | 22 26          |      |     |      |     |      |
| 9   | 316                                                | 08.0 |                                                                                                                                   | 13.2 | 317                                               | 16.3 <sup>141</sup> | 34.6 <sup>147</sup>                               | 30            | 06                                               | 30      | 18 58          | 25 60   | 19 29          |      |     |      |     |      |
| 10  | 331                                                | 08.2 |                                                                                                                                   | 12.3 | 331                                               | 49.5 <sup>142</sup> | 19.8 <sup>148</sup>                               | 20            | 03                                               | 25      | 51             | 33 54   | 15 34          |      |     |      |     |      |
| 11  | 346                                                | 08.5 | +3                                                                                                                                | 11.3 | 346                                               | 22.7 <sup>142</sup> | +7 05.0 <sup>148</sup>                            | 10 N          | 18 01                                            | 18 22   | 18 46          | 5 39 49 | 18 11 39       |      |     |      |     |      |
| 12  | 1                                                  | 08.7 | +3                                                                                                                                | 10.4 | 0                                                 | 55.9 <sup>142</sup> | +6 50.1 <sup>149</sup>                            | 0             | 17 59                                            | 18 19   | 18 43          | 5 46 44 | 18 07 44       |      |     |      |     |      |
| 13  | 16                                                 | 08.9 |                                                                                                                                   | 09.4 | 15                                                | 29.1 <sup>142</sup> | 35.2 <sup>149</sup>                               | 10 S          | 57                                               | 18      | 42             | 52 39   | 18 03 49       |      |     |      |     |      |
| 14  | 31                                                 | 09.1 |                                                                                                                                   | 08.4 | 30                                                | 02.3 <sup>142</sup> | 20.2 <sup>150</sup>                               | 20            | 54                                               | 16      | 42             | 5 58 35 | 17 59 54       |      |     |      |     |      |
| 15  | 46                                                 | 09.3 |                                                                                                                                   | 07.5 | 44                                                | 35.5 <sup>142</sup> | +6 05.2 <sup>150</sup>                            | 30            | 52                                               | 16      | 44             | 6 06 29 | 54 60          |      |     |      |     |      |
| 16  | 61                                                 | 09.6 |                                                                                                                                   | 06.5 | 59                                                | 08.7 <sup>142</sup> | +5 50.2 <sup>150</sup>                            | 35            | 51                                               | 16      | 45             | 10 26   | 51 63          |      |     |      |     |      |
| 17  | 76                                                 | 09.8 | +3                                                                                                                                | 05.5 | 73                                                | 41.9 <sup>142</sup> | +5 35.1 <sup>151</sup>                            | 40            | 17 49                                            | 18 16   | 18 48          | 6 15 22 | 17 48 67       |      |     |      |     |      |
| 18  | 91                                                 | 10.0 | +3                                                                                                                                | 04.6 | 88                                                | 15.1 <sup>142</sup> | +5 20.0 <sup>151</sup>                            | 45            | 17 48                                            | 18 17   | 18 51          | 6 20 19 | 17 44 71       |      |     |      |     |      |
| 19  | 106                                                | 10.2 |                                                                                                                                   | 03.6 | 102                                               | 48.3 <sup>142</sup> | +5 04.9 <sup>151</sup>                            | 50            | 46                                               | 18      | 56             | 27 13   | 40 76          |      |     |      |     |      |
| 20  | 121                                                | 10.5 |                                                                                                                                   | 02.7 | 117                                               | 21.5 <sup>142</sup> | +4 49.7 <sup>152</sup>                            | 52            | 45                                               | 19      | 58             | 30 11   | 38 78          |      |     |      |     |      |
| 21  | 136                                                | 10.7 |                                                                                                                                   | 01.7 | 131                                               | 54.7 <sup>142</sup> | 34.5 <sup>152</sup>                               | 54            | 44                                               | 19      | 51             | 33 9    | 35 82          |      |     |      |     |      |
| 22  | 151                                                | 10.9 | +3                                                                                                                                | 00.7 | 146                                               | 27.9 <sup>142</sup> | 19.3 <sup>152</sup>                               | 56            | 43                                               | 20      | 03             | 37 6    | 33 84          |      |     |      |     |      |
| 23  | 166                                                | 11.1 | +2                                                                                                                                | 59.8 | 161                                               | 01.1 <sup>142</sup> | +4 04.0 <sup>153</sup>                            | 58            | 42                                               | 21      | 07             | 41 3    | 30 88          |      |     |      |     |      |
| 24  | 181                                                | 11.3 | +2                                                                                                                                | 58.8 | 175                                               | 34.3 <sup>142</sup> | +3 48.7 <sup>153</sup>                            | 60 S          | 17 41                                            | 18 22   | 19 11          | 6 45 0  | 17 27 91       |      |     |      |     |      |
| UT  | ARIES                                              |      | VENUS                                                                                                                             |      | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                          |         |                |         |                |      |     |      |     |      |
|     | PMG<br>0 <sup>h</sup> 26 <sup>m</sup> 7            |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 06 <sup>m</sup>                                                                                  |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 12 <sup>h</sup> 18 <sup>m</sup> |               | Mag: +0.2<br>PMG: 8 <sup>h</sup> 12 <sup>m</sup> |         |                |         |                |      |     |      |     |      |
|     | hG ♈                                               |      | hG ♀                                                                                                                              | Dec  | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                             | Dec     |                |         |                |      |     |      |     |      |
| h   | °                                                  | '    | °                                                                                                                                 | '    | °                                                 | '                   | °                                                 | '             | °                                                | '       |                |         |                |      |     |      |     |      |
| 0   | 353                                                | 18.5 | 223                                                                                                                               | 30.0 | +17                                               | 18.4                | 180                                               | 14.8          | +4                                               | 03.2    | 175            | 05.3    | +1             | 56.8 | 236 | 44.3 | +21 | 00.9 |
| 1   | 8                                                  | 20.9 | 238                                                                                                                               | 29.6 |                                                   | 17.9                | 195                                               | 15.8          |                                                  | 02.5    | 190            | 07.2    |                | 56.6 | 251 | 46.5 |     | 00.9 |
| 2   | 23                                                 | 23.4 | 253                                                                                                                               | 29.3 |                                                   | 17.4                | 210                                               | 16.7          |                                                  | 01.9    | 205            | 09.2    |                | 56.4 | 266 | 48.7 |     | 00.8 |
| 3   | 38                                                 | 25.9 | 268                                                                                                                               | 28.9 |                                                   | 16.8                | 225                                               | 17.7          |                                                  | 01.2    | 220            | 11.2    |                | 56.2 | 281 | 50.9 |     | 00.8 |
| 4   | 53                                                 | 28.3 | 283                                                                                                                               | 28.5 |                                                   | 16.3                | 240                                               | 18.7          | +4                                               | 00.6    | 235            | 13.1    |                | 55.9 | 296 | 53.2 |     | 00.8 |
| 5   | 68                                                 | 30.8 | 298                                                                                                                               | 28.2 | +17                                               | 15.8                | 255                                               | 19.7          | +3                                               | 59.9    | 250            | 15.1    | +1             | 55.7 | 311 | 55.4 | +21 | 00.7 |
| 6   | 83                                                 | 33.2 | 313                                                                                                                               | 27.8 | +17                                               | 15.3                | 270                                               | 20.7          | +3                                               | 59.3    | 265            | 17.1    | +1             | 55.5 | 326 | 57.6 | +21 | 00.7 |
| 7   | 98                                                 | 35.7 | 328                                                                                                                               | 27.4 |                                                   | 14.8                | 285                                               | 21.7          |                                                  | 58.7    | 280            | 19.0    |                | 55.3 | 341 | 59.8 |     | 00.7 |
| 8   | 113                                                | 38.2 | 343                                                                                                                               | 27.0 |                                                   | 14.2                | 300                                               | 22.7          |                                                  | 58.0    | 295            | 21.0    |                | 55.1 | 357 | 02.1 |     | 00.6 |
| 9   | 128                                                | 40.6 | 358                                                                                                                               | 26.7 |                                                   | 13.7                | 315                                               | 23.7          |                                                  | 57.4    | 310            | 23.0    |                | 54.9 | 12  | 04.3 |     | 00.6 |
| 10  | 143                                                | 43.1 | 13                                                                                                                                | 26.3 |                                                   | 13.2                | 330                                               | 24.7          |                                                  | 56.7    | 325            | 25.0    |                | 54.7 | 27  | 06.5 |     | 00.6 |
| 11  | 158                                                | 45.6 | 28                                                                                                                                | 25.9 | +17                                               | 12.7                | 345                                               | 25.7          | +3                                               | 56.1    | 340            | 26.9    | +1             | 54.4 | 42  | 08.8 | +21 | 00.5 |
| 12  | 173                                                | 48.0 | 43                                                                                                                                | 25.5 | +17                                               | 12.2                | 0                                                 | 26.7          | +3                                               | 55.4    | 355            | 28.9    | +1             | 54.2 | 57  | 11.0 | +21 | 00.5 |
| 13  | 188                                                | 50.5 | 58                                                                                                                                | 25.2 |                                                   | 11.6                | 15                                                | 27.7          |                                                  | 54.8    | 10             | 30.9    |                | 54.0 | 72  | 13.2 |     | 00.4 |
| 14  | 203                                                | 53.0 | 73                                                                                                                                | 24.8 |                                                   | 11.1                | 30                                                | 28.6          |                                                  | 54.1    | 25             | 32.8    |                | 53.8 | 87  | 15.4 |     | 00.4 |
| 15  | 218                                                | 55.4 | 88                                                                                                                                | 24.4 |                                                   | 10.6                | 45                                                | 29.6          |                                                  | 53.5    | 40             | 34.8    |                | 53.6 | 102 | 17.7 |     | 00.4 |
| 16  | 233                                                | 57.9 | 103                                                                                                                               | 24.0 |                                                   | 10.1                | 60                                                | 30.6          |                                                  | 52.8    | 55             | 36.8    |                | 53.4 | 117 | 19.9 |     | 00.3 |
| 17  | 249                                                | 00.3 | 118                                                                                                                               | 23.7 | +17                                               | 09.5                | 75                                                | 31.6          | +3                                               | 52.2    | 70             | 38.7    | +1             | 53.2 | 132 | 22.1 | +21 | 00.3 |
| 18  | 264                                                | 02.8 | 133                                                                                                                               | 23.3 | +17                                               | 09.0                | 90                                                | 32.6          | +3                                               | 51.6    | 85             | 40.7    | +1             | 52.9 | 147 | 24.4 | +21 | 00.3 |
| 19  | 279                                                | 05.3 | 148                                                                                                                               | 22.9 |                                                   | 08.5                | 105                                               | 33.6          |                                                  | 50.9    | 100            | 42.7    |                | 52.7 | 162 | 26.6 |     | 00.2 |
| 20  | 294                                                | 07.7 | 163                                                                                                                               | 22.5 |                                                   | 08.0                | 120                                               | 34.6          |                                                  | 50.3    | 115            | 44.6    |                | 52.5 | 177 | 28.8 |     | 00.2 |
| 21  | 309                                                | 10.2 | 178                                                                                                                               | 22.2 |                                                   | 07.4                | 135                                               | 35.6          |                                                  | 49.6    | 130            | 46.6    |                | 52.3 | 192 | 31.0 |     | 00.2 |
| 22  | 324                                                | 12.7 | 193                                                                                                                               | 21.8 |                                                   | 06.9                | 150                                               | 36.6          |                                                  | 49.0    | 145            | 48.6    |                | 52.1 | 207 | 33.3 |     | 00.1 |
| 23  | 339                                                | 15.1 | 208                                                                                                                               | 21.4 |                                                   | 06.4                | 165                                               | 37.6          |                                                  | 48.3    | 160            | 50.6    |                | 51.9 | 222 | 35.5 | +21 | 00.1 |
| 24  | 354                                                | 17.6 | 223                                                                                                                               | 21.0 | +17                                               | 05.8                | 180                                               | 38.6          | +3                                               | 47.7    | 175            | 52.5    | +1             | 51.7 | 237 | 37.7 | +21 | 00.0 |
| Dif | —                                                  |      | -4                                                                                                                                | -5   |                                                   | +10                 | -6                                                |               | +20                                              | -2      |                | +22     |                | 0    |     |      |     |      |

| UT  | SOL                                                |      |          | ● LUNA                                           |                                                                                                           |                        | Latitud                                           | Principio del crepúsculo |          | Salida de Sol                                     | Salida de Luna |       | Puesta de Luna                                   |       |      |
|-----|----------------------------------------------------|------|----------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------------------|--------------------------|----------|---------------------------------------------------|----------------|-------|--------------------------------------------------|-------|------|
|     | SD: 15°9<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> 1 |      |          | Edad: 0 <sup>d</sup> 4                           | PHE {<br>4 <sup>h</sup> : 57/1<br>12 <sup>h</sup> : 57/2<br>20 <sup>h</sup> : 57/4<br>R°: 45 <sup>m</sup> |                        |                                                   |                          |          |                                                   |                |       |                                                  |       |      |
|     | hG ☉                                               | Dec  |          | hG ☾                                             |                                                                                                           | Dif                    |                                                   | Dec                      | Dif      |                                                   | Náutico        | Civil | Hora                                             | R°    | Hora |
| h   | °                                                  | '    | °        | °                                                | '                                                                                                         | °                      | '                                                 | °                        | h        | m                                                 | h              | m     | h                                                | m     | m    |
| 0   | 181                                                | 11.3 | +2 58.8  | 175                                              | 34.3                                                                                                      | +3 48.7                | 153                                               | 60 N                     | 3 54     | 4 46                                              | 5 28           | 6 15  | 92                                               | 18 43 | 0    |
| 1   | 196                                                | 11.6 |          | 190                                              | 07.5 <sup>142</sup>                                                                                       |                        | 33.4 <sup>153</sup>                               | 58                       | 4 02     | 50                                                | 30             | 16    | 89                                               | 44    | 3    |
| 2   | 211                                                | 11.8 |          | 204                                              | 40.7 <sup>142</sup>                                                                                       |                        | 18.0 <sup>154</sup>                               | 56                       | 09       | 54                                                | 32             | 17    | 85                                               | 44    | 7    |
| 3   | 226                                                | 12.0 |          | 219                                              | 13.9 <sup>142</sup>                                                                                       | +3 02.6 <sup>154</sup> |                                                   | 54                       | 15       | 4 58                                              | 34             | 18    | 82                                               | 45    | 9    |
| 4   | 241                                                | 12.2 |          | 233                                              | 47.0 <sup>141</sup>                                                                                       | +2 47.2 <sup>154</sup> |                                                   | 52                       | 20       | 5 01                                              | 35             | 19    | 79                                               | 45    | 12   |
| 5   | 256                                                | 12.5 | +2 54.0  | 248                                              | 20.2 <sup>142</sup>                                                                                       | +2 31.8 <sup>154</sup> |                                                   | 50                       | 4 25     | 5 04                                              | 5 36           | 6 19  | 78                                               | 18 46 | 14   |
| 6   | 271                                                | 12.7 | +2 53.0  | 262                                              | 53.3 <sup>141</sup>                                                                                       | +2 16.3 <sup>155</sup> |                                                   | 45                       | 4 34     | 5 09                                              | 5 39           | 6 21  | 72                                               | 18 46 | 20   |
| 7   | 286                                                | 12.9 |          | 277                                              | 26.5 <sup>142</sup>                                                                                       | +2 00.8 <sup>155</sup> |                                                   | 40                       | 42       | 14                                                | 41             | 22    | 68                                               | 47    | 23   |
| 8   | 301                                                | 13.1 |          | 291                                              | 59.6 <sup>141</sup>                                                                                       | +1 45.3 <sup>155</sup> |                                                   | 35                       | 48       | 18                                                | 43             | 24    | 63                                               | 48    | 27   |
| 9   | 316                                                | 13.3 |          | 306                                              | 32.7 <sup>141</sup>                                                                                       | 29.8 <sup>155</sup>    |                                                   | 30                       | 4 53     | 21                                                | 45             | 25    | 60                                               | 48    | 31   |
| 10  | 331                                                | 13.6 |          | 321                                              | 05.8 <sup>141</sup>                                                                                       | +1 14.3 <sup>155</sup> |                                                   | 20                       | 5 00     | 25                                                | 47             | 27    | 54                                               | 49    | 36   |
| 11  | 346                                                | 13.8 | +2 48.2  | 335                                              | 38.9 <sup>141</sup>                                                                                       | +0 58.7 <sup>156</sup> |                                                   | 10 N                     | 5 04     | 5 29                                              | 5 50           | 6 28  | 50                                               | 18 50 | 41   |
| 12  | 1                                                  | 14.0 | +2 47.2  | 350                                              | 11.9 <sup>140</sup>                                                                                       | +0 43.1 <sup>156</sup> |                                                   | 0                        | 5 07     | 5 31                                              | 5 52           | 6 30  | 45                                               | 18 51 | 45   |
| 13  | 16                                                 | 14.2 |          | 4                                                | 45.0 <sup>141</sup>                                                                                       | 27.5 <sup>156</sup>    |                                                   | 10 S                     | 08       | 33                                                | 54             | 31    | 41                                               | 52    | 50   |
| 14  | 31                                                 | 14.5 |          | 19                                               | 18.0 <sup>140</sup>                                                                                       | +0 11.9 <sup>156</sup> |                                                   | 20                       | 08       | 34                                                | 56             | 33    | 35                                               | 53    | 55   |
| 15  | 46                                                 | 14.7 |          | 33                                               | 51.0 <sup>140</sup>                                                                                       | -0 03.7 <sup>156</sup> |                                                   | 30                       | 06       | 34                                                | 58             | 35    | 30                                               | 54    | 61   |
| 16  | 61                                                 | 14.9 |          | 48                                               | 23.9 <sup>139</sup>                                                                                       | 19.3 <sup>156</sup>    |                                                   | 35                       | 05       | 34                                                | 5 59           | 36    | 26                                               | 54    | 64   |
| 17  | 76                                                 | 15.1 | +2 42.4  | 62                                               | 56.9 <sup>140</sup>                                                                                       | -0 35.0 <sup>157</sup> |                                                   | 40                       | 5 02     | 5 34                                              | 6 00           | 6 37  | 23                                               | 18 55 | 68   |
| 18  | 91                                                 | 15.3 | +2 41.5  | 77                                               | 29.8 <sup>139</sup>                                                                                       | -0 50.6 <sup>156</sup> |                                                   | 45                       | 4 59     | 5 33                                              | 6 02           | 6 39  | 18                                               | 18 55 | 73   |
| 19  | 106                                                | 15.6 |          | 92                                               | 02.7 <sup>139</sup>                                                                                       | -1 06.3 <sup>157</sup> |                                                   | 50                       | 54       | 32                                                | 04             | 40    | 14                                               | 56    | 78   |
| 20  | 121                                                | 15.8 |          | 106                                              | 35.6 <sup>139</sup>                                                                                       | 21.9 <sup>156</sup>    |                                                   | 52                       | 52       | 31                                                | 05             | 41    | 12                                               | 56    | 81   |
| 21  | 136                                                | 16.0 |          | 121                                              | 08.5 <sup>139</sup>                                                                                       | 37.6 <sup>157</sup>    |                                                   | 54                       | 49       | 30                                                | 05             | 42    | 9                                                | 57    | 83   |
| 22  | 151                                                | 16.2 |          | 135                                              | 41.3 <sup>138</sup>                                                                                       | -1 53.3 <sup>157</sup> |                                                   | 56                       | 46       | 29                                                | 06             | 43    | 6                                                | 57    | 87   |
| 23  | 166                                                | 16.4 |          | 150                                              | 14.1 <sup>138</sup>                                                                                       | -2 09.0 <sup>157</sup> |                                                   | 58                       | 43       | 28                                                | 07             | 44    | 3                                                | 58    | 90   |
| 24  | 181                                                | 16.7 | +2 35.7  | 164                                              | 46.8 <sup>137</sup>                                                                                       | -2 24.6 <sup>156</sup> |                                                   | 60 S                     | 4 38     | 5 27                                              | 6 08           | 6 45  | 0                                                | 18 58 | 94   |
| UT  | ARIES                                              |      |          | VENUS                                            |                                                                                                           |                        | MARTE                                             |                          |          | JÚPITER                                           |                |       | SATURNO                                          |       |      |
|     | PMG<br>0 <sup>h</sup> 22 <sup>m</sup> 8            |      |          | Mag: -4.2<br>PMG: 9 <sup>h</sup> 07 <sup>m</sup> |                                                                                                           |                        | Mag: +1.7<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> |                          |          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 15 <sup>m</sup> |                |       | Mag: +0.2<br>PMG: 8 <sup>h</sup> 08 <sup>m</sup> |       |      |
|     | hG ♈                                               |      |          | hG ♀                                             | Dec                                                                                                       |                        | hG ♂                                              | Dec                      |          | hG ♃                                              | Dec            |       | hG ♄                                             | Dec   |      |
| h   | °                                                  | '    | °        | °                                                | '                                                                                                         | °                      | °                                                 | '                        | °        | °                                                 | '              | °     | °                                                | '     | °    |
| 0   | 354                                                | 17.6 | 223 21.0 | +17 05.8                                         | 180 38.6                                                                                                  | +3 47.7                | 175 52.5                                          | +1 51.7                  | 237 37.7 | +21 00.0                                          |                |       |                                                  |       |      |
| 1   | 9                                                  | 20.1 | 238 20.7 | 05.3                                             | 195 39.5                                                                                                  | 47.0                   | 190 54.5                                          | 51.4                     | 252 40.0 | 00.0                                              |                |       |                                                  |       |      |
| 2   | 24                                                 | 22.5 | 253 20.3 | 04.8                                             | 210 40.5                                                                                                  | 46.4                   | 205 56.5                                          | 51.2                     | 267 42.2 | +21 00.0                                          |                |       |                                                  |       |      |
| 3   | 39                                                 | 25.0 | 268 19.9 | 04.2                                             | 225 41.5                                                                                                  | 45.7                   | 220 58.4                                          | 51.0                     | 282 44.4 | +20 59.9                                          |                |       |                                                  |       |      |
| 4   | 54                                                 | 27.5 | 283 19.5 | 03.7                                             | 240 42.5                                                                                                  | 45.1                   | 236 00.4                                          | 50.8                     | 297 46.7 | 59.9                                              |                |       |                                                  |       |      |
| 5   | 69                                                 | 29.9 | 298 19.2 | +17 03.1                                         | 255 43.5                                                                                                  | +3 44.5                | 251 02.4                                          | +1 50.6                  | 312 48.9 | +20 59.9                                          |                |       |                                                  |       |      |
| 6   | 84                                                 | 32.4 | 313 18.8 | +17 02.6                                         | 270 44.5                                                                                                  | +3 43.8                | 266 04.3                                          | +1 50.4                  | 327 51.1 | +20 59.8                                          |                |       |                                                  |       |      |
| 7   | 99                                                 | 34.8 | 328 18.4 | 02.1                                             | 285 45.5                                                                                                  | 43.2                   | 281 06.3                                          | 50.2                     | 342 53.3 | 59.8                                              |                |       |                                                  |       |      |
| 8   | 114                                                | 37.3 | 343 18.0 | 01.5                                             | 300 46.5                                                                                                  | 42.5                   | 296 08.3                                          | 49.9                     | 357 55.6 | 59.8                                              |                |       |                                                  |       |      |
| 9   | 129                                                | 39.8 | 358 17.7 | 01.0                                             | 315 47.5                                                                                                  | 41.9                   | 311 10.2                                          | 49.7                     | 12 57.8  | 59.7                                              |                |       |                                                  |       |      |
| 10  | 144                                                | 42.2 | 13 17.3  | +17 00.4                                         | 330 48.5                                                                                                  | 41.2                   | 326 12.2                                          | 49.5                     | 28 00.0  | 59.7                                              |                |       |                                                  |       |      |
| 11  | 159                                                | 44.7 | 28 16.9  | +16 59.9                                         | 345 49.5                                                                                                  | +3 40.6                | 341 14.2                                          | +1 49.3                  | 43 02.3  | +20 59.6                                          |                |       |                                                  |       |      |
| 12  | 174                                                | 47.2 | 43 16.5  | +16 59.4                                         | 0 50.5                                                                                                    | +3 39.9                | 356 16.2                                          | +1 49.1                  | 58 04.5  | +20 59.6                                          |                |       |                                                  |       |      |
| 13  | 189                                                | 49.6 | 58 16.1  | 58.8                                             | 15 51.4                                                                                                   | 39.3                   | 11 18.1                                           | 48.9                     | 73 06.7  | 59.6                                              |                |       |                                                  |       |      |
| 14  | 204                                                | 52.1 | 73 15.8  | 58.3                                             | 30 52.4                                                                                                   | 38.6                   | 26 20.1                                           | 48.7                     | 88 09.0  | 59.5                                              |                |       |                                                  |       |      |
| 15  | 219                                                | 54.6 | 88 15.4  | 57.7                                             | 45 53.4                                                                                                   | 38.0                   | 41 22.1                                           | 48.4                     | 103 11.2 | 59.5                                              |                |       |                                                  |       |      |
| 16  | 234                                                | 57.0 | 103 15.0 | 57.2                                             | 60 54.4                                                                                                   | 37.3                   | 56 24.0                                           | 48.2                     | 118 13.4 | 59.5                                              |                |       |                                                  |       |      |
| 17  | 249                                                | 59.5 | 118 14.6 | +16 56.6                                         | 75 55.4                                                                                                   | +3 36.7                | 71 26.0                                           | +1 48.0                  | 133 15.7 | +20 59.4                                          |                |       |                                                  |       |      |
| 18  | 265                                                | 01.9 | 133 14.3 | +16 56.1                                         | 90 56.4                                                                                                   | +3 36.1                | 86 28.0                                           | +1 47.8                  | 148 17.9 | +20 59.4                                          |                |       |                                                  |       |      |
| 19  | 280                                                | 04.4 | 148 13.9 | 55.5                                             | 105 57.4                                                                                                  | 35.4                   | 101 29.9                                          | 47.6                     | 163 20.1 | 59.4                                              |                |       |                                                  |       |      |
| 20  | 295                                                | 06.9 | 163 13.5 | 55.0                                             | 120 58.4                                                                                                  | 34.8                   | 116 31.9                                          | 47.4                     | 178 22.4 | 59.3                                              |                |       |                                                  |       |      |
| 21  | 310                                                | 09.3 | 178 13.1 | 54.4                                             | 135 59.4                                                                                                  | 34.1                   | 131 33.9                                          | 47.2                     | 193 24.6 | 59.3                                              |                |       |                                                  |       |      |
| 22  | 325                                                | 11.8 | 193 12.8 | 53.9                                             | 151 00.4                                                                                                  | 33.5                   | 146 35.8                                          | 46.9                     | 208 26.8 | 59.2                                              |                |       |                                                  |       |      |
| 23  | 340                                                | 14.3 | 208 12.4 | 53.3                                             | 166 01.4                                                                                                  | 32.8                   | 161 37.8                                          | 46.7                     | 223 29.1 | 59.2                                              |                |       |                                                  |       |      |
| 24  | 355                                                | 16.7 | 223 12.0 | +16 52.8                                         | 181 02.4                                                                                                  | +3 32.2                | 176 39.8                                          | +1 46.5                  | 238 31.3 | +20 59.2                                          |                |       |                                                  |       |      |
| Dif | —                                                  |      | -4       | -5                                               | +10                                                                                                       | -6                     | +20                                               | -2                       | +22      | 0                                                 |                |       |                                                  |       |      |

| UT  | SOL                                   |      | ● LUNA                                           |                       |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |         | Puesta de Luna |      |     |      |     |      |   |
|-----|---------------------------------------|------|--------------------------------------------------|-----------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|--------------------------------------------------|-------|----------------|---------|----------------|------|-----|------|-----|------|---|
|     | SD: 15 <sup>h</sup> 9                 |      | Edad: 1 <sup>d</sup> 4 PHE                       | SD: 15 <sup>h</sup> 7 |                                                   | R°: 48 <sup>m</sup> |                                                   |               | Civil                                            |       | Náutico        | Hora    | R°             | Hora | R°  |      |     |      |   |
|     | hG ☉                                  | Dec  |                                                  | hG ☾                  | Dif                                               |                     |                                                   |               | Dec                                              | Dif   |                |         |                |      |     |      |     |      |   |
| h   | °                                     | '    | °                                                | '                     | °                                                 | '                   | °                                                 | h m           | h m                                              | h m   | h m m          | h m m   | h m m          |      |     |      |     |      |   |
| 0   | 181                                   | 16.7 | +2                                               | 35.7                  | 164                                               | 46.8                | -2 24.6                                           | 60 N          | 18 17                                            | 18 59 | 19 51          | 7 47 96 | 18 43 1        |      |     |      |     |      |   |
| 1   | 196                                   | 16.9 |                                                  | 34.7                  | 179                                               | 19.5 <sup>137</sup> | 40.3 <sup>157</sup>                               | 58            | 16                                               | 55    | 43             | 45 91   | 47 4           |      |     |      |     |      |   |
| 2   | 211                                   | 17.1 |                                                  | 33.7                  | 193                                               | 52.2 <sup>137</sup> | -2 56.0 <sup>157</sup>                            | 56            | 14                                               | 52    | 37             | 42 89   | 51 7           |      |     |      |     |      |   |
| 3   | 226                                   | 17.3 |                                                  | 32.8                  | 208                                               | 24.9 <sup>137</sup> | -3 11.7 <sup>157</sup>                            | 54            | 13                                               | 49    | 31             | 40 85   | 54 11          |      |     |      |     |      |   |
| 4   | 241                                   | 17.6 |                                                  | 31.8                  | 222                                               | 57.5 <sup>136</sup> | 27.3 <sup>156</sup>                               | 52            | 12                                               | 46    | 26             | 38 83   | 18 57 13       |      |     |      |     |      |   |
| 5   | 256                                   | 17.8 | +2                                               | 30.9                  | 237                                               | 30.1 <sup>136</sup> | -3 43.0 <sup>157</sup>                            | 50            | 18 11                                            | 18 43 | 19 22          | 7 37 79 | 19 00 15       |      |     |      |     |      |   |
| 6   | 271                                   | 18.0 | +2                                               | 29.9                  | 252                                               | 02.7 <sup>136</sup> | -3 58.7 <sup>157</sup>                            | 45            | 18 09                                            | 18 38 | 19 13          | 7 33 74 | 19 06 21       |      |     |      |     |      |   |
| 7   | 286                                   | 18.2 |                                                  | 28.9                  | 266                                               | 35.2 <sup>135</sup> | -4 14.3 <sup>156</sup>                            | 40            | 07                                               | 34    | 06             | 30 69   | 10 26          |      |     |      |     |      |   |
| 8   | 301                                   | 18.4 |                                                  | 28.0                  | 281                                               | 07.7 <sup>135</sup> | 30.0 <sup>157</sup>                               | 35            | 05                                               | 30    | 19 00          | 27 66   | 15 29          |      |     |      |     |      |   |
| 9   | 316                                   | 18.7 |                                                  | 27.0                  | 295                                               | 40.1 <sup>134</sup> | -4 45.6 <sup>156</sup>                            | 30            | 04                                               | 28    | 18 56          | 25 62   | 19 32          |      |     |      |     |      |   |
| 10  | 331                                   | 18.9 |                                                  | 26.0                  | 310                                               | 12.5 <sup>134</sup> | -5 01.2 <sup>156</sup>                            | 20            | 02                                               | 24    | 49             | 21 57   | 25 38          |      |     |      |     |      |   |
| 11  | 346                                   | 19.1 | +2                                               | 25.1                  | 324                                               | 44.8 <sup>133</sup> | -5 16.8 <sup>156</sup>                            | 10 N          | 18 00                                            | 18 21 | 18 45          | 7 18 51 | 19 31 43       |      |     |      |     |      |   |
| 12  | 1                                     | 19.3 | +2                                               | 24.1                  | 339                                               | 17.1 <sup>133</sup> | -5 32.4 <sup>156</sup>                            | 0             | 17 58                                            | 18 19 | 18 43          | 7 15 46 | 19 36 48       |      |     |      |     |      |   |
| 13  | 16                                    | 19.6 |                                                  | 23.1                  | 353                                               | 49.4 <sup>133</sup> | -5 48.0 <sup>156</sup>                            | 10 S          | 56                                               | 17    | 42             | 12 41   | 42 52          |      |     |      |     |      |   |
| 14  | 31                                    | 19.8 |                                                  | 22.2                  | 8                                                 | 21.6 <sup>132</sup> | -6 03.6 <sup>156</sup>                            | 20            | 55                                               | 17    | 42             | 08 37   | 48 57          |      |     |      |     |      |   |
| 15  | 46                                    | 20.0 |                                                  | 21.2                  | 22                                                | 53.7 <sup>131</sup> | 19.1 <sup>155</sup>                               | 30            | 53                                               | 17    | 45             | 05 31   | 55 63          |      |     |      |     |      |   |
| 16  | 61                                    | 20.2 |                                                  | 20.2                  | 37                                                | 25.8 <sup>131</sup> | 34.6 <sup>155</sup>                               | 35            | 52                                               | 17    | 47             | 02 28   | 19 58 67       |      |     |      |     |      |   |
| 17  | 76                                    | 20.4 | +2                                               | 19.3                  | 51                                                | 57.9 <sup>131</sup> | -6 50.1 <sup>155</sup>                            | 40            | 17 51                                            | 18 18 | 18 50          | 7 00 24 | 20 03 71       |      |     |      |     |      |   |
| 18  | 91                                    | 20.7 | +2                                               | 18.3                  | 66                                                | 29.9 <sup>130</sup> | -7 05.6 <sup>155</sup>                            | 45            | 17 50                                            | 18 19 | 18 54          | 6 57 20 | 20 08 75       |      |     |      |     |      |   |
| 19  | 106                                   | 20.9 |                                                  | 17.3                  | 81                                                | 01.9 <sup>130</sup> | 21.1 <sup>155</sup>                               | 50            | 49                                               | 21    | 18 59          | 54 15   | 14 81          |      |     |      |     |      |   |
| 20  | 121                                   | 21.1 |                                                  | 16.4                  | 95                                                | 33.8 <sup>129</sup> | 36.5 <sup>154</sup>                               | 52            | 48                                               | 22    | 19 01          | 53 12   | 17 84          |      |     |      |     |      |   |
| 21  | 136                                   | 21.3 |                                                  | 15.4                  | 110                                               | 05.6 <sup>128</sup> | -7 51.9 <sup>154</sup>                            | 54            | 48                                               | 23    | 04             | 51 10   | 20 87          |      |     |      |     |      |   |
| 22  | 151                                   | 21.6 |                                                  | 14.4                  | 124                                               | 37.4 <sup>128</sup> | -8 07.3 <sup>154</sup>                            | 56            | 47                                               | 24    | 08             | 49 7    | 24 90          |      |     |      |     |      |   |
| 23  | 166                                   | 21.8 |                                                  | 13.5                  | 139                                               | 09.2 <sup>128</sup> | 22.7 <sup>154</sup>                               | 58            | 46                                               | 25    | 11             | 47 4    | 28 93          |      |     |      |     |      |   |
| 24  | 181                                   | 22.0 | +2                                               | 12.5                  | 153                                               | 40.8 <sup>126</sup> | -8 38.0 <sup>153</sup>                            | 60 S          | 17 45                                            | 18 27 | 19 16          | 6 45 1  | 20 32 98       |      |     |      |     |      |   |
| UT  | ARIES                                 |      | VENUS                                            |                       | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                          |       |                |         |                |      |     |      |     |      |   |
|     | PMG: 0 <sup>h</sup> 18 <sup>m</sup> 8 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 07 <sup>m</sup> |                       | Mag: +1.7<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 12 <sup>h</sup> 12 <sup>m</sup> |               | Mag: +0.2<br>PMG: 8 <sup>h</sup> 05 <sup>m</sup> |       |                |         |                |      |     |      |     |      |   |
|     | hG ♈                                  | hG ♀ | Dec                                              | hG ♂                  | Dec                                               | hG ♎                | Dec                                               | hG ♊          | Dec                                              | hG ♏  | Dec            |         |                |      |     |      |     |      |   |
| h   | °                                     | '    | °                                                | '                     | °                                                 | '                   | °                                                 | '             | °                                                | '     | °              | '       |                |      |     |      |     |      |   |
| 0   | 355                                   | 16.7 | 223                                              | 12.0                  | +16                                               | 52.8                | 181                                               | 02.4          | +3                                               | 32.2  | 176            | 39.8    | +1             | 46.5 | 238 | 31.3 | +20 | 59.2 |   |
| 1   | 10                                    | 19.2 | 238                                              | 11.6                  |                                                   | 52.2                | 196                                               | 03.3          |                                                  | 31.5  | 191            | 41.7    |                | 46.3 | 253 | 33.5 |     | 59.1 |   |
| 2   | 25                                    | 21.7 | 253                                              | 11.2                  |                                                   | 51.7                | 211                                               | 04.3          |                                                  | 30.9  | 206            | 43.7    |                | 46.1 | 268 | 35.8 |     | 59.1 |   |
| 3   | 40                                    | 24.1 | 268                                              | 10.9                  |                                                   | 51.1                | 226                                               | 05.3          |                                                  | 30.2  | 221            | 45.7    |                | 45.9 | 283 | 38.0 |     | 59.1 |   |
| 4   | 55                                    | 26.6 | 283                                              | 10.5                  |                                                   | 50.6                | 241                                               | 06.3          |                                                  | 29.6  | 236            | 47.7    |                | 45.7 | 298 | 40.2 |     | 59.0 |   |
| 5   | 70                                    | 29.1 | 298                                              | 10.1                  | +16                                               | 50.0                | 256                                               | 07.3          | +3                                               | 28.9  | 251            | 49.6    | +1             | 45.4 | 313 | 42.5 | +20 | 59.0 |   |
| 6   | 85                                    | 31.5 | 313                                              | 09.7                  | +16                                               | 49.4                | 271                                               | 08.3          | +3                                               | 28.3  | 266            | 51.6    | +1             | 45.2 | 328 | 44.7 | +20 | 59.0 |   |
| 7   | 100                                   | 34.0 | 328                                              | 09.4                  |                                                   | 48.9                | 286                                               | 09.3          |                                                  | 27.6  | 281            | 53.6    |                | 45.0 | 343 | 46.9 |     | 58.9 |   |
| 8   | 115                                   | 36.4 | 343                                              | 09.0                  |                                                   | 48.3                | 301                                               | 10.3          |                                                  | 27.0  | 296            | 55.5    |                | 44.8 | 358 | 49.2 |     | 58.9 |   |
| 9   | 130                                   | 38.9 | 358                                              | 08.6                  |                                                   | 47.8                | 316                                               | 11.3          |                                                  | 26.4  | 311            | 57.5    |                | 44.6 | 13  | 51.4 |     | 58.8 |   |
| 10  | 145                                   | 41.4 | 13                                               | 08.2                  |                                                   | 47.2                | 331                                               | 12.3          |                                                  | 25.7  | 326            | 59.5    |                | 44.4 | 28  | 53.6 |     | 58.8 |   |
| 11  | 160                                   | 43.8 | 28                                               | 07.8                  | +16                                               | 46.6                | 346                                               | 13.3          | +3                                               | 25.1  | 342            | 01.4    | +1             | 44.2 | 43  | 55.9 | +20 | 58.8 |   |
| 12  | 175                                   | 46.3 | 43                                               | 07.5                  | +16                                               | 46.1                | 1                                                 | 14.3          | +3                                               | 24.4  | 357            | 03.4    | +1             | 43.9 | 58  | 58.1 | +20 | 58.7 |   |
| 13  | 190                                   | 48.8 | 58                                               | 07.1                  |                                                   | 45.5                | 16                                                | 15.2          |                                                  | 23.8  | 12             | 05.4    |                | 43.7 | 74  | 00.3 |     | 58.7 |   |
| 14  | 205                                   | 51.2 | 73                                               | 06.7                  |                                                   | 45.0                | 31                                                | 16.2          |                                                  | 23.1  | 27             | 07.3    |                | 43.5 | 89  | 02.6 |     | 58.7 |   |
| 15  | 220                                   | 53.7 | 88                                               | 06.3                  |                                                   | 44.4                | 46                                                | 17.2          |                                                  | 22.5  | 42             | 09.3    |                | 43.3 | 104 | 04.8 |     | 58.6 |   |
| 16  | 235                                   | 56.2 | 103                                              | 06.0                  |                                                   | 43.8                | 61                                                | 18.2          |                                                  | 21.8  | 57             | 11.3    |                | 43.1 | 119 | 07.0 |     | 58.6 |   |
| 17  | 250                                   | 58.6 | 118                                              | 05.6                  | +16                                               | 43.3                | 76                                                | 19.2          | +3                                               | 21.2  | 72             | 13.2    | +1             | 42.9 | 134 | 09.3 | +20 | 58.6 |   |
| 18  | 266                                   | 01.1 | 133                                              | 05.2                  | +16                                               | 42.7                | 91                                                | 20.2          | +3                                               | 20.5  | 87             | 15.2    | +1             | 42.7 | 149 | 11.5 | +20 | 58.5 |   |
| 19  | 281                                   | 03.5 | 148                                              | 04.8                  |                                                   | 42.1                | 106                                               | 21.2          |                                                  | 19.9  | 102            | 17.2    |                | 42.4 | 164 | 13.8 |     | 58.5 |   |
| 20  | 296                                   | 06.0 | 163                                              | 04.4                  |                                                   | 41.5                | 121                                               | 22.2          |                                                  | 19.2  | 117            | 19.1    |                | 42.2 | 179 | 16.0 |     | 58.5 |   |
| 21  | 311                                   | 08.5 | 178                                              | 04.1                  |                                                   | 41.0                | 136                                               | 23.2          |                                                  | 18.6  | 132            | 21.1    |                | 42.0 | 194 | 18.2 |     | 58.4 |   |
| 22  | 326                                   | 10.9 | 193                                              | 03.7                  |                                                   | 40.4                | 151                                               | 24.2          |                                                  | 17.9  | 147            | 23.1    |                | 41.8 | 209 | 20.5 |     | 58.4 |   |
| 23  | 341                                   | 13.4 | 208                                              | 03.3                  |                                                   | 39.8                | 166                                               | 25.2          |                                                  | 17.3  | 162            | 25.1    |                | 41.6 | 224 | 22.7 |     | 58.3 |   |
| 24  | 356                                   | 15.9 | 223                                              | 02.9                  | +16                                               | 39.3                | 181                                               | 26.2          | +3                                               | 16.6  | 177            | 27.0    | +1             | 41.4 | 239 | 24.9 | +20 | 58.3 |   |
| Dif | —                                     | —    | -4                                               | -6                    |                                                   | -6                  | +10                                               | -6            |                                                  | -6    | +20            | -2      |                | -2   | +22 |      | 0   |      | 0 |

| UT  | SOL                                                |          |                                                  | ● LUNA                                                                                                                        |                     |                                                   | Latitud  | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |          |     |
|-----|----------------------------------------------------|----------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|----------|-----|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 54 <sup>m</sup> 4 |          |                                                  | Edad: 2 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 58'1<br>12 <sup>h</sup> : 58'2<br>20 <sup>h</sup> : 58'3<br>R°: 50 <sup>m</sup> |                     |                                                   |          |                          |                                                   |               |                |                                                  |                |          |     |
|     | hG ☉                                               | Dec      |                                                  | hG ☾                                                                                                                          | Dif                 | Dec                                               |          | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora     | R°  |
| h   | °                                                  | '        | °                                                | °                                                                                                                             | '                   | °                                                 | °        | h                        | m                                                 | h             | m              | h                                                | m              | h        | m   |
| 0   | 181                                                | 22.0     | +2 12.5                                          | 153                                                                                                                           | 40.8                | -8 38.0                                           | 60 N     | 3 59                     | 4 51                                              | 5 33          |                | 9 23                                             | 101            | 18 44    | 1   |
| 1   | 196                                                | 22.2     |                                                  | 168                                                                                                                           | 12.5 <sup>127</sup> | -8 53.3 <sup>153</sup>                            | 58       | 4 07                     | 55                                                | 35            |                | 16 97                                            |                | 51       | 7   |
| 2   | 211                                                | 22.4     | 10.6                                             | 182                                                                                                                           | 44.0 <sup>125</sup> | -9 08.5 <sup>152</sup>                            | 56       | 13                       | 4 58                                              | 36            |                | 11 92                                            |                | 18 58    | 11  |
| 3   | 226                                                | 22.7     | 09.6                                             | 197                                                                                                                           | 15.5 <sup>125</sup> | 23.8 <sup>153</sup>                               | 54       | 19                       | 5 01                                              | 37            |                | 05 89                                            |                | 19 05    | 14  |
| 4   | 241                                                | 22.9     | 08.6                                             | 211                                                                                                                           | 46.9 <sup>124</sup> | 38.9 <sup>151</sup>                               | 52       | 24                       | 04                                                | 38            |                | 9 01                                             | 85             | 10       | 17  |
| 5   | 256                                                | 23.1     | +2 07.7                                          | 226                                                                                                                           | 18.3 <sup>124</sup> | -9 54.1 <sup>152</sup>                            | 50       | 4 28                     | 5 07                                              | 5 39          |                | 8 56                                             | 83             | 19 15    | 20  |
| 6   | 271                                                | 23.3     | +2 06.7                                          | 240                                                                                                                           | 49.6 <sup>123</sup> | -10 09.2 <sup>151</sup>                           | 45       | 4 37                     | 5 12                                              | 5 41          |                | 8 47                                             | 77             | 19 27    | 25  |
| 7   | 286                                                | 23.6     | 05.7                                             | 255                                                                                                                           | 20.9 <sup>123</sup> | 24.3 <sup>151</sup>                               | 40       | 44                       | 16                                                | 43            |                | 39 73                                            |                | 36       | 29  |
| 8   | 301                                                | 23.8     | 04.8                                             | 269                                                                                                                           | 52.0 <sup>121</sup> | 39.3 <sup>150</sup>                               | 35       | 49                       | 19                                                | 44            |                | 33 68                                            |                | 44       | 33  |
| 9   | 316                                                | 24.0     | 03.8                                             | 284                                                                                                                           | 23.1 <sup>121</sup> | -10 54.3 <sup>150</sup>                           | 30       | 4 54                     | 22                                                | 46            |                | 27 65                                            |                | 19 51    | 36  |
| 10  | 331                                                | 24.2     | 02.8                                             | 298                                                                                                                           | 54.2 <sup>121</sup> | -11 09.2 <sup>149</sup>                           | 20       | 5 00                     | 26                                                | 48            |                | 18 58                                            |                | 20 03    | 42  |
| 11  | 346                                                | 24.4     | +2 01.9                                          | 313                                                                                                                           | 25.1 <sup>119</sup> | -11 24.1 <sup>149</sup>                           | 10 N     | 5 04                     | 5 29                                              | 5 50          |                | 8 09                                             | 54             | 20 14    | 47  |
| 12  | 1                                                  | 24.7     | +2 00.9                                          | 327                                                                                                                           | 56.0 <sup>119</sup> | -11 38.9 <sup>148</sup>                           | 0        | 5 06                     | 5 30                                              | 5 51          |                | 8 01                                             | 50             | 20 24    | 51  |
| 13  | 16                                                 | 24.9     | +1 59.9                                          | 342                                                                                                                           | 26.8 <sup>118</sup> | -11 53.7 <sup>148</sup>                           | 10 S     | 07                       | 32                                                | 53            |                | 7 53                                             | 45             | 34       | 56  |
| 14  | 31                                                 | 25.1     | 59.0                                             | 356                                                                                                                           | 57.6 <sup>118</sup> | -12 08.5 <sup>148</sup>                           | 20       | 06                       | 32                                                | 54            |                | 45 40                                            |                | 45       | 61  |
| 15  | 46                                                 | 25.3     | 58.0                                             | 11                                                                                                                            | 28.3 <sup>117</sup> | 23.2 <sup>147</sup>                               | 30       | 04                       | 32                                                | 55            |                | 36 34                                            |                | 20 58    | 66  |
| 16  | 61                                                 | 25.6     | 57.0                                             | 25                                                                                                                            | 58.9 <sup>116</sup> | 37.8 <sup>146</sup>                               | 35       | 5 02                     | 31                                                | 56            |                | 30 31                                            |                | 21 05    | 70  |
| 17  | 76                                                 | 25.8     | +1 56.0                                          | 40                                                                                                                            | 29.4 <sup>115</sup> | -12 52.4 <sup>146</sup>                           | 40       | 4 59                     | 5 30                                              | 5 57          |                | 7 24                                             | 28             | 21 14    | 73  |
| 18  | 91                                                 | 26.0     | +1 55.1                                          | 54                                                                                                                            | 59.8 <sup>114</sup> | -13 06.9 <sup>145</sup>                           | 45       | 4 55                     | 5 29                                              | 5 58          |                | 7 17                                             | 23             | 21 23    | 78  |
| 19  | 106                                                | 26.2     | 54.1                                             | 69                                                                                                                            | 30.2 <sup>114</sup> | 21.4 <sup>145</sup>                               | 50       | 50                       | 27                                                | 5 59          |                | 09 18                                            |                | 35       | 84  |
| 20  | 121                                                | 26.4     | 53.1                                             | 84                                                                                                                            | 00.5 <sup>113</sup> | 35.8 <sup>144</sup>                               | 52       | 47                       | 26                                                | 6 00          |                | 05 15                                            |                | 41       | 86  |
| 21  | 136                                                | 26.7     | 52.2                                             | 98                                                                                                                            | 30.7 <sup>112</sup> | -13 50.1 <sup>143</sup>                           | 54       | 44                       | 25                                                | 00            |                | 7 01                                             | 12             | 47       | 90  |
| 22  | 151                                                | 26.9     | 51.2                                             | 113                                                                                                                           | 00.8 <sup>111</sup> | -14 04.4 <sup>143</sup>                           | 56       | 41                       | 24                                                | 01            |                | 6 56                                             | 10             | 21 54    | 94  |
| 23  | 166                                                | 27.1     | 50.2                                             | 127                                                                                                                           | 30.8 <sup>110</sup> | 18.6 <sup>142</sup>                               | 58       | 37                       | 23                                                | 02            |                | 51 6                                             |                | 22 01    | 99  |
| 24  | 181                                                | 27.3     | +1 49.3                                          | 142                                                                                                                           | 00.8 <sup>110</sup> | -14 32.8 <sup>142</sup>                           | 60 S     | 4 32                     | 5 21                                              | 6 02          |                | 6 46                                             | 1              | 22 10    | 104 |
| UT  | ARIES                                              |          | VENUS                                            |                                                                                                                               |                     | MARTE                                             |          |                          | JÚPITER                                           |               |                | SATURNO                                          |                |          |     |
|     | PMG: 0 <sup>h</sup> 14 <sup>m</sup> 9              |          | Mag: -4.2<br>PMG: 9 <sup>h</sup> 08 <sup>m</sup> |                                                                                                                               |                     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 53 <sup>m</sup> |          |                          | Mag: -1.7<br>PMG: 12 <sup>h</sup> 09 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 8 <sup>h</sup> 01 <sup>m</sup> |                |          |     |
|     | hG ♈                                               |          | hG ♀                                             | Dec                                                                                                                           |                     | hG ♂                                              | Dec      |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |          |     |
| h   | °                                                  | '        | °                                                | °                                                                                                                             | '                   | °                                                 | °        | '                        | °                                                 | °             | '              | °                                                | °              | '        | °   |
| 0   | 356                                                | 15.9     | 223 02.9                                         | +16 39.3                                                                                                                      | 181 26.2            | +3 16.6                                           | 177 27.0 | +1 41.4                  | 239 24.9                                          | +20 58.3      |                |                                                  | 239 24.9       | +20 58.3 |     |
| 1   | 11 18.3                                            | 238 02.6 | 38.7                                             | 196 27.1                                                                                                                      | 16.0                | 192 29.0                                          | 41.2     | 254 27.2                 | 58.3                                              |               |                |                                                  | 254 27.2       | 58.3     |     |
| 2   | 26 20.8                                            | 253 02.2 | 38.1                                             | 211 28.1                                                                                                                      | 15.3                | 207 31.0                                          | 40.9     | 269 29.4                 | 58.2                                              |               |                |                                                  | 269 29.4       | 58.2     |     |
| 3   | 41 23.3                                            | 268 01.8 | 37.5                                             | 226 29.1                                                                                                                      | 14.7                | 222 32.9                                          | 40.7     | 284 31.6                 | 58.2                                              |               |                |                                                  | 284 31.6       | 58.2     |     |
| 4   | 56 25.7                                            | 283 01.4 | 37.0                                             | 241 30.1                                                                                                                      | 14.0                | 237 34.9                                          | 40.5     | 299 33.9                 | 58.2                                              |               |                |                                                  | 299 33.9       | 58.2     |     |
| 5   | 71 28.2                                            | 298 01.0 | +16 36.4                                         | 256 31.1                                                                                                                      | +3 13.4             | 252 36.9                                          | +1 40.3  | 314 36.1                 | +20 58.1                                          |               |                |                                                  | 314 36.1       | +20 58.1 |     |
| 6   | 86 30.7                                            | 313 00.7 | +16 35.8                                         | 271 32.1                                                                                                                      | +3 12.7             | 267 38.8                                          | +1 40.1  | 329 38.4                 | +20 58.1                                          |               |                |                                                  | 329 38.4       | +20 58.1 |     |
| 7   | 101 33.1                                           | 328 00.3 | 35.2                                             | 286 33.1                                                                                                                      | 12.1                | 282 40.8                                          | 39.9     | 344 40.6                 | 58.1                                              |               |                |                                                  | 344 40.6       | 58.1     |     |
| 8   | 116 35.6                                           | 342 59.9 | 34.6                                             | 301 34.1                                                                                                                      | 11.5                | 297 42.8                                          | 39.7     | 359 42.8                 | 58.0                                              |               |                |                                                  | 359 42.8       | 58.0     |     |
| 9   | 131 38.0                                           | 357 59.5 | 34.1                                             | 316 35.1                                                                                                                      | 10.8                | 312 44.7                                          | 39.4     | 14 45.1                  | 58.0                                              |               |                |                                                  | 14 45.1        | 58.0     |     |
| 10  | 146 40.5                                           | 12 59.1  | 33.5                                             | 331 36.1                                                                                                                      | 10.2                | 327 46.7                                          | 39.2     | 29 47.3                  | 58.0                                              |               |                |                                                  | 29 47.3        | 58.0     |     |
| 11  | 161 43.0                                           | 27 58.8  | +16 32.9                                         | 346 37.1                                                                                                                      | +3 09.5             | 342 48.7                                          | +1 39.0  | 44 49.5                  | +20 57.9                                          |               |                |                                                  | 44 49.5        | +20 57.9 |     |
| 12  | 176 45.4                                           | 42 58.4  | +16 32.3                                         | 1 38.1                                                                                                                        | +3 08.9             | 357 50.6                                          | +1 38.8  | 59 51.8                  | +20 57.9                                          |               |                |                                                  | 59 51.8        | +20 57.9 |     |
| 13  | 191 47.9                                           | 57 58.0  | 31.7                                             | 16 39.0                                                                                                                       | 08.2                | 12 52.6                                           | 38.6     | 74 54.0                  | 57.9                                              |               |                |                                                  | 74 54.0        | 57.9     |     |
| 14  | 206 50.4                                           | 72 57.6  | 31.2                                             | 31 40.0                                                                                                                       | 07.6                | 27 54.6                                           | 38.4     | 89 56.3                  | 57.8                                              |               |                |                                                  | 89 56.3        | 57.8     |     |
| 15  | 221 52.8                                           | 87 57.3  | 30.6                                             | 46 41.0                                                                                                                       | 06.9                | 42 56.5                                           | 38.2     | 104 58.5                 | 57.8                                              |               |                |                                                  | 104 58.5       | 57.8     |     |
| 16  | 236 55.3                                           | 102 56.9 | 30.0                                             | 61 42.0                                                                                                                       | 06.3                | 57 58.5                                           | 37.9     | 120 00.7                 | 57.7                                              |               |                |                                                  | 120 00.7       | 57.7     |     |
| 17  | 251 57.8                                           | 117 56.5 | +16 29.4                                         | 76 43.0                                                                                                                       | +3 05.6             | 73 00.5                                           | +1 37.7  | 135 03.0                 | +20 57.7                                          |               |                |                                                  | 135 03.0       | +20 57.7 |     |
| 18  | 267 00.2                                           | 132 56.1 | +16 28.8                                         | 91 44.0                                                                                                                       | +3 05.0             | 88 02.4                                           | +1 37.5  | 150 05.2                 | +20 57.7                                          |               |                |                                                  | 150 05.2       | +20 57.7 |     |
| 19  | 282 02.7                                           | 147 55.7 | 28.2                                             | 106 45.0                                                                                                                      | 04.3                | 103 04.4                                          | 37.3     | 165 07.5                 | 57.6                                              |               |                |                                                  | 165 07.5       | 57.6     |     |
| 20  | 297 05.1                                           | 162 55.4 | 27.6                                             | 121 46.0                                                                                                                      | 03.7                | 118 06.4                                          | 37.1     | 180 09.7                 | 57.6                                              |               |                |                                                  | 180 09.7       | 57.6     |     |
| 21  | 312 07.6                                           | 177 55.0 | 27.0                                             | 136 47.0                                                                                                                      | 03.0                | 133 08.4                                          | 36.9     | 195 11.9                 | 57.6                                              |               |                |                                                  | 195 11.9       | 57.6     |     |
| 22  | 327 10.1                                           | 192 54.6 | 26.4                                             | 151 48.0                                                                                                                      | 02.4                | 148 10.3                                          | 36.7     | 210 14.2                 | 57.5                                              |               |                |                                                  | 210 14.2       | 57.5     |     |
| 23  | 342 12.5                                           | 207 54.2 | 25.9                                             | 166 49.0                                                                                                                      | 01.7                | 163 12.3                                          | 36.4     | 225 16.4                 | 57.5                                              |               |                |                                                  | 225 16.4       | 57.5     |     |
| 24  | 357 15.0                                           | 222 53.8 | +16 25.3                                         | 181 50.0                                                                                                                      | +3 01.1             | 178 14.3                                          | +1 36.2  | 240 18.7                 | +20 57.5                                          |               |                |                                                  | 240 18.7       | +20 57.5 |     |
| Dif | —                                                  |          | -4 -6                                            |                                                                                                                               | +10 -6              |                                                   | +20 -2   |                          | -2                                                |               |                | +22                                              |                |          | 0   |



| UT | SOL                                                |      |    | ☾ LUNA                 |                                                                                                                                               |                     | Latitud | Puesta de Sol       | Final del crepúsculo |       |       | Salida de Luna |         | Puesta de Luna |       |      |    |
|----|----------------------------------------------------|------|----|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------|---------------------|----------------------|-------|-------|----------------|---------|----------------|-------|------|----|
|    | SD: 15:9<br>PMG: 11 <sup>h</sup> 54 <sup>m</sup> 0 |      |    | Edad: 3 <sup>d</sup> 4 | PHE {<br>4 <sup>h</sup> : 58' <sup>5</sup><br>12 <sup>h</sup> : 58' <sup>6</sup><br>20 <sup>h</sup> : 58' <sup>7</sup><br>R°: 54 <sup>m</sup> |                     |         |                     |                      |       |       |                |         |                |       |      |    |
|    | hG ☉                                               | Dec  |    |                        |                                                                                                                                               | hG ☾                |         |                     | Dif                  | Dec   | Dif   | Civil          | Náutico | Hora           | R°    | Hora | R° |
| h  | °                                                  | '    | °  | '                      | °                                                                                                                                             | '                   | °       | '                   | h                    | m     | h     | m              | h       | m              | h     | m    | m  |
| 0  | 181                                                | 27.3 | +1 | 49.3                   | 142                                                                                                                                           | 00.8                | -14     | 32.8                | 60 N                 | 18 11 | 18 53 | 19 44          | 11 04   | 108            | 18 45 | 5    |    |
| 1  | 196                                                | 27.6 |    | 48.3                   | 156                                                                                                                                           | 30.7 <sup>109</sup> | -14     | 46.8 <sup>140</sup> | 58                   | 10    | 49    | 37             | 10 53   | 101            | 18 58 | 11   |    |
| 2  | 211                                                | 27.8 |    | 47.3                   | 171                                                                                                                                           | 00.5 <sup>108</sup> | -15     | 00.8 <sup>140</sup> | 56                   | 09    | 46    | 31             | 43      | 95             | 19 09 | 16   |    |
| 3  | 226                                                | 28.0 |    | 46.4                   | 185                                                                                                                                           | 30.2 <sup>107</sup> |         | 14.8 <sup>140</sup> | 54                   | 08    | 43    | 26             | 34      | 91             | 19    | 19   |    |
| 4  | 241                                                | 28.2 |    | 45.4                   | 199                                                                                                                                           | 59.8 <sup>106</sup> |         | 28.6 <sup>138</sup> | 52                   | 07    | 41    | 21             | 26      | 88             | 27    | 23   |    |
| 5  | 256                                                | 28.4 | +1 | 44.4                   | 214                                                                                                                                           | 29.3 <sup>105</sup> | -15     | 42.4 <sup>138</sup> | 50                   | 18 06 | 18 39 | 19 17          | 10 19   | 85             | 19 35 | 26   |    |
| 6  | 271                                                | 28.7 | +1 | 43.5                   | 228                                                                                                                                           | 58.7 <sup>104</sup> | -15     | 56.1 <sup>137</sup> | 45                   | 18 05 | 18 34 | 19 09          | 10 04   | 79             | 19 52 | 31   |    |
| 7  | 286                                                | 28.9 |    | 42.5                   | 243                                                                                                                                           | 28.1 <sup>104</sup> | -16     | 09.8 <sup>137</sup> | 40                   | 03    | 30    | 19 02          | 9 52    | 74             | 20 05 | 36   |    |
| 8  | 301                                                | 29.1 |    | 41.5                   | 257                                                                                                                                           | 57.4 <sup>103</sup> |         | 23.3 <sup>135</sup> | 35                   | 02    | 28    | 18 57          | 41      | 71             | 17    | 39   |    |
| 9  | 316                                                | 29.3 |    | 40.6                   | 272                                                                                                                                           | 26.5 <sup>101</sup> |         | 36.8 <sup>135</sup> | 30                   | 01    | 25    | 53             | 32      | 67             | 27    | 43   |    |
| 10 | 331                                                | 29.6 |    | 39.6                   | 286                                                                                                                                           | 55.6 <sup>101</sup> | -16     | 50.2 <sup>134</sup> | 20                   | 18 00 | 22    | 47             | 16      | 62             | 20 45 | 47   |    |
| 11 | 346                                                | 29.8 | +1 | 38.6                   | 301                                                                                                                                           | 24.6 <sup>100</sup> | -17     | 03.5 <sup>133</sup> | 10 N                 | 17 58 | 18 19 | 18 44          | 9 03    | 57             | 21 01 | 51   |    |
| 12 | 1                                                  | 30.0 | +1 | 37.6                   | 315                                                                                                                                           | 53.5 <sup>99</sup>  | -17     | 16.7 <sup>132</sup> | 0                    | 17 57 | 18 18 | 18 42          | 8 51    | 53             | 21 15 | 56   |    |
| 13 | 16                                                 | 30.2 |    | 36.7                   | 330                                                                                                                                           | 22.3 <sup>98</sup>  |         | 29.8 <sup>131</sup> | 10 S                 | 56    | 17    | 42             | 38      | 49             | 30    | 59   |    |
| 14 | 31                                                 | 30.4 |    | 35.7                   | 344                                                                                                                                           | 51.0 <sup>97</sup>  |         | 42.9 <sup>131</sup> | 20                   | 55    | 17    | 43             | 25      | 44             | 21 46 | 63   |    |
| 15 | 46                                                 | 30.7 |    | 34.7                   | 359                                                                                                                                           | 19.6 <sup>96</sup>  | -17     | 55.8 <sup>129</sup> | 30                   | 54    | 18    | 46             | 10      | 39             | 22 04 | 68   |    |
| 16 | 61                                                 | 30.9 |    | 33.8                   | 13                                                                                                                                            | 48.1 <sup>95</sup>  | -18     | 08.7 <sup>129</sup> | 35                   | 54    | 19    | 48             | 8 01    | 37             | 15    | 71   |    |
| 17 | 76                                                 | 31.1 | +1 | 32.8                   | 28                                                                                                                                            | 16.5 <sup>94</sup>  | -18     | 21.5 <sup>128</sup> | 40                   | 17 53 | 18 20 | 18 52          | 7 52    | 32             | 22 27 | 74   |    |
| 18 | 91                                                 | 31.3 | +1 | 31.8                   | 42                                                                                                                                            | 44.9 <sup>94</sup>  | -18     | 34.1 <sup>126</sup> | 45                   | 17 52 | 18 22 | 18 56          | 7 40    | 28             | 22 41 | 79   |    |
| 19 | 106                                                | 31.6 |    | 30.9                   | 57                                                                                                                                            | 13.1 <sup>92</sup>  |         | 46.7 <sup>126</sup> | 50                   | 52    | 24    | 19 02          | 27      | 22             | 22 59 | 85   |    |
| 20 | 121                                                | 31.8 |    | 29.9                   | 71                                                                                                                                            | 41.2 <sup>91</sup>  | -18     | 59.2 <sup>125</sup> | 52                   | 51    | 25    | 05             | 20      | 20             | 23 07 | 88   |    |
| 21 | 136                                                | 32.0 |    | 28.9                   | 86                                                                                                                                            | 09.2 <sup>90</sup>  | -19     | 11.5 <sup>123</sup> | 54                   | 51    | 26    | 08             | 13      | 17             | 17    | 91   |    |
| 22 | 151                                                | 32.2 |    | 27.9                   | 100                                                                                                                                           | 37.2 <sup>90</sup>  |         | 23.8 <sup>123</sup> | 56                   | 51    | 28    | 12             | 7 06    | 13             | 28    | 95   |    |
| 23 | 166                                                | 32.4 |    | 27.0                   | 115                                                                                                                                           | 05.0 <sup>88</sup>  |         | 36.0 <sup>122</sup> | 58                   | 50    | 30    | 16             | 6 57    | 9              | 40    | 101  |    |
| 24 | 181                                                | 32.7 | +1 | 26.0                   | 129                                                                                                                                           | 32.7 <sup>87</sup>  | -19     | 48.0 <sup>120</sup> | 60 S                 | 17 50 | 18 31 | 19 21          | 6 47    | 3              | 23 54 | 109  |    |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 0 <sup>h</sup> 11 <sup>m</sup> 0 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 09 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup> |      | Mag: -1.7<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> |      | Mag: +0.2<br>PMG: 7 <sup>h</sup> 58 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 357                                   | 15.0 | 222                                              | 53.8 | +16                                               | 25.3 | 181                                               | 50.0 | +3                                               | 01.1 | 178 | 14.3 | +1 | 36.2 | 240 | 18.7 | +20 | 57.5 |
| 1   | 12                                    | 17.5 | 237                                              | 53.5 |                                                   | 24.7 | 196                                               | 50.9 | +3                                               | 00.4 | 193 | 16.2 |    | 36.0 | 255 | 20.9 |     | 57.4 |
| 2   | 27                                    | 19.9 | 252                                              | 53.1 |                                                   | 24.1 | 211                                               | 51.9 | +2                                               | 59.8 | 208 | 18.2 |    | 35.8 | 270 | 23.1 |     | 57.4 |
| 3   | 42                                    | 22.4 | 267                                              | 52.7 |                                                   | 23.5 | 226                                               | 52.9 |                                                  | 59.1 | 223 | 20.2 |    | 35.6 | 285 | 25.4 |     | 57.4 |
| 4   | 57                                    | 24.9 | 282                                              | 52.3 |                                                   | 22.9 | 241                                               | 53.9 |                                                  | 58.5 | 238 | 22.1 |    | 35.4 | 300 | 27.6 |     | 57.3 |
| 5   | 72                                    | 27.3 | 297                                              | 51.9 | +16                                               | 22.3 | 256                                               | 54.9 | +2                                               | 57.8 | 253 | 24.1 | +1 | 35.2 | 315 | 29.9 | +20 | 57.3 |
| 6   | 87                                    | 29.8 | 312                                              | 51.6 | +16                                               | 21.7 | 271                                               | 55.9 | +2                                               | 57.2 | 268 | 26.1 | +1 | 34.9 | 330 | 32.1 | +20 | 57.3 |
| 7   | 102                                   | 32.3 | 327                                              | 51.2 |                                                   | 21.1 | 286                                               | 56.9 |                                                  | 56.5 | 283 | 28.0 |    | 34.7 | 345 | 34.3 |     | 57.2 |
| 8   | 117                                   | 34.7 | 342                                              | 50.8 |                                                   | 20.5 | 301                                               | 57.9 |                                                  | 55.9 | 298 | 30.0 |    | 34.5 | 0   | 36.6 |     | 57.2 |
| 9   | 132                                   | 37.2 | 357                                              | 50.4 |                                                   | 19.9 | 316                                               | 58.9 |                                                  | 55.2 | 313 | 32.0 |    | 34.3 | 15  | 38.8 |     | 57.1 |
| 10  | 147                                   | 39.6 | 12                                               | 50.0 |                                                   | 19.3 | 331                                               | 59.9 |                                                  | 54.6 | 328 | 33.9 |    | 34.1 | 30  | 41.1 |     | 57.1 |
| 11  | 162                                   | 42.1 | 27                                               | 49.7 | +16                                               | 18.7 | 347                                               | 00.9 | +2                                               | 53.9 | 343 | 35.9 | +1 | 33.9 | 45  | 43.3 | +20 | 57.1 |
| 12  | 177                                   | 44.6 | 42                                               | 49.3 | +16                                               | 18.1 | 2                                                 | 01.9 | +2                                               | 53.3 | 358 | 37.9 | +1 | 33.7 | 60  | 45.5 | +20 | 57.0 |
| 13  | 192                                   | 47.0 | 57                                               | 48.9 |                                                   | 17.5 | 17                                                | 02.8 |                                                  | 52.6 | 13  | 39.8 |    | 33.4 | 75  | 47.8 |     | 57.0 |
| 14  | 207                                   | 49.5 | 72                                               | 48.5 |                                                   | 16.9 | 32                                                | 03.8 |                                                  | 52.0 | 28  | 41.8 |    | 33.2 | 90  | 50.0 |     | 57.0 |
| 15  | 222                                   | 52.0 | 87                                               | 48.1 |                                                   | 16.3 | 47                                                | 04.8 |                                                  | 51.3 | 43  | 43.8 |    | 33.0 | 105 | 52.3 |     | 56.9 |
| 16  | 237                                   | 54.4 | 102                                              | 47.8 |                                                   | 15.7 | 62                                                | 05.8 |                                                  | 50.7 | 58  | 45.7 |    | 32.8 | 120 | 54.5 |     | 56.9 |
| 17  | 252                                   | 56.9 | 117                                              | 47.4 | +16                                               | 15.1 | 77                                                | 06.8 | +2                                               | 50.0 | 73  | 47.7 | +1 | 32.6 | 135 | 56.8 | +20 | 56.9 |
| 18  | 267                                   | 59.4 | 132                                              | 47.0 | +16                                               | 14.4 | 92                                                | 07.8 | +2                                               | 49.4 | 88  | 49.7 | +1 | 32.4 | 150 | 59.0 | +20 | 56.8 |
| 19  | 283                                   | 01.8 | 147                                              | 46.6 |                                                   | 13.8 | 107                                               | 08.8 |                                                  | 48.7 | 103 | 51.7 |    | 32.2 | 166 | 01.2 |     | 56.8 |
| 20  | 298                                   | 04.3 | 162                                              | 46.2 |                                                   | 13.2 | 122                                               | 09.8 |                                                  | 48.1 | 118 | 53.6 |    | 31.9 | 181 | 03.5 |     | 56.8 |
| 21  | 313                                   | 06.8 | 177                                              | 45.9 |                                                   | 12.6 | 137                                               | 10.8 |                                                  | 47.4 | 133 | 55.6 |    | 31.7 | 196 | 05.7 |     | 56.7 |
| 22  | 328                                   | 09.2 | 192                                              | 45.5 |                                                   | 12.0 | 152                                               | 11.8 |                                                  | 46.8 | 148 | 57.6 |    | 31.5 | 211 | 08.0 |     | 56.7 |
| 23  | 343                                   | 11.7 | 207                                              | 45.1 |                                                   | 11.4 | 167                                               | 12.8 |                                                  | 46.1 | 163 | 59.5 |    | 31.3 | 226 | 10.2 |     | 56.7 |
| 24  | 358                                   | 14.1 | 222                                              | 44.7 | +16                                               | 10.8 | 182                                               | 13.7 | +2                                               | 45.5 | 179 | 01.5 | +1 | 31.1 | 241 | 12.5 | +20 | 56.6 |
| Dif | —                                     |      | -4                                               |      | -6                                                |      | +10                                               |      | -6                                               |      | +20 |      | -2 |      | +22 |      | 0   |      |

| UT | SOL                                    |      |         |  LUNA |         |                                                                                                                  |                       |                                      | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |          | Puesta de Luna |    |  |
|----|----------------------------------------|------|---------|----------------------------------------------------------------------------------------|---------|------------------------------------------------------------------------------------------------------------------|-----------------------|--------------------------------------|---------|--------------------------|------|---------------|----------------|----------|----------------|----|--|
|    | SD: 15 <sup>h</sup> 9                  |      |         | Edad: 4 <sup>d</sup> 4                                                                 | PHE {   | 4 <sup>h</sup> : 58 <sup>m</sup> 8<br>12 <sup>h</sup> : 58 <sup>m</sup> 9<br>20 <sup>h</sup> : 59 <sup>m</sup> 0 | SD: 16 <sup>h</sup> 0 | PMG: 15 <sup>h</sup> 57 <sup>m</sup> |         | R°: 58 <sup>m</sup>      |      |               |                |          |                |    |  |
|    | PMG: 11 <sup>h</sup> 53 <sup>m</sup> 6 |      |         |                                                                                        |         |                                                                                                                  |                       |                                      |         |                          |      |               |                |          |                |    |  |
|    | hG ☉                                   | Dec  |         | hG ☾                                                                                   | Dif     | Dec                                                                                                              | Dif                   |                                      | Náutico | Civil                    |      | Hora          | R°             | Hora     | R°             |    |  |
| h  | °                                      | '    | °       | °                                                                                      | '       | °                                                                                                                | '                     | °                                    | h       | m                        | h    | m             | h              | m        | h              | m  |  |
| 0  | 181                                    | 32.7 | +1 26.0 | 129                                                                                    | 32.7    | -19 48.0                                                                                                         |                       | 60 N                                 | 4 05    | 4 56                     | 5 38 | 12 52         | 110            | 18 50    | 11             |    |  |
| 1  | 196                                    | 32.9 |         | 144                                                                                    | 00.4    | -20 00.0                                                                                                         | 120                   | 58                                   | 12      | 4 59                     | 39   | 34            | 101            | 19 09    | 20             |    |  |
| 2  | 211                                    | 33.1 |         | 158                                                                                    | 27.9    | -20 11.8                                                                                                         | 118                   | 56                                   | 18      | 5 02                     | 40   | 18            | 95             | 25       | 25             |    |  |
| 3  | 226                                    | 33.3 |         | 172                                                                                    | 55.3    |                                                                                                                  | 84                    | 54                                   | 23      | 05                       | 41   | 12            | 05             | 91       | 38             | 30 |  |
| 4  | 241                                    | 33.6 |         | 187                                                                                    | 22.7    |                                                                                                                  | 84                    | 52                                   | 27      | 08                       | 41   | 11            | 54             | 87       | 19             | 50 |  |
| 5  | 256                                    | 33.8 | +1 21.2 | 201                                                                                    | 49.9    | -20 46.7                                                                                                         | 115                   | 50                                   | 4 31    | 5 10                     | 5 42 | 11 44         | 84             | 20 01    | 36             |    |  |
| 6  | 271                                    | 34.0 | +1 20.2 | 216                                                                                    | 17.0    | -20 58.1                                                                                                         | 114                   | 45                                   | 4 40    | 5 14                     | 5 44 | 11 23         | 79             | 20 23    | 41             |    |  |
| 7  | 286                                    | 34.2 |         | 230                                                                                    | 44.1    | -21 09.3                                                                                                         | 112                   | 40                                   | 46      | 18                       | 45   | 11 06         | 75             | 41       | 45             |    |  |
| 8  | 301                                    | 34.4 |         | 245                                                                                    | 11.0    |                                                                                                                  | 79                    | 35                                   | 51      | 21                       | 46   | 10 52         | 71             | 20 56    | 48             |    |  |
| 9  | 316                                    | 34.7 |         | 259                                                                                    | 37.8    |                                                                                                                  | 78                    | 30                                   | 4 55    | 23                       | 47   | 39            | 69             | 21 10    | 50             |    |  |
| 10 | 331                                    | 34.9 |         | 274                                                                                    | 04.5    |                                                                                                                  | 77                    | 20                                   | 5 01    | 26                       | 48   | 18            | 65             | 32       | 54             |    |  |
| 11 | 346                                    | 35.1 | +1 15.3 | 288                                                                                    | 31.2    | -21 53.2                                                                                                         | 108                   | 10 N                                 | 5 04    | 5 28                     | 5 49 | 10 00         | 61             | 21 52    | 57             |    |  |
| 12 | 1                                      | 35.3 | +1 14.4 | 302                                                                                    | 57.7    | -22 03.8                                                                                                         | 106                   | 0                                    | 5 06    | 5 30                     | 5 50 | 9 44          | 57             | 22 11    | 59             |    |  |
| 13 | 16                                     | 35.6 |         | 317                                                                                    | 24.1    |                                                                                                                  | 74                    | 10 S                                 | 06      | 30                       | 51   | 27            | 54             | 29       | 62             |    |  |
| 14 | 31                                     | 35.8 |         | 331                                                                                    | 50.4    |                                                                                                                  | 73                    | 20                                   | 05      | 30                       | 52   | 9 09          | 51             | 22 49    | 65             |    |  |
| 15 | 46                                     | 36.0 |         | 346                                                                                    | 16.7    |                                                                                                                  | 73                    | 30                                   | 5 01    | 29                       | 53   | 8 49          | 46             | 23 12    | 69             |    |  |
| 16 | 61                                     | 36.2 |         | 0                                                                                      | 42.8    |                                                                                                                  | 71                    | 35                                   | 4 59    | 28                       | 53   | 38            | 43             | 26       | 70             |    |  |
| 17 | 76                                     | 36.4 | +1 09.5 | 15                                                                                     | 08.8    | -22 55.2                                                                                                         | 100                   | 40                                   | 4 55    | 5 27                     | 5 54 | 8 24          | 40             | 23 41    | 74             |    |  |
| 18 | 91                                     | 36.7 | +1 08.5 | 29                                                                                     | 34.7    | -23 05.0                                                                                                         | 98                    | 45                                   | 4 51    | 5 25                     | 5 54 | 8 08          | 37             | *** ** * | *** ** *       |    |  |
| 19 | 106                                    | 36.9 |         | 07.6                                                                                   | 44 00.5 |                                                                                                                  | 68                    | 50                                   | 45      | 23                       | 55   | 7 49          | 31             | *** ** * | *** ** *       |    |  |
| 20 | 121                                    | 37.1 |         | 58                                                                                     | 26.3    |                                                                                                                  | 68                    | 52                                   | 42      | 22                       | 55   | 40            | 28             | *** ** * | *** ** *       |    |  |
| 21 | 136                                    | 37.3 |         | 72                                                                                     | 51.9    |                                                                                                                  | 66                    | 54                                   | 39      | 20                       | 55   | 30            | 25             | *** ** * | *** ** *       |    |  |
| 22 | 151                                    | 37.5 |         | 87                                                                                     | 17.4    |                                                                                                                  | 65                    | 56                                   | 35      | 19                       | 56   | 19            | 20             | *** ** * | *** ** *       |    |  |
| 23 | 166                                    | 37.8 |         | 101                                                                                    | 42.8    | -23 52.2                                                                                                         | 91                    | 58                                   | 31      | 17                       | 56   | 7 06          | 15             | *** ** * | *** ** *       |    |  |
| 24 | 181                                    | 38.0 | +1 02.7 | 116                                                                                    | 08.2    | -24 01.2                                                                                                         | 90                    | 60 S                                 | 4 26    | 5 15                     | 5 56 | 6 50          | 8              | *** ** * | *** ** *       |    |  |

| UT  | ARIES                                 |      | VENUS                                            |      |          | MARTE                                             |      |         | JÚPITER                                           |      |         | SATURNO                                          |      |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|----------|---------------------------------------------------|------|---------|---------------------------------------------------|------|---------|--------------------------------------------------|------|----------|
|     | PMG: 0 <sup>h</sup> 07 <sup>m</sup> 0 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 09 <sup>m</sup> |      |          | Mag: +1.7<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> |      |         | Mag: -1.7<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> |      |         | Mag: +0.2<br>PMG: 7 <sup>h</sup> 54 <sup>m</sup> |      |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  |          | hG ♂                                              | Dec  |         | hG ♃                                              | Dec  |         | hG ♄                                             | Dec  |          |
| h   | °                                     | '    | °                                                | '    | °        | '                                                 | °    | '       | °                                                 | '    | °       | '                                                | °    | '        |
| 0   | 358                                   | 14.1 | 222                                              | 44.7 | +16 10.8 | 182                                               | 13.7 | +2 45.5 | 179                                               | 01.5 | +1 31.1 | 241                                              | 12.5 | +20 56.6 |
| 1   | 13                                    | 16.6 | 237                                              | 44.3 |          | 197                                               | 14.7 |         | 194                                               | 03.5 |         | 256                                              | 14.7 |          |
| 2   | 28                                    | 19.1 | 252                                              | 44.0 |          | 212                                               | 15.7 |         | 209                                               | 05.4 |         | 271                                              | 16.9 |          |
| 3   | 43                                    | 21.5 | 267                                              | 43.6 | 08.9     | 227                                               | 16.7 | 43.5    | 224                                               | 07.4 | 30.4    | 286                                              | 19.2 | 56.5     |
| 4   | 58                                    | 24.0 | 282                                              | 43.2 | 08.3     | 242                                               | 17.7 | 42.9    | 239                                               | 09.4 | 30.2    | 301                                              | 21.4 | 56.5     |
| 5   | 73                                    | 26.5 | 297                                              | 42.8 | +16 07.7 | 257                                               | 18.7 | +2 42.2 | 254                                               | 11.3 | +1 30.0 | 316                                              | 23.7 | +20 56.5 |
| 6   | 88                                    | 28.9 | 312                                              | 42.4 | +16 07.1 | 272                                               | 19.7 | +2 41.6 | 269                                               | 13.3 | +1 29.8 | 331                                              | 25.9 | +20 56.4 |
| 7   | 103                                   | 31.4 | 327                                              | 42.1 | 06.5     | 287                                               | 20.7 | 40.9    | 284                                               | 15.3 | 29.6    | 346                                              | 28.2 | 56.4     |
| 8   | 118                                   | 33.9 | 342                                              | 41.7 | 05.9     | 302                                               | 21.7 | 40.3    | 299                                               | 17.2 | 29.4    | 1                                                | 30.4 | 56.3     |
| 9   | 133                                   | 36.3 | 357                                              | 41.3 | 05.2     | 317                                               | 22.7 | 39.6    | 314                                               | 19.2 | 29.2    | 16                                               | 32.7 | 56.3     |
| 10  | 148                                   | 38.8 | 12                                               | 40.9 | 04.6     | 332                                               | 23.7 | 39.0    | 329                                               | 21.2 | 28.9    | 31                                               | 34.9 | 56.3     |
| 11  | 163                                   | 41.2 | 27                                               | 40.5 | +16 04.0 | 347                                               | 24.7 | +2 38.3 | 344                                               | 23.1 | +1 28.7 | 46                                               | 37.1 | +20 56.2 |
| 12  | 178                                   | 43.7 | 42                                               | 40.2 | +16 03.4 | 2                                                 | 25.6 | +2 37.7 | 359                                               | 25.1 | +1 28.5 | 61                                               | 39.4 | +20 56.2 |
| 13  | 193                                   | 46.2 | 57                                               | 39.8 | 02.8     | 17                                                | 26.6 | 37.0    | 14                                                | 27.1 | 28.3    | 76                                               | 41.6 | 56.2     |
| 14  | 208                                   | 48.6 | 72                                               | 39.4 | 02.1     | 32                                                | 27.6 | 36.4    | 29                                                | 29.0 | 28.1    | 91                                               | 43.9 | 56.1     |
| 15  | 223                                   | 51.1 | 87                                               | 39.0 | 01.5     | 47                                                | 28.6 | 35.7    | 44                                                | 31.0 | 27.9    | 106                                              | 46.1 | 56.1     |
| 16  | 238                                   | 53.6 | 102                                              | 38.6 | 00.9     | 62                                                | 29.6 | 35.1    | 59                                                | 33.0 | 27.7    | 121                                              | 48.4 | 56.1     |
| 17  | 253                                   | 56.0 | 117                                              | 38.3 | +16 00.3 | 77                                                | 30.6 | +2 34.4 | 74                                                | 34.9 | +1 27.4 | 136                                              | 50.6 | +20 56.0 |
| 18  | 268                                   | 58.5 | 132                                              | 37.9 | +15 59.6 | 92                                                | 31.6 | +2 33.8 | 89                                                | 36.9 | +1 27.2 | 151                                              | 52.9 | +20 56.0 |
| 19  | 284                                   | 01.0 | 147                                              | 37.5 | 59.0     | 107                                               | 32.6 | 33.1    | 104                                               | 38.9 | 27.0    | 166                                              | 55.1 | 56.0     |
| 20  | 299                                   | 03.4 | 162                                              | 37.1 | 58.4     | 122                                               | 33.6 | 32.5    | 119                                               | 40.9 | 26.8    | 181                                              | 57.4 | 55.9     |
| 21  | 314                                   | 05.9 | 177                                              | 36.7 | 57.7     | 137                                               | 34.6 | 31.8    | 134                                               | 42.8 | 26.6    | 196                                              | 59.6 | 55.9     |
| 22  | 329                                   | 08.4 | 192                                              | 36.4 | 57.1     | 152                                               | 35.6 | 31.2    | 149                                               | 44.8 | 26.4    | 212                                              | 01.9 | 55.9     |
| 23  | 344                                   | 10.8 | 207                                              | 36.0 | 56.5     | 167                                               | 36.6 | 30.5    | 164                                               | 46.8 | 26.2    | 227                                              | 04.1 | 55.8     |
| 24  | 359                                   | 13.3 | 222                                              | 35.6 | +15 55.8 | 182                                               | 37.5 | +2 29.9 | 179                                               | 48.7 | +1 25.9 | 242                                              | 06.3 | +20 55.8 |
| Dif | —                                     |      | -4                                               |      | -6       | +10                                               |      | -7      | +20                                               |      | -2      | +22                                              |      |          |

| UT  | SOL                                    |      |  LUNA |          |                                                                           |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna      |                                                  | Puesta de Luna |    |
|-----|----------------------------------------|------|----------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|---------------------|--------------------------------------------------|----------------|----|
|     | SD: 15°9                               |      | Edad: 5 <sup>d</sup> 4                                                                 | PHE {    | 4 <sup>h</sup> : 59'0<br>12 <sup>h</sup> : 59'1<br>20 <sup>h</sup> : 59'2 |                                                   |          |               |                                                   |          |                     |                                                  |                |    |
|     | PMG: 11 <sup>h</sup> 53 <sup>m</sup> 3 |      |                                                                                        |          |                                                                           | SD: 16°1                                          |          |               | PMG: 16 <sup>h</sup> 55 <sup>m</sup>              |          | R°: 62 <sup>m</sup> |                                                  |                |    |
|     | hG ☉                                   | Dec  | hG ☾                                                                                   | Dif      | Dec                                                                       | Dif                                               |          |               | Civil                                             | Náutico  | Hora                | R°                                               | Hora           | R° |
| h   | °                                      | '    | °                                                                                      | '        | °                                                                         | '                                                 | °        | h m           | h m                                               | h m      | h m m               |                                                  | h m m          |    |
| 0   | 181                                    | 38.0 | +1 02.7                                                                                |          | 116 08.2                                                                  | -24 01.2                                          | 89       | 60 N          | 18 05                                             | 18 47    | 19 37               | 14 42 98                                         | 19 01 31       |    |
| 1   | 196                                    | 38.2 |                                                                                        | 01.7     | 130 33.4                                                                  | 62 10.1                                           | 87       | 58            | 04                                                | 44       | 31                  | 14 15 89                                         | 29 40          |    |
| 2   | 211                                    | 38.4 | +1 00.8                                                                                |          | 144 58.6                                                                  | 62 18.8                                           | 87       | 56            | 04                                                | 41       | 25                  | 13 53 85                                         | 19 50 45       |    |
| 3   | 226                                    | 38.7 | +0 59.8                                                                                |          | 159 23.6                                                                  | 60 27.4                                           | 86       | 54            | 03                                                | 38       | 20                  | 36 81                                            | 20 08 48       |    |
| 4   | 241                                    | 38.9 |                                                                                        | 58.8     | 173 48.6                                                                  | 60 35.8                                           | 84       | 52            | 02                                                | 36       | 16                  | 21 79                                            | 24 49          |    |
| 5   | 256                                    | 39.1 | +0 57.9                                                                                |          | 188 13.4                                                                  | 58 -24 44.1                                       | 83       | 50            | 18 02                                             | 18 34    | 19 12               | 13 08 77                                         | 20 37 51       |    |
| 6   | 271                                    | 39.3 | +0 56.9                                                                                |          | 202 38.2                                                                  | 58 -24 52.2                                       | 81       | 45            | 18 01                                             | 18 30    | 19 05               | 12 42 73                                         | 21 04 54       |    |
| 7   | 286                                    | 39.5 |                                                                                        | 55.9     | 217 02.9                                                                  | 57 -25 00.1                                       | 79       | 40            | 18 00                                             | 27       | 18 59               | 21 71                                            | 26 56          |    |
| 8   | 301                                    | 39.8 |                                                                                        | 54.9     | 231 27.5                                                                  | 56 07.9                                           | 78       | 35            | 17 59                                             | 25       | 54                  | 12 03 69                                         | 21 44 57       |    |
| 9   | 316                                    | 40.0 |                                                                                        | 54.0     | 245 52.0                                                                  | 55 15.6                                           | 77       | 30            | 59                                                | 23       | 51                  | 11 48 68                                         | 22 00 58       |    |
| 10  | 331                                    | 40.2 |                                                                                        | 53.0     | 260 16.4                                                                  | 54 23.0                                           | 74       | 20            | 58                                                | 20       | 45                  | 23 65                                            | 26 60          |    |
| 11  | 346                                    | 40.4 | +0 52.0                                                                                |          | 274 40.7                                                                  | 53 -25 30.4                                       | 74       | 10 N          | 17 57                                             | 18 18    | 18 42               | 11 01 63                                         | 22 49 61       |    |
| 12  | 1                                      | 40.6 | +0 51.1                                                                                |          | 289 04.9                                                                  | 52 -25 37.5                                       | 71       | 0             | 17 57                                             | 18 17    | 18 41               | 10 41 61                                         | 23 10 62       |    |
| 13  | 16                                     | 40.9 |                                                                                        | 50.1     | 303 29.1                                                                  | 52 44.5                                           | 70       | 10 S          | 56                                                | 17       | 41                  | 21 59                                            | 31 64          |    |
| 14  | 31                                     | 41.1 |                                                                                        | 49.1     | 317 53.2                                                                  | 51 51.3                                           | 68       | 20            | 56                                                | 18       | 43                  | 10 00 57                                         | 23 54 65       |    |
| 15  | 46                                     | 41.3 |                                                                                        | 48.1     | 332 17.2                                                                  | 50 -25 58.0                                       | 67       | 30            | 55                                                | 19       | 47                  | 9 35 54                                          | *** ** *       |    |
| 16  | 61                                     | 41.5 |                                                                                        | 47.2     | 346 41.1                                                                  | 49 -26 04.4                                       | 64       | 35            | 55                                                | 20       | 50                  | 21 52                                            | *** ** *       |    |
| 17  | 76                                     | 41.8 | +0 46.2                                                                                |          | 1 04.9                                                                    | 48 -26 10.8                                       | 64       | 40            | 17 55                                             | 18 22    | 18 54               | 9 04 50                                          | *** ** *       |    |
| 18  | 91                                     | 42.0 | +0 45.2                                                                                |          | 15 28.7                                                                   | 48 -26 16.9                                       | 61       | 45            | 17 55                                             | 18 24    | 18 59               | 8 45 47                                          | 0 00 77        |    |
| 19  | 106                                    | 42.2 |                                                                                        | 44.2     | 29 52.3                                                                   | 46 22.9                                           | 60       | 50            | 55                                                | 27       | 19 05               | 20 43                                            | 24 81          |    |
| 20  | 121                                    | 42.4 |                                                                                        | 43.3     | 44 15.9                                                                   | 46 28.7                                           | 58       | 52            | 55                                                | 28       | 08                  | 8 08 41                                          | 35 84          |    |
| 21  | 136                                    | 42.6 |                                                                                        | 42.3     | 58 39.5                                                                   | 46 34.3                                           | 56       | 54            | 55                                                | 30       | 12                  | 7 55 38                                          | 0 48 87        |    |
| 22  | 151                                    | 42.9 |                                                                                        | 41.3     | 73 02.9                                                                   | 44 39.8                                           | 55       | 56            | 55                                                | 32       | 16                  | 39 35                                            | 1 03 91        |    |
| 23  | 166                                    | 43.1 |                                                                                        | 40.4     | 87 26.3                                                                   | 44 45.0                                           | 52       | 58            | 55                                                | 34       | 21                  | 7 21 29                                          | 21 96          |    |
| 24  | 181                                    | 43.3 | +0 39.4                                                                                |          | 101 49.7                                                                  | 44 -26 50.1                                       | 51       | 60 S          | 17 55                                             | 18 36    | 19 26               | 6 58 21                                          | 1 43 105       |    |
| UT  | ARIES                                  |      | VENUS                                                                                  |          |                                                                           | MARTE                                             |          |               | JÚPITER                                           |          |                     | SATURNO                                          |                |    |
|     | PMG: 0 <sup>h</sup> 03 <sup>m</sup> 1  |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 10 <sup>m</sup>                                       |          |                                                                           | Mag: +1.7<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> |          |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> |          |                     | Mag: +0.2<br>PMG: 7 <sup>h</sup> 50 <sup>m</sup> |                |    |
|     | hG ♈                                   |      | hG ♀                                                                                   | Dec      |                                                                           | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      |                     | hG ♄                                             | Dec            |    |
| h   | °                                      | '    | °                                                                                      | '        | °                                                                         | '                                                 | °        | '             | °                                                 | '        | °                   | '                                                | °              | '  |
| 0   | 359                                    | 13.3 | 222 35.6                                                                               | +15 55.8 | 182 37.5                                                                  | +2 29.9                                           | 179 48.7 | +1 25.9       | 242 06.3                                          | +20 55.8 |                     |                                                  |                |    |
| 1   | 14                                     | 15.7 | 237 35.2                                                                               | 55.2     | 197 38.5                                                                  | 29.2                                              | 194 50.7 | 25.7          | 257 08.6                                          | 55.8     |                     |                                                  |                |    |
| 2   | 29                                     | 18.2 | 252 34.8                                                                               | 54.6     | 212 39.5                                                                  | 28.6                                              | 209 52.7 | 25.5          | 272 10.8                                          | 55.7     |                     |                                                  |                |    |
| 3   | 44                                     | 20.7 | 267 34.5                                                                               | 53.9     | 227 40.5                                                                  | 27.9                                              | 224 54.6 | 25.3          | 287 13.1                                          | 55.7     |                     |                                                  |                |    |
| 4   | 59                                     | 23.1 | 282 34.1                                                                               | 53.3     | 242 41.5                                                                  | 27.3                                              | 239 56.6 | 25.1          | 302 15.3                                          | 55.7     |                     |                                                  |                |    |
| 5   | 74                                     | 25.6 | 297 33.7                                                                               | +15 52.7 | 257 42.5                                                                  | +2 26.6                                           | 254 58.6 | +1 24.9       | 317 17.6                                          | +20 55.6 |                     |                                                  |                |    |
| 6   | 89                                     | 28.1 | 312 33.3                                                                               | +15 52.0 | 272 43.5                                                                  | +2 26.0                                           | 270 00.5 | +1 24.7       | 332 19.8                                          | +20 55.6 |                     |                                                  |                |    |
| 7   | 104                                    | 30.5 | 327 32.9                                                                               | 51.4     | 287 44.5                                                                  | 25.3                                              | 285 02.5 | 24.4          | 347 22.1                                          | 55.6     |                     |                                                  |                |    |
| 8   | 119                                    | 33.0 | 342 32.6                                                                               | 50.8     | 302 45.5                                                                  | 24.7                                              | 300 04.5 | 24.2          | 2 24.3                                            | 55.5     |                     |                                                  |                |    |
| 9   | 134                                    | 35.5 | 357 32.2                                                                               | 50.1     | 317 46.5                                                                  | 24.0                                              | 315 06.4 | 24.0          | 17 26.6                                           | 55.5     |                     |                                                  |                |    |
| 10  | 149                                    | 37.9 | 12 31.8                                                                                | 49.5     | 332 47.5                                                                  | 23.4                                              | 330 08.4 | 23.8          | 32 28.8                                           | 55.5     |                     |                                                  |                |    |
| 11  | 164                                    | 40.4 | 27 31.4                                                                                | +15 48.8 | 347 48.4                                                                  | +2 22.7                                           | 345 10.4 | +1 23.6       | 47 31.1                                           | +20 55.4 |                     |                                                  |                |    |
| 12  | 179                                    | 42.9 | 42 31.0                                                                                | +15 48.2 | 2 49.4                                                                    | +2 22.1                                           | 0 12.3   | +1 23.4       | 62 33.3                                           | +20 55.4 |                     |                                                  |                |    |
| 13  | 194                                    | 45.3 | 57 30.7                                                                                | 47.6     | 17 50.4                                                                   | 21.4                                              | 15 14.3  | 23.2          | 77 35.6                                           | 55.4     |                     |                                                  |                |    |
| 14  | 209                                    | 47.8 | 72 30.3                                                                                | 46.9     | 32 51.4                                                                   | 20.8                                              | 30 16.3  | 22.9          | 92 37.8                                           | 55.3     |                     |                                                  |                |    |
| 15  | 224                                    | 50.2 | 87 29.9                                                                                | 46.3     | 47 52.4                                                                   | 20.1                                              | 45 18.2  | 22.7          | 107 40.1                                          | 55.3     |                     |                                                  |                |    |
| 16  | 239                                    | 52.7 | 102 29.5                                                                               | 45.6     | 62 53.4                                                                   | 19.5                                              | 60 20.2  | 22.5          | 122 42.3                                          | 55.3     |                     |                                                  |                |    |
| 17  | 254                                    | 55.2 | 117 29.1                                                                               | +15 45.0 | 77 54.4                                                                   | +2 18.8                                           | 75 22.2  | +1 22.3       | 137 44.6                                          | +20 55.2 |                     |                                                  |                |    |
| 18  | 269                                    | 57.6 | 132 28.8                                                                               | +15 44.3 | 92 55.4                                                                   | +2 18.2                                           | 90 24.1  | +1 22.1       | 152 46.8                                          | +20 55.2 |                     |                                                  |                |    |
| 19  | 285                                    | 00.1 | 147 28.4                                                                               | 43.7     | 107 56.4                                                                  | 17.5                                              | 105 26.1 | 21.9          | 167 49.1                                          | 55.2     |                     |                                                  |                |    |
| 20  | 300                                    | 02.6 | 162 28.0                                                                               | 43.0     | 122 57.4                                                                  | 16.9                                              | 120 28.1 | 21.7          | 182 51.3                                          | 55.1     |                     |                                                  |                |    |
| 21  | 315                                    | 05.0 | 177 27.6                                                                               | 42.4     | 137 58.4                                                                  | 16.2                                              | 135 30.0 | 21.4          | 197 53.6                                          | 55.1     |                     |                                                  |                |    |
| 22  | 330                                    | 07.5 | 192 27.2                                                                               | 41.7     | 152 59.3                                                                  | 15.6                                              | 150 32.0 | 21.2          | 212 55.8                                          | 55.1     |                     |                                                  |                |    |
| 23  | 345                                    | 10.0 | 207 26.9                                                                               | 41.1     | 168 00.3                                                                  | 14.9                                              | 165 34.0 | 21.0          | 227 58.1                                          | 55.0     |                     |                                                  |                |    |
| 24  | 0                                      | 12.4 | 222 26.5                                                                               | +15 40.4 | 183 01.3                                                                  | +2 14.3                                           | 180 35.9 | +1 20.8       | 243 00.3                                          | +20 55.0 |                     |                                                  |                |    |
| Dif | —                                      |      | -4                                                                                     | -6       | +10                                                                       | -7                                                | +20      | -2            | +22                                               | 0        |                     |                                                  |                |    |

| UT  | SOL                                    |      |                                                  |  LUNA |                                                                                    |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |      |     |      |     |
|-----|----------------------------------------|------|--------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|------|-----|------|-----|
|     | SD: 15'9                               |      |                                                  | Edad: 6 <sup>d</sup> 4                                                                 | PHE {<br>4 <sup>h</sup> : 59/2<br>12 <sup>h</sup> : 59/2<br>20 <sup>h</sup> : 59/3 | SD: 16'1                                          |         | R°: 63 <sup>m</sup>      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora | R°  |      |     |
|     | PMG: 11 <sup>h</sup> 52 <sup>m</sup> 9 |      |                                                  |                                                                                        |                                                                                    |                                                   |         |                          |                                                   |               |                |                                                  |                |      |     |      |     |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                   | Dif                                                                                | Dec                                               | Dif     |                          |                                                   |               |                |                                                  |                |      |     |      |     |
| h   | °                                      | '    | °                                                | °                                                                                      | '                                                                                  | °                                                 | '       | °                        | h                                                 | m             | h              | m                                                | h              | m    | h   | m    | m   |
| 0   | 181                                    | 43.3 | +0                                               | 39.4                                                                                   |                                                                                    | 101                                               | 49.7    | -26                      | 50.1                                              | 4             | 10             | 5                                                | 01             | 5    | 42  | 16   | 20  |
| 1   | 196                                    | 43.5 |                                                  | 38.4                                                                                   |                                                                                    | 116                                               | 12.9    | 42                       | 55.0                                              | 17            | 04             | 43                                               |                |      | 15  | 44   |     |
| 2   | 211                                    | 43.7 |                                                  | 37.4                                                                                   |                                                                                    | 130                                               | 36.1    | 42                       | -26                                               | 59.8          | 22             | 06                                               | 44             |      | 15  | 18   |     |
| 3   | 226                                    | 44.0 |                                                  | 36.5                                                                                   |                                                                                    | 144                                               | 59.3    | 42                       | -27                                               | 04.3          | 27             | 09                                               | 44             |      | 14  | 57   |     |
| 4   | 241                                    | 44.2 |                                                  | 35.5                                                                                   |                                                                                    | 159                                               | 22.3    | 40                       | 08.7                                              | 31            | 11             | 45                                               |                |      | 40  | 62   |     |
| 5   | 256                                    | 44.4 | +0                                               | 34.5                                                                                   |                                                                                    | 173                                               | 45.4    | 41                       | -27                                               | 12.9          | 4              | 13                                               | 5              | 45   | 14  | 25   |     |
| 6   | 271                                    | 44.6 | +0                                               | 33.6                                                                                   |                                                                                    | 188                                               | 08.3    | 39                       | -27                                               | 16.9          | 4              | 17                                               | 5              | 46   | 13  | 55   |     |
| 7   | 286                                    | 44.8 |                                                  | 32.6                                                                                   |                                                                                    | 202                                               | 31.2    | 39                       | 20.7                                              | 48            | 20             | 47                                               |                |      | 32  | 63   |     |
| 8   | 301                                    | 45.1 |                                                  | 31.6                                                                                   |                                                                                    | 216                                               | 54.1    | 39                       | 24.4                                              | 53            | 22             | 47                                               |                |      | 13  | 12   |     |
| 9   | 316                                    | 45.3 |                                                  | 30.6                                                                                   |                                                                                    | 231                                               | 16.9    | 38                       | 27.8                                              | 4             | 24             | 48                                               |                |      | 12  | 56   |     |
| 10  | 331                                    | 45.5 |                                                  | 29.7                                                                                   |                                                                                    | 245                                               | 39.7    | 38                       | 31.1                                              | 5             | 27             | 49                                               |                |      | 28  | 63   |     |
| 11  | 346                                    | 45.7 | +0                                               | 28.7                                                                                   |                                                                                    | 260                                               | 02.4    | 37                       | -27                                               | 34.2          | 5              | 28                                               | 5              | 49   | 12  | 04   |     |
| 12  | 1                                      | 45.9 | +0                                               | 27.7                                                                                   |                                                                                    | 274                                               | 25.1    | 37                       | -27                                               | 37.0          | 5              | 29                                               | 5              | 50   | 11  | 42   |     |
| 13  | 16                                     | 46.2 |                                                  | 26.7                                                                                   |                                                                                    | 288                                               | 47.7    | 36                       | 39.7                                              | 27            | 05             | 29                                               | 50             |      | 11  | 20   |     |
| 14  | 31                                     | 46.4 |                                                  | 25.8                                                                                   |                                                                                    | 303                                               | 10.3    | 36                       | 42.3                                              | 26            | 5              | 28                                               | 50             |      | 10  | 57   |     |
| 15  | 46                                     | 46.6 |                                                  | 24.8                                                                                   |                                                                                    | 317                                               | 32.9    | 36                       | 44.6                                              | 23            | 4              | 27                                               | 50             |      | 29  | 62   |     |
| 16  | 61                                     | 46.8 |                                                  | 23.8                                                                                   |                                                                                    | 331                                               | 55.4    | 35                       | 46.7                                              | 21            | 56             | 25                                               | 51             |      | 10  | 13   |     |
| 17  | 76                                     | 47.1 | +0                                               | 22.9                                                                                   |                                                                                    | 346                                               | 17.9    | 35                       | -27                                               | 48.6          | 4              | 24                                               | 5              | 51   | 9   | 54   |     |
| 18  | 91                                     | 47.3 | +0                                               | 21.9                                                                                   |                                                                                    | 0                                                 | 40.4    | 35                       | -27                                               | 50.4          | 4              | 21                                               | 5              | 51   | 9   | 32   |     |
| 19  | 106                                    | 47.5 |                                                  | 20.9                                                                                   |                                                                                    | 15                                                | 02.8    | 34                       | 51.9                                              | 15            | 40             | 18                                               | 51             |      | 9   | 03   |     |
| 20  | 121                                    | 47.7 |                                                  | 19.9                                                                                   |                                                                                    | 29                                                | 25.2    | 34                       | 53.3                                              | 14            | 37             | 17                                               | 50             |      | 8   | 49   |     |
| 21  | 136                                    | 47.9 |                                                  | 19.0                                                                                   |                                                                                    | 43                                                | 47.7    | 35                       | 54.5                                              | 12            | 54             | 15                                               | 50             |      | 33  | 58   |     |
| 22  | 151                                    | 48.2 |                                                  | 18.0                                                                                   |                                                                                    | 58                                                | 10.0    | 33                       | 55.5                                              | 10            | 56             | 13                                               | 50             |      | 8   | 14   |     |
| 23  | 166                                    | 48.4 |                                                  | 17.0                                                                                   |                                                                                    | 72                                                | 32.4    | 34                       | 56.2                                              | 7             | 58             | 11                                               | 50             |      | 7   | 50   |     |
| 24  | 181                                    | 48.6 | +0                                               | 16.0                                                                                   |                                                                                    | 86                                                | 54.8    | 34                       | -27                                               | 56.8          | 4              | 09                                               | 5              | 50   | 7   | 19   |     |
|     |                                        |      |                                                  |                                                                                        |                                                                                    |                                                   |         |                          |                                                   |               |                |                                                  |                |      |     |      |     |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                        |                                                                                    | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |      |     |      |     |
|     | PMG: 23 <sup>h</sup> 55 <sup>m</sup> 2 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 10 <sup>m</sup> |                                                                                        |                                                                                    | Mag: +1.7<br>PMG: 11 <sup>h</sup> 47 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 7 <sup>h</sup> 47 <sup>m</sup> |                |      |     |      |     |
|     | hG ♈                                   |      | hG ♀                                             | Dec                                                                                    |                                                                                    | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |      |     |      |     |
| h   | °                                      | '    | °                                                | '                                                                                      | °                                                                                  | '                                                 | °       | '                        | °                                                 | '             | °              | '                                                | °              | '    | °   | '    | °   |
| 0   | 0                                      | 12.4 | 222                                              | 26.5                                                                                   | +15                                                                                | 40.4                                              | 183     | 01.3                     | +2                                                | 14.3          | 180            | 35.9                                             | +1             | 20.8 | 243 | 00.3 | +20 |
| 1   | 15                                     | 14.9 | 237                                              | 26.1                                                                                   |                                                                                    | 39.8                                              | 198     | 02.3                     |                                                   | 13.6          | 195            | 37.9                                             |                | 20.6 | 258 | 02.6 |     |
| 2   | 30                                     | 17.4 | 252                                              | 25.7                                                                                   |                                                                                    | 39.1                                              | 213     | 03.3                     |                                                   | 13.0          | 210            | 39.9                                             |                | 20.4 | 273 | 04.8 |     |
| 3   | 45                                     | 19.8 | 267                                              | 25.3                                                                                   |                                                                                    | 38.5                                              | 228     | 04.3                     |                                                   | 12.3          | 225            | 41.9                                             |                | 20.2 | 288 | 07.1 |     |
| 4   | 60                                     | 22.3 | 282                                              | 25.0                                                                                   |                                                                                    | 37.8                                              | 243     | 05.3                     |                                                   | 11.7          | 240            | 43.8                                             |                | 19.9 | 303 | 09.3 |     |
| 5   | 75                                     | 24.7 | 297                                              | 24.6                                                                                   | +15                                                                                | 37.2                                              | 258     | 06.3                     | +2                                                | 11.0          | 255            | 45.8                                             | +1             | 19.7 | 318 | 11.6 | +20 |
| 6   | 90                                     | 27.2 | 312                                              | 24.2                                                                                   | +15                                                                                | 36.5                                              | 273     | 07.3                     | +2                                                | 10.4          | 270            | 47.8                                             | +1             | 19.5 | 333 | 13.8 | +20 |
| 7   | 105                                    | 29.7 | 327                                              | 23.8                                                                                   |                                                                                    | 35.9                                              | 288     | 08.3                     |                                                   | 09.7          | 285            | 49.7                                             |                | 19.3 | 348 | 16.1 |     |
| 8   | 120                                    | 32.1 | 342                                              | 23.4                                                                                   |                                                                                    | 35.2                                              | 303     | 09.3                     |                                                   | 09.1          | 300            | 51.7                                             |                | 19.1 | 3   | 18.3 |     |
| 9   | 135                                    | 34.6 | 357                                              | 23.1                                                                                   |                                                                                    | 34.5                                              | 318     | 10.2                     |                                                   | 08.4          | 315            | 53.7                                             |                | 18.9 | 18  | 20.6 |     |
| 10  | 150                                    | 37.1 | 12                                               | 22.7                                                                                   |                                                                                    | 33.9                                              | 333     | 11.2                     |                                                   | 07.7          | 330            | 55.6                                             |                | 18.7 | 33  | 22.8 |     |
| 11  | 165                                    | 39.5 | 27                                               | 22.3                                                                                   | +15                                                                                | 33.2                                              | 348     | 12.2                     | +2                                                | 07.1          | 345            | 57.6                                             | +1             | 18.4 | 48  | 25.1 | +20 |
| 12  | 180                                    | 42.0 | 42                                               | 21.9                                                                                   | +15                                                                                | 32.6                                              | 3       | 13.2                     | +2                                                | 06.4          | 0              | 59.6                                             | +1             | 18.2 | 63  | 27.3 | +20 |
| 13  | 195                                    | 44.5 | 57                                               | 21.5                                                                                   |                                                                                    | 31.9                                              | 18      | 14.2                     |                                                   | 05.8          | 16             | 01.5                                             |                | 18.0 | 78  | 29.6 |     |
| 14  | 210                                    | 46.9 | 72                                               | 21.2                                                                                   |                                                                                    | 31.2                                              | 33      | 15.2                     |                                                   | 05.1          | 31             | 03.5                                             |                | 17.8 | 93  | 31.8 |     |
| 15  | 225                                    | 49.4 | 87                                               | 20.8                                                                                   |                                                                                    | 30.6                                              | 48      | 16.2                     |                                                   | 04.5          | 46             | 05.5                                             |                | 17.6 | 108 | 34.1 |     |
| 16  | 240                                    | 51.9 | 102                                              | 20.4                                                                                   |                                                                                    | 29.9                                              | 63      | 17.2                     |                                                   | 03.8          | 61             | 07.4                                             |                | 17.4 | 123 | 36.3 |     |
| 17  | 255                                    | 54.3 | 117                                              | 20.0                                                                                   | +15                                                                                | 29.2                                              | 78      | 18.2                     | +2                                                | 03.2          | 76             | 09.4                                             | +1             | 17.2 | 138 | 38.6 | +20 |
| 18  | 270                                    | 56.8 | 132                                              | 19.6                                                                                   | +15                                                                                | 28.6                                              | 93      | 19.2                     | +2                                                | 02.5          | 91             | 11.4                                             | +1             | 16.9 | 153 | 40.9 | +20 |
| 19  | 285                                    | 59.2 | 147                                              | 19.3                                                                                   |                                                                                    | 27.9                                              | 108     | 20.2                     |                                                   | 01.9          | 106            | 13.3                                             |                | 16.7 | 168 | 43.1 |     |
| 20  | 301                                    | 01.7 | 162                                              | 18.9                                                                                   |                                                                                    | 27.2                                              | 123     | 21.1                     |                                                   | 01.2          | 121            | 15.3                                             |                | 16.5 | 183 | 45.4 |     |
| 21  | 316                                    | 04.2 | 177                                              | 18.5                                                                                   |                                                                                    | 26.6                                              | 138     | 22.1                     | +2                                                | 00.6          | 136            | 17.3                                             |                | 16.3 | 198 | 47.6 |     |
| 22  | 331                                    | 06.6 | 192                                              | 18.1                                                                                   |                                                                                    | 25.9                                              | 153     | 23.1                     | +1                                                | 59.9          | 151            | 19.2                                             |                | 16.1 | 213 | 49.9 |     |
| 23  | 346                                    | 09.1 | 207                                              | 17.8                                                                                   |                                                                                    | 25.2                                              | 168     | 24.1                     |                                                   | 59.3          | 166            | 21.2                                             |                | 15.9 | 228 | 52.1 |     |
| 24  | 1                                      | 11.6 | 222                                              | 17.4                                                                                   | +15                                                                                | 24.6                                              | 183     | 25.1                     | +1                                                | 58.6          | 181            | 23.2                                             | +1             | 15.7 | 243 | 54.4 | +20 |
| Dif | —                                      |      | -4                                               |                                                                                        | -7                                                                                 |                                                   | +10     |                          | -7                                                |               | +20            |                                                  | -2             |      | +23 |      | 0   |

| UT | SOL                                                |      |    | ☾ LUNA                                                                           |     |      | Latitud     | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |           |      | Puesta de Luna |   |  |
|----|----------------------------------------------------|------|----|----------------------------------------------------------------------------------|-----|------|-------------|---------------|----------------------|-------|---------|----------------|-----------|------|----------------|---|--|
|    | SD: 15'9<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup> 6 |      |    | Edad: 7 <sup>d</sup> 4 PHE {<br>SD: 16'1<br>PMG: 19 <sup>h</sup> 00 <sup>m</sup> |     |      |             |               |                      |       |         |                |           |      |                |   |  |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                             | Dif | Dec  |             |               | Dif                  | Civil | Náutico | Hora           | R°        | Hora | R°             |   |  |
| h  | °                                                  | '    | °  | '                                                                                | °   | '    | °           | h             | m                    | h     | m       | h              | m         | h    | m              | m |  |
| 0  | 181                                                | 48.6 | +0 | 16.0                                                                             | 86  | 54.8 | -27 56.8    | 60 N          | 17 59                | 18 41 | 19 30   | 17 19 22       | 20 45 106 |      |                |   |  |
| 1  | 196                                                | 48.8 |    | 15.1                                                                             | 101 | 17.1 | 33 57.2     | 58            | 59                   | 38    | 25      | 16 44 33       | 21 19 96  |      |                |   |  |
| 2  | 211                                                | 49.0 |    | 14.1                                                                             | 115 | 39.4 | 33 57.4     | 56            | 58                   | 35    | 19      | 16 19 38       | 21 44 90  |      |                |   |  |
| 3  | 226                                                | 49.3 |    | 13.1                                                                             | 130 | 01.8 | 34 57.4     | 54            | 58                   | 33    | 15      | 15 59 41       | 22 04 86  |      |                |   |  |
| 4  | 241                                                | 49.5 |    | 12.2                                                                             | 144 | 24.1 | 33 57.3     | 52            | 58                   | 31    | 11      | 42 44          | 21 83     |      |                |   |  |
| 5  | 256                                                | 49.7 | +0 | 11.2                                                                             | 158 | 46.4 | 33 -27 56.9 | 50            | 17 58                | 18 30 | 19 08   | 15 27 46       | 22 36 80  |      |                |   |  |
| 6  | 271                                                | 49.9 | +0 | 10.2                                                                             | 173 | 08.8 | 34 -27 56.3 | 45            | 17 57                | 18 26 | 19 01   | 14 58 50       | 23 05 76  |      |                |   |  |
| 7  | 286                                                | 50.1 |    | 09.2                                                                             | 187 | 31.1 | 33 55.5     | 40            | 57                   | 24    | 18 55   | 35 52          | 28 73     |      |                |   |  |
| 8  | 301                                                | 50.4 |    | 08.3                                                                             | 201 | 53.4 | 33 54.6     | 35            | 57                   | 22    | 51      | 14 15 55       | 23 46 71  |      |                |   |  |
| 9  | 316                                                | 50.6 |    | 07.3                                                                             | 216 | 15.8 | 34 53.4     | 30            | 56                   | 20    | 48      | 13 59 56       | *** ** *  |      |                |   |  |
| 10 | 331                                                | 50.8 |    | 06.3                                                                             | 230 | 38.2 | 34 52.1     | 20            | 56                   | 18    | 44      | 31 58          | *** ** *  |      |                |   |  |
| 11 | 346                                                | 51.0 | +0 | 05.3                                                                             | 245 | 00.5 | 33 -27 50.5 | 10 N          | 17 56                | 18 17 | 18 41   | 13 07 60       | *** ** *  |      |                |   |  |
| 12 | 1                                                  | 51.2 | +0 | 04.4                                                                             | 259 | 22.9 | 34 -27 48.8 | 0             | 17 56                | 18 16 | 18 40   | 12 45 62       | 0 12 63   |      |                |   |  |
| 13 | 16                                                 | 51.5 |    | 03.4                                                                             | 273 | 45.3 | 34 46.9     | 10 S          | 56                   | 17    | 41      | 12 23 63       | 35 61     |      |                |   |  |
| 14 | 31                                                 | 51.7 |    | 02.4                                                                             | 288 | 07.8 | 35 44.7     | 20            | 56                   | 18    | 44      | 11 59 65       | 0 59 60   |      |                |   |  |
| 15 | 46                                                 | 51.9 |    | 01.4                                                                             | 302 | 30.2 | 34 42.4     | 30            | 56                   | 20    | 48      | 31 68          | 1 27 59   |      |                |   |  |
| 16 | 61                                                 | 52.1 | +0 | 00.5                                                                             | 316 | 52.7 | 35 39.9     | 35            | 57                   | 22    | 51      | 11 15 68       | 1 43 59   |      |                |   |  |
| 17 | 76                                                 | 52.3 | -0 | 00.5                                                                             | 331 | 15.2 | 35 -27 37.2 | 40            | 17 57                | 18 24 | 18 56   | 10 56 70       | 2 02 58   |      |                |   |  |
| 18 | 91                                                 | 52.5 | -0 | 01.5                                                                             | 345 | 37.8 | 36 -27 34.3 | 45            | 17 57                | 18 27 | 19 01   | 10 32 72       | 2 26 56   |      |                |   |  |
| 19 | 106                                                | 52.8 |    | 02.4                                                                             | 0   | 00.4 | 36 31.3     | 50            | 58                   | 30    | 08      | 10 03 75       | 2 55 55   |      |                |   |  |
| 20 | 121                                                | 53.0 |    | 03.4                                                                             | 14  | 23.0 | 36 28.0     | 52            | 58                   | 32    | 12      | 9 48 76        | 3 10 53   |      |                |   |  |
| 21 | 136                                                | 53.2 |    | 04.4                                                                             | 28  | 45.6 | 36 24.5     | 54            | 58                   | 34    | 16      | 31 78          | 27 52     |      |                |   |  |
| 22 | 151                                                | 53.4 |    | 05.4                                                                             | 43  | 08.3 | 37 20.9     | 56            | 59                   | 36    | 20      | 9 11 80        | 3 47 50   |      |                |   |  |
| 23 | 166                                                | 53.6 |    | 06.3                                                                             | 57  | 31.1 | 38 17.1     | 58            | 59                   | 38    | 25      | 8 45 85        | 4 13 46   |      |                |   |  |
| 24 | 181                                                | 53.9 | -0 | 07.3                                                                             | 71  | 53.9 | 38 -27 13.0 | 60 S          | 17 59                | 18 41 | 19 31   | 8 10 92        | 4 48 39   |      |                |   |  |

| UT  | ARIES                                 |      | VENUS                                            |          | MARTE                                             |         | JÚPITER                                           |         | SATURNO                                          |          |     |  |    |  |     |  |   |  |
|-----|---------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|---------|--------------------------------------------------|----------|-----|--|----|--|-----|--|---|--|
|     | PMG 23 <sup>h</sup> 51 <sup>m</sup> 3 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 11 <sup>m</sup> |          | Mag: +1.7<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> |         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 53 <sup>m</sup> |         | Mag: +0.2<br>PMG: 7 <sup>h</sup> 43 <sup>m</sup> |          |     |  |    |  |     |  |   |  |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec      | hG ♂                                              | Dec     | hG ♃                                              | Dec     | hG ♄                                             | Dec      |     |  |    |  |     |  |   |  |
| h   | °                                     | '    | °                                                | '        | °                                                 | '       | °                                                 | '       | °                                                | '        |     |  |    |  |     |  |   |  |
| 0   | 1                                     | 11.6 | 222 17.4                                         | +15 24.6 | 183 25.1                                          | +1 58.6 | 181 23.2                                          | +1 15.7 | 243 54.4                                         | +20 54.2 |     |  |    |  |     |  |   |  |
| 1   | 16                                    | 14.0 | 237 17.0                                         | 23.9     | 198 26.1                                          | 58.0    | 196 25.1                                          | 15.4    | 258 56.6                                         | 54.2     |     |  |    |  |     |  |   |  |
| 2   | 31                                    | 16.5 | 252 16.6                                         | 23.2     | 213 27.1                                          | 57.3    | 211 27.1                                          | 15.2    | 273 58.9                                         | 54.1     |     |  |    |  |     |  |   |  |
| 3   | 46                                    | 19.0 | 267 16.2                                         | 22.6     | 228 28.1                                          | 56.7    | 226 29.1                                          | 15.0    | 289 01.1                                         | 54.1     |     |  |    |  |     |  |   |  |
| 4   | 61                                    | 21.4 | 282 15.9                                         | 21.9     | 243 29.1                                          | 56.0    | 241 31.0                                          | 14.8    | 304 03.4                                         | 54.1     |     |  |    |  |     |  |   |  |
| 5   | 76                                    | 23.9 | 297 15.5                                         | +15 21.2 | 258 30.1                                          | +1 55.4 | 256 33.0                                          | +1 14.6 | 319 05.6                                         | +20 54.0 |     |  |    |  |     |  |   |  |
| 6   | 91                                    | 26.3 | 312 15.1                                         | +15 20.5 | 273 31.1                                          | +1 54.7 | 271 35.0                                          | +1 14.4 | 334 07.9                                         | +20 54.0 |     |  |    |  |     |  |   |  |
| 7   | 106                                   | 28.8 | 327 14.7                                         | 19.9     | 288 32.0                                          | 54.1    | 286 37.0                                          | 14.2    | 349 10.2                                         | 54.0     |     |  |    |  |     |  |   |  |
| 8   | 121                                   | 31.3 | 342 14.3                                         | 19.2     | 303 33.0                                          | 53.4    | 301 38.9                                          | 13.9    | 4 12.4                                           | 53.9     |     |  |    |  |     |  |   |  |
| 9   | 136                                   | 33.7 | 357 14.0                                         | 18.5     | 318 34.0                                          | 52.8    | 316 40.9                                          | 13.7    | 19 14.7                                          | 53.9     |     |  |    |  |     |  |   |  |
| 10  | 151                                   | 36.2 | 12 13.6                                          | 17.8     | 333 35.0                                          | 52.1    | 331 42.9                                          | 13.5    | 34 16.9                                          | 53.9     |     |  |    |  |     |  |   |  |
| 11  | 166                                   | 38.7 | 27 13.2                                          | +15 17.2 | 348 36.0                                          | +1 51.5 | 346 44.8                                          | +1 13.3 | 49 19.2                                          | +20 53.8 |     |  |    |  |     |  |   |  |
| 12  | 181                                   | 41.1 | 42 12.8                                          | +15 16.5 | 3 37.0                                            | +1 50.8 | 1 46.8                                            | +1 13.1 | 64 21.4                                          | +20 53.8 |     |  |    |  |     |  |   |  |
| 13  | 196                                   | 43.6 | 57 12.4                                          | 15.8     | 18 38.0                                           | 50.1    | 16 48.8                                           | 12.9    | 79 23.7                                          | 53.8     |     |  |    |  |     |  |   |  |
| 14  | 211                                   | 46.1 | 72 12.1                                          | 15.1     | 33 39.0                                           | 49.5    | 31 50.7                                           | 12.7    | 94 25.9                                          | 53.7     |     |  |    |  |     |  |   |  |
| 15  | 226                                   | 48.5 | 87 11.7                                          | 14.4     | 48 40.0                                           | 48.8    | 46 52.7                                           | 12.4    | 109 28.2                                         | 53.7     |     |  |    |  |     |  |   |  |
| 16  | 241                                   | 51.0 | 102 11.3                                         | 13.7     | 63 41.0                                           | 48.2    | 61 54.7                                           | 12.2    | 124 30.5                                         | 53.7     |     |  |    |  |     |  |   |  |
| 17  | 256                                   | 53.5 | 117 10.9                                         | +15 13.1 | 78 42.0                                           | +1 47.5 | 76 56.6                                           | +1 12.0 | 139 32.7                                         | +20 53.6 |     |  |    |  |     |  |   |  |
| 18  | 271                                   | 55.9 | 132 10.5                                         | +15 12.4 | 93 42.9                                           | +1 46.9 | 91 58.6                                           | +1 11.8 | 154 35.0                                         | +20 53.6 |     |  |    |  |     |  |   |  |
| 19  | 286                                   | 58.4 | 147 10.2                                         | 11.7     | 108 43.9                                          | 46.2    | 107 00.6                                          | 11.6    | 169 37.2                                         | 53.6     |     |  |    |  |     |  |   |  |
| 20  | 302                                   | 00.8 | 162 09.8                                         | 11.0     | 123 44.9                                          | 45.6    | 122 02.5                                          | 11.4    | 184 39.5                                         | 53.5     |     |  |    |  |     |  |   |  |
| 21  | 317                                   | 03.3 | 177 09.4                                         | 10.3     | 138 45.9                                          | 44.9    | 137 04.5                                          | 11.2    | 199 41.7                                         | 53.5     |     |  |    |  |     |  |   |  |
| 22  | 332                                   | 05.8 | 192 09.0                                         | 09.6     | 153 46.9                                          | 44.3    | 152 06.5                                          | 10.9    | 214 44.0                                         | 53.5     |     |  |    |  |     |  |   |  |
| 23  | 347                                   | 08.2 | 207 08.6                                         | 08.9     | 168 47.9                                          | 43.6    | 167 08.4                                          | 10.7    | 229 46.3                                         | 53.4     |     |  |    |  |     |  |   |  |
| 24  | 2                                     | 10.7 | 222 08.3                                         | +15 08.3 | 183 48.9                                          | +1 43.0 | 182 10.4                                          | +1 10.5 | 244 48.5                                         | +20 53.4 |     |  |    |  |     |  |   |  |
| Dif | —                                     |      | -4                                               |          | -7                                                |         | +10                                               |         | -7                                               |          | +20 |  | -2 |  | +23 |  | 0 |  |

| UT | SOL                                                |      |    | ☾ LUNA                                                                     |                                                                                                           |         | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |         | Puesta de Luna |      |    |      |    |
|----|----------------------------------------------------|------|----|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------|---------|--------------------------|------|---------------|----------------|---------|----------------|------|----|------|----|
|    | SD: 15/9<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup> 2 |      |    | Edad: 8 <sup>d</sup> 4<br>SD: 16/2<br>PMG: 20 <sup>h</sup> 01 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 59/3<br>12 <sup>h</sup> : 59/3<br>20 <sup>h</sup> : 59/3<br>R°: 58 <sup>m</sup> |         |         |                          |      |               |                |         |                |      |    |      |    |
|    | hG ☉                                               | Dec  |    |                                                                            |                                                                                                           | hG ☾    |         | Dif                      | Dec  |               | Dif            | Náutico | Civil          | Hora | R° | Hora | R° |
| h  | °                                                  | '    | °  | '                                                                          | °                                                                                                         | '       | °       | '                        | h    | m             | h              | m       | h              | m    | h  | m    |    |
| 0  | 181                                                | 53.9 | -0 | 07.3                                                                       | 71                                                                                                        | 53.9    | -27     | 13.0                     | 60 N | 4             | 16             | 5       | 06             | 5    | 47 | 17   | 41 |
| 1  | 196                                                | 54.1 |    | 08.3                                                                       | 86                                                                                                        | 16.7 38 |         | 08.8 42                  | 58   | 21            |                | 08      | 47             |      |    | 22   | 31 |
| 2  | 211                                                | 54.3 |    | 09.3                                                                       | 100                                                                                                       | 39.6 39 | -27     | 04.5 43                  | 56   | 26            | 10             |         | 48             |      |    | 22   | 55 |
| 3  | 226                                                | 54.5 |    | 10.2                                                                       | 115                                                                                                       | 02.5 39 | -26     | 59.9 46                  | 54   | 31            | 13             |         | 48             |      |    | 23   | 14 |
| 4  | 241                                                | 54.7 |    | 11.2                                                                       | 129                                                                                                       | 25.5 40 |         | 55.1 48                  | 52   | 34            | 14             |         | 48             |      |    | 40   | 27 |
| 5  | 256                                                | 55.0 | -0 | 12.2                                                                       | 143                                                                                                       | 48.6 41 | -26     | 50.2 49                  | 50   | 4             | 38             | 5       | 16             | 5    | 48 | 26   | 30 |
| 6  | 271                                                | 55.2 | -0 | 13.2                                                                       | 158                                                                                                       | 11.7 41 | -26     | 45.1 51                  | 45   | 4             | 45             | 5       | 19             | 5    | 48 | 48   | 33 |
| 7  | 286                                                | 55.4 |    | 14.1                                                                       | 172                                                                                                       | 34.8 41 |         | 39.8 53                  | 40   | 50            | 22             |         | 49             |      |    | 27   | 42 |
| 8  | 301                                                | 55.6 |    | 15.1                                                                       | 186                                                                                                       | 58.1 43 |         | 34.3 55                  | 35   | 54            | 24             |         | 49             |      |    | 27   | 42 |
| 9  | 316                                                | 55.8 |    | 16.1                                                                       | 201                                                                                                       | 21.4 43 |         | 28.6 57                  | 30   | 4             | 57             | 25      |                | 49   |    |      | 15 |
| 10 | 331                                                | 56.1 |    | 17.0                                                                       | 215                                                                                                       | 44.7 43 |         | 22.8 58                  | 20   | 5             | 02             | 27      |                | 49   |    |      | 14 |
| 11 | 346                                                | 56.3 | -0 | 18.0                                                                       | 230                                                                                                       | 08.1 44 | -26     | 16.7 61                  | 10 N | 5             | 04             | 5       | 28             | 5    | 49 | 29   | 52 |
| 12 | 1                                                  | 56.5 | -0 | 19.0                                                                       | 244                                                                                                       | 31.6 45 | -26     | 10.6 61                  | 0    | 5             | 04             | 5       | 28             | 5    | 49 | 30   | 66 |
| 13 | 16                                                 | 56.7 |    | 20.0                                                                       | 258                                                                                                       | 55.2 46 | -26     | 04.2 64                  | 10 S |               | 03             | 28      |                | 49   |    | 29   | 52 |
| 14 | 31                                                 | 56.9 |    | 20.9                                                                       | 273                                                                                                       | 18.8 46 | -25     | 57.6 66                  | 20   | 5             | 01             | 26      |                | 48   |    | 26   | 62 |
| 15 | 46                                                 | 57.1 |    | 21.9                                                                       | 287                                                                                                       | 42.6 48 |         | 50.9 67                  | 30   | 4             | 56             | 24      |                | 48   |    | 36   | 58 |
| 16 | 61                                                 | 57.4 |    | 22.9                                                                       | 302                                                                                                       | 06.3 47 |         | 44.0 69                  | 35   | 53            | 22             |         | 48             |      |    | 1    | 59 |
| 17 | 76                                                 | 57.6 | -0 | 23.9                                                                       | 316                                                                                                       | 30.2 49 | -25     | 37.0 70                  | 40   | 4             | 49             | 5       | 20             | 5    | 47 | 2    | 26 |
| 18 | 91                                                 | 57.8 | -0 | 24.8                                                                       | 330                                                                                                       | 54.2 50 | -25     | 29.8 72                  | 45   | 4             | 43             | 5       | 17             | 5    | 47 | 2    | 42 |
| 19 | 106                                                | 58.0 |    | 25.8                                                                       | 345                                                                                                       | 18.2 50 |         | 22.4 74                  | 50   | 36            | 14             |         | 46             |      |    | 3    | 22 |
| 20 | 121                                                | 58.2 |    | 26.8                                                                       | 359                                                                                                       | 42.3 51 |         | 14.8 76                  | 52   | 32            | 12             |         | 46             |      |    | 3    | 50 |
| 21 | 136                                                | 58.5 |    | 27.8                                                                       | 14                                                                                                        | 06.5 52 | -25     | 07.1 77                  | 54   | 28            | 10             |         | 45             |      |    | 4    | 03 |
| 22 | 151                                                | 58.7 |    | 28.7                                                                       | 28                                                                                                        | 30.7 52 | -24     | 59.2 79                  | 56   | 24            | 08             |         | 45             |      |    | 4    | 03 |
| 23 | 166                                                | 58.9 |    | 29.7                                                                       | 42                                                                                                        | 55.1 54 |         | 51.2 80                  | 58   | 19            | 05             |         | 45             |      |    | 19   | 33 |
| 24 | 181                                                | 59.1 | -0 | 30.7                                                                       | 57                                                                                                        | 19.6 55 | -24     | 43.0 82                  | 60 S | 4             | 13             | 5       | 03             | 5    | 44 | 31   | 95 |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 23 <sup>h</sup> 47 <sup>m</sup> 4 |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 12 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> |      | Mag: -1.7<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> |      | Mag: +0.2<br>PMG: 7 <sup>h</sup> 40 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 2                                      | 10.7 | 222                                              | 08.3 | 183                                               | 48.9 | 182                                               | 10.4 | 244                                              | 48.5 |
| 1   | 17                                     | 13.2 | 237                                              | 07.9 | 198                                               | 49.9 | 197                                               | 12.4 | 259                                              | 50.8 |
| 2   | 32                                     | 15.6 | 252                                              | 07.5 | 213                                               | 50.9 | 212                                               | 14.3 | 274                                              | 53.0 |
| 3   | 47                                     | 18.1 | 267                                              | 07.1 | 228                                               | 51.9 | 227                                               | 16.3 | 289                                              | 55.3 |
| 4   | 62                                     | 20.6 | 282                                              | 06.7 | 243                                               | 52.9 | 242                                               | 18.3 | 304                                              | 57.6 |
| 5   | 77                                     | 23.0 | 297                                              | 06.4 | 258                                               | 53.8 | 257                                               | 20.2 | 319                                              | 59.8 |
| 6   | 92                                     | 25.5 | 312                                              | 06.0 | 273                                               | 54.8 | 272                                               | 22.2 | 335                                              | 02.1 |
| 7   | 107                                    | 28.0 | 327                                              | 05.6 | 288                                               | 55.8 | 287                                               | 24.2 | 350                                              | 04.3 |
| 8   | 122                                    | 30.4 | 342                                              | 05.2 | 303                                               | 56.8 | 302                                               | 26.2 | 5                                                | 06.6 |
| 9   | 137                                    | 32.9 | 357                                              | 04.9 | 318                                               | 57.8 | 317                                               | 28.1 | 20                                               | 08.8 |
| 10  | 152                                    | 35.3 | 12                                               | 04.5 | 333                                               | 58.8 | 332                                               | 30.1 | 35                                               | 11.1 |
| 11  | 167                                    | 37.8 | 27                                               | 04.1 | 348                                               | 59.8 | 347                                               | 32.1 | 50                                               | 13.4 |
| 12  | 182                                    | 40.3 | 42                                               | 03.7 | 4                                                 | 00.8 | 2                                                 | 34.0 | 65                                               | 15.6 |
| 13  | 197                                    | 42.7 | 57                                               | 03.3 | 19                                                | 01.8 | 17                                                | 36.0 | 80                                               | 17.9 |
| 14  | 212                                    | 45.2 | 72                                               | 03.0 | 34                                                | 02.8 | 32                                                | 38.0 | 95                                               | 20.1 |
| 15  | 227                                    | 47.7 | 87                                               | 02.6 | 49                                                | 03.7 | 47                                                | 39.9 | 110                                              | 22.4 |
| 16  | 242                                    | 50.1 | 102                                              | 02.2 | 64                                                | 04.7 | 62                                                | 41.9 | 125                                              | 24.7 |
| 17  | 257                                    | 52.6 | 117                                              | 01.8 | 79                                                | 05.7 | 77                                                | 43.9 | 140                                              | 26.9 |
| 18  | 272                                    | 55.1 | 132                                              | 01.4 | 94                                                | 06.7 | 92                                                | 45.8 | 155                                              | 29.2 |
| 19  | 287                                    | 57.5 | 147                                              | 01.1 | 109                                               | 07.7 | 107                                               | 47.8 | 170                                              | 31.4 |
| 20  | 303                                    | 00.0 | 162                                              | 00.7 | 124                                               | 08.7 | 122                                               | 49.8 | 185                                              | 33.7 |
| 21  | 318                                    | 02.5 | 177                                              | 00.3 | 139                                               | 09.7 | 137                                               | 51.7 | 200                                              | 36.0 |
| 22  | 333                                    | 04.9 | 191                                              | 59.9 | 154                                               | 10.7 | 152                                               | 53.7 | 215                                              | 38.2 |
| 23  | 348                                    | 07.4 | 206                                              | 59.6 | 169                                               | 11.7 | 167                                               | 55.7 | 230                                              | 40.5 |
| 24  | 3                                      | 09.8 | 221                                              | 59.2 | 184                                               | 12.7 | 182                                               | 57.6 | 245                                              | 42.7 |
| Dif | —                                      |      | -4                                               | -7   | +10                                               | -7   | +20                                               | -2   | +23                                              | 0    |

| UT  | SOL                                                |      |                                                  | LUNA                                                                       |                                                                                                           |                                                   | Latitud     | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                  | Puesta de Luna |          |
|-----|----------------------------------------------------|------|--------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------|---------------|---------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|----------|
|     | SD: 15'9<br>PMG: 11 <sup>h</sup> 51 <sup>m</sup> 9 |      |                                                  | Edad: 9 <sup>d</sup> 4<br>SD: 16'1<br>PMG: 20 <sup>h</sup> 59 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 59/2<br>12 <sup>h</sup> : 59/2<br>20 <sup>h</sup> : 59/1<br>Rº: 54 <sup>m</sup> |                                                   |             |               |                                                   |       |                |                                                  |                |          |
|     | hG ☉                                               | Dec  |                                                  |                                                                            |                                                                                                           | hG ☾                                              |             |               | Dif                                               | Dec   | Dif            | Civil                                            | Náutico        | Hora     |
| h   | °                                                  | '    | °                                                | '                                                                          | °                                                                                                         | '                                                 | °           | h m           | h m                                               | h m   | h m m          | h m m                                            | h m m          | h m m    |
| 0   | 181                                                | 59.1 | -0                                               | 30.7                                                                       | 57                                                                                                        | 19.6                                              | -24 43.0    | 60 N          | 17 53                                             | 18 34 | 19 24          | 17 50                                            | 3              | *** ** * |
| 1   | 196                                                | 59.3 |                                                  | 31.7                                                                       | 71                                                                                                        | 44.1                                              | 55 34.6     | 58            | 53                                                | 32    | 18             | 33                                               | 9              | *** ** * |
| 2   | 211                                                | 59.5 |                                                  | 32.6                                                                       | 86                                                                                                        | 08.7                                              | 56 26.1     | 56            | 53                                                | 30    | 14             | 19                                               | 14             | *** ** * |
| 3   | 226                                                | 59.8 |                                                  | 33.6                                                                       | 100                                                                                                       | 33.4                                              | 57 17.4     | 54            | 53                                                | 28    | 10             | 17 07                                            | 17             | *** ** * |
| 4   | 242                                                | 00.0 |                                                  | 34.6                                                                       | 114                                                                                                       | 58.2                                              | 58 -24 08.6 | 52            | 53                                                | 27    | 06             | 16 56                                            | 21             | *** ** * |
| 5   | 257                                                | 00.2 | -0                                               | 35.5                                                                       | 129                                                                                                       | 23.1                                              | 59 -23 59.6 | 50            | 17 53                                             | 18 25 | 19 03          | 16 46                                            | 24             | *** ** * |
| 6   | 272                                                | 00.4 | -0                                               | 36.5                                                                       | 143                                                                                                       | 48.1                                              | 60 -23 50.5 | 45            | 17 53                                             | 18 23 | 18 57          | 16 26                                            | 29             | 0 21 80  |
| 7   | 287                                                | 00.6 |                                                  | 37.5                                                                       | 158                                                                                                       | 13.2                                              | 61 41.2     | 40            | 53                                                | 20    | 52             | 16 09                                            | 34             | 41 76    |
| 8   | 302                                                | 00.9 |                                                  | 38.5                                                                       | 172                                                                                                       | 38.4                                              | 62 31.8     | 35            | 54                                                | 19    | 48             | 15 55                                            | 37             | 0 57 73  |
| 9   | 317                                                | 01.1 |                                                  | 39.4                                                                       | 187                                                                                                       | 03.6                                              | 62 22.2     | 30            | 54                                                | 18    | 45             | 43                                               | 40             | 1 12 69  |
| 10  | 332                                                | 01.3 |                                                  | 40.4                                                                       | 201                                                                                                       | 29.0                                              | 64 12.5     | 20            | 54                                                | 16    | 42             | 21                                               | 46             | 36 64    |
| 11  | 347                                                | 01.5 | -0                                               | 41.4                                                                       | 215                                                                                                       | 54.5                                              | 65 -23 02.6 | 10 N          | 17 55                                             | 18 16 | 18 40          | 15 03                                            | 50             | 1 56 61  |
| 12  | 2                                                  | 01.7 | -0                                               | 42.4                                                                       | 230                                                                                                       | 20.0                                              | 65 -22 52.6 | 0             | 17 55                                             | 18 16 | 18 40          | 14 46                                            | 54             | 2 15 57  |
| 13  | 17                                                 | 01.9 |                                                  | 43.3                                                                       | 244                                                                                                       | 45.7                                              | 67 42.4     | 10 S          | 56                                                | 17    | 41             | 28                                               | 59             | 34 53    |
| 14  | 32                                                 | 02.2 |                                                  | 44.3                                                                       | 259                                                                                                       | 11.4                                              | 67 32.2     | 20            | 57                                                | 19    | 44             | 14 10                                            | 63             | 2 55 49  |
| 15  | 47                                                 | 02.4 |                                                  | 45.3                                                                       | 273                                                                                                       | 37.3                                              | 69 21.7     | 30            | 58                                                | 21    | 49             | 13 48                                            | 69             | 3 18 44  |
| 16  | 62                                                 | 02.6 |                                                  | 46.3                                                                       | 288                                                                                                       | 03.2                                              | 69 11.2     | 35            | 58                                                | 23    | 53             | 35                                               | 72             | 32 41    |
| 17  | 77                                                 | 02.8 | -0                                               | 47.2                                                                       | 302                                                                                                       | 29.3                                              | 71 -22 00.5 | 40            | 17 59                                             | 18 26 | 18 58          | 13 21                                            | 75             | 3 47 38  |
| 18  | 92                                                 | 03.0 | -0                                               | 48.2                                                                       | 316                                                                                                       | 55.4                                              | 71 -21 49.7 | 45            | 18 00                                             | 18 29 | 19 04          | 13 03                                            | 80             | 4 06 33  |
| 19  | 107                                                | 03.2 |                                                  | 49.2                                                                       | 331                                                                                                       | 21.7                                              | 73 38.7     | 50            | 01                                                | 33    | 11             | 12 41                                            | 87             | 29 28    |
| 20  | 122                                                | 03.5 |                                                  | 50.2                                                                       | 345                                                                                                       | 48.0                                              | 73 27.6     | 52            | 01                                                | 35    | 15             | 31                                               | 89             | 40 25    |
| 21  | 137                                                | 03.7 |                                                  | 51.1                                                                       | 0                                                                                                         | 14.4                                              | 74 16.4     | 54            | 02                                                | 37    | 20             | 19                                               | 93             | 4 52 22  |
| 22  | 152                                                | 03.9 |                                                  | 52.1                                                                       | 14                                                                                                        | 41.0                                              | 76 -21 05.1 | 56            | 03                                                | 40    | 24             | 12 06                                            | 97             | 5 06 18  |
| 23  | 167                                                | 04.1 |                                                  | 53.1                                                                       | 29                                                                                                        | 07.6                                              | 76 -20 53.6 | 58            | 03                                                | 43    | 30             | 11 50                                            | 102            | 23 12    |
| 24  | 182                                                | 04.3 | -0                                               | 54.0                                                                       | 43                                                                                                        | 34.4                                              | 78 -20 42.0 | 60 S          | 18 04                                             | 18 46 | 19 36          | 11 31                                            | 109            | 5 42 7   |
| UT  | ARIES                                              |      | VENUS                                            |                                                                            |                                                                                                           | MARTE                                             |             |               | JÚPITER                                           |       |                | SATURNO                                          |                |          |
|     | PMG: 23 <sup>h</sup> 43 <sup>m</sup> 4             |      | Mag: -4.2<br>PMG: 9 <sup>h</sup> 12 <sup>m</sup> |                                                                            |                                                                                                           | Mag: +1.7<br>PMG: 11 <sup>h</sup> 42 <sup>m</sup> |             |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 47 <sup>m</sup> |       |                | Mag: +0.2<br>PMG: 7 <sup>h</sup> 36 <sup>m</sup> |                |          |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                        |                                                                                                           | hG ♂                                              | Dec         |               | hG ♃                                              | Dec   |                | hG ♄                                             | Dec            |          |
| h   | °                                                  | '    | °                                                | '                                                                          | °                                                                                                         | '                                                 | °           | '             | °                                                 | '     | °              | '                                                | °              | '        |
| 0   | 3                                                  | 09.8 | 221                                              | 59.2                                                                       | +14                                                                                                       | 51.5                                              | 184         | 12.7          | +1                                                | 27.3  | 182            | 57.6                                             | +1             | 05.4     |
| 1   | 18                                                 | 12.3 | 236                                              | 58.8                                                                       |                                                                                                           | 50.8                                              | 199         | 13.6          |                                                   | 26.6  | 197            | 59.6                                             |                | 05.2     |
| 2   | 33                                                 | 14.8 | 251                                              | 58.4                                                                       |                                                                                                           | 50.1                                              | 214         | 14.6          |                                                   | 26.0  | 213            | 01.6                                             |                | 04.9     |
| 3   | 48                                                 | 17.2 | 266                                              | 58.0                                                                       |                                                                                                           | 49.4                                              | 229         | 15.6          |                                                   | 25.3  | 228            | 03.5                                             |                | 04.7     |
| 4   | 63                                                 | 19.7 | 281                                              | 57.7                                                                       |                                                                                                           | 48.7                                              | 244         | 16.6          |                                                   | 24.7  | 243            | 05.5                                             |                | 04.5     |
| 5   | 78                                                 | 22.2 | 296                                              | 57.3                                                                       | +14                                                                                                       | 47.9                                              | 259         | 17.6          | +1                                                | 24.0  | 258            | 07.5                                             | +1             | 04.3     |
| 6   | 93                                                 | 24.6 | 311                                              | 56.9                                                                       | +14                                                                                                       | 47.2                                              | 274         | 18.6          | +1                                                | 23.4  | 273            | 09.4                                             | +1             | 04.1     |
| 7   | 108                                                | 27.1 | 326                                              | 56.5                                                                       |                                                                                                           | 46.5                                              | 289         | 19.6          |                                                   | 22.7  | 288            | 11.4                                             |                | 03.9     |
| 8   | 123                                                | 29.6 | 341                                              | 56.2                                                                       |                                                                                                           | 45.8                                              | 304         | 20.6          |                                                   | 22.1  | 303            | 13.4                                             |                | 03.7     |
| 9   | 138                                                | 32.0 | 356                                              | 55.8                                                                       |                                                                                                           | 45.1                                              | 319         | 21.6          |                                                   | 21.4  | 318            | 15.3                                             |                | 03.4     |
| 10  | 153                                                | 34.5 | 11                                               | 55.4                                                                       |                                                                                                           | 44.4                                              | 334         | 22.6          |                                                   | 20.8  | 333            | 17.3                                             |                | 03.2     |
| 11  | 168                                                | 37.0 | 26                                               | 55.0                                                                       | +14                                                                                                       | 43.7                                              | 349         | 23.5          | +1                                                | 20.1  | 348            | 19.3                                             | +1             | 03.0     |
| 12  | 183                                                | 39.4 | 41                                               | 54.6                                                                       | +14                                                                                                       | 42.9                                              | 4           | 24.5          | +1                                                | 19.5  | 3              | 21.2                                             | +1             | 02.8     |
| 13  | 198                                                | 41.9 | 56                                               | 54.3                                                                       |                                                                                                           | 42.2                                              | 19          | 25.5          |                                                   | 18.8  | 18             | 23.2                                             |                | 02.6     |
| 14  | 213                                                | 44.3 | 71                                               | 53.9                                                                       |                                                                                                           | 41.5                                              | 34          | 26.5          |                                                   | 18.2  | 33             | 25.2                                             |                | 02.4     |
| 15  | 228                                                | 46.8 | 86                                               | 53.5                                                                       |                                                                                                           | 40.8                                              | 49          | 27.5          |                                                   | 17.5  | 48             | 27.2                                             |                | 02.2     |
| 16  | 243                                                | 49.3 | 101                                              | 53.1                                                                       |                                                                                                           | 40.1                                              | 64          | 28.5          |                                                   | 16.8  | 63             | 29.1                                             |                | 01.9     |
| 17  | 258                                                | 51.7 | 116                                              | 52.8                                                                       | +14                                                                                                       | 39.4                                              | 79          | 29.5          | +1                                                | 16.2  | 78             | 31.1                                             | +1             | 01.7     |
| 18  | 273                                                | 54.2 | 131                                              | 52.4                                                                       | +14                                                                                                       | 38.6                                              | 94          | 30.5          | +1                                                | 15.5  | 93             | 33.1                                             | +1             | 01.5     |
| 19  | 288                                                | 56.7 | 146                                              | 52.0                                                                       |                                                                                                           | 37.9                                              | 109         | 31.5          |                                                   | 14.9  | 108            | 35.0                                             |                | 01.3     |
| 20  | 303                                                | 59.1 | 161                                              | 51.6                                                                       |                                                                                                           | 37.2                                              | 124         | 32.5          |                                                   | 14.2  | 123            | 37.0                                             |                | 01.1     |
| 21  | 319                                                | 01.6 | 176                                              | 51.2                                                                       |                                                                                                           | 36.5                                              | 139         | 33.4          |                                                   | 13.6  | 138            | 39.0                                             |                | 00.9     |
| 22  | 334                                                | 04.1 | 191                                              | 50.9                                                                       |                                                                                                           | 35.7                                              | 154         | 34.4          |                                                   | 12.9  | 153            | 40.9                                             |                | 00.7     |
| 23  | 349                                                | 06.5 | 206                                              | 50.5                                                                       |                                                                                                           | 35.0                                              | 169         | 35.4          |                                                   | 12.3  | 168            | 42.9                                             |                | 00.4     |
| 24  | 4                                                  | 09.0 | 221                                              | 50.1                                                                       | +14                                                                                                       | 34.3                                              | 184         | 36.4          | +1                                                | 11.6  | 183            | 44.9                                             | +1             | 00.2     |
| Dif | —                                                  |      | -4                                               | -7                                                                         |                                                                                                           |                                                   | +10         | -7            |                                                   |       | +20            | -2                                               |                |          |
|     |                                                    |      |                                                  |                                                                            |                                                                                                           |                                                   |             |               |                                                   |       |                |                                                  |                | 0        |

| UT  | SOL                                     |      |     | LUNA                                                                                                                                                                      |     |      |                                                |      |      | Latitud                                        | Principio del crepúsculo |      | Salida de Sol                                 | Salida de Luna |      |      | Puesta de Luna |  |
|-----|-----------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|------------------------------------------------|------|------|------------------------------------------------|--------------------------|------|-----------------------------------------------|----------------|------|------|----------------|--|
|     | SD: 15 <sup>h</sup> 9                   |      |     | Edad: 10 <sup>d</sup> .4 PHE { 4 <sup>h</sup> : 59 <sup>m</sup> .1<br>12 <sup>h</sup> : 59 <sup>m</sup> .0<br>20 <sup>h</sup> : 58 <sup>m</sup> .9<br>Rº: 49 <sup>m</sup> |     |      |                                                |      |      |                                                |                          |      |                                               |                |      |      |                |  |
|     | PMG: 11 <sup>h</sup> 51 <sup>m</sup> .5 |      |     | SD: 16 <sup>d</sup> .1 PMG: 21 <sup>h</sup> 53 <sup>m</sup>                                                                                                               |     |      |                                                |      |      |                                                |                          |      |                                               |                |      |      |                |  |
|     | hG ☉                                    |      | Dec | hG ☾                                                                                                                                                                      |     | Dif  | Dec                                            | Dif  |      | Náutico                                        | Civil                    |      | Hora                                          | Rº             | Hora | Rº   |                |  |
| h   | °                                       | '    | °   | °                                                                                                                                                                         | '   | °    | °                                              | '    | °    | h                                              | m                        | h    | m                                             | h              | m    | h    | m              |  |
| 0   | 182                                     | 04.3 | -0  | 54.0                                                                                                                                                                      | 43  | 34.4 | -20                                            | 42.0 | 60 N | 4                                              | 21                       | 5    | 10                                            | 5              | 52   | 17   | 53             |  |
| 1   | 197                                     | 04.5 |     | 55.0                                                                                                                                                                      | 58  | 01.2 | 78                                             | 30.4 | 58   |                                                | 26                       | 13   |                                               | 52             |      | 42   | 6              |  |
| 2   | 212                                     | 04.8 |     | 56.0                                                                                                                                                                      | 72  | 28.2 | 80                                             | 18.5 | 56   |                                                | 31                       | 14   |                                               | 52             |      | 33   | 9              |  |
| 3   | 227                                     | 05.0 |     | 57.0                                                                                                                                                                      | 86  | 55.2 | 80                                             | -20  | 54   |                                                | 34                       | 16   |                                               | 51             |      | 24   | 13             |  |
| 4   | 242                                     | 05.2 |     | 57.9                                                                                                                                                                      | 101 | 22.4 | 82                                             | -19  | 52   |                                                | 38                       | 18   |                                               | 51             |      | 17   | 15             |  |
| 5   | 257                                     | 05.4 | -0  | 58.9                                                                                                                                                                      | 115 | 49.6 | 82                                             | -19  | 50   |                                                | 4                        | 41   | 5                                             | 19             | 5    | 51   | 17             |  |
| 6   | 272                                     | 05.6 | -0  | 59.9                                                                                                                                                                      | 130 | 16.9 | 83                                             | -19  | 45   |                                                | 4                        | 47   | 5                                             | 22             | 5    | 51   | 16             |  |
| 7   | 287                                     | 05.8 | -1  | 00.9                                                                                                                                                                      | 144 | 44.4 | 85                                             | 17.7 | 40   |                                                | 52                       | 24   |                                               | 51             |      | 43   | 28             |  |
| 8   | 302                                     | 06.1 |     | 01.8                                                                                                                                                                      | 159 | 11.9 | 85                                             | -19  | 35   |                                                | 56                       | 25   |                                               | 50             |      | 32   | 32             |  |
| 9   | 317                                     | 06.3 |     | 02.8                                                                                                                                                                      | 173 | 39.6 | 87                                             | -18  | 30   |                                                | 4                        | 58   | 26                                            | 50             |      | 23   | 36             |  |
| 10  | 332                                     | 06.5 |     | 03.8                                                                                                                                                                      | 188 | 07.3 | 87                                             | 40.0 | 20   |                                                | 5                        | 02   | 28                                            | 50             |      | 16   | 07             |  |
| 11  | 347                                     | 06.7 | -1  | 04.8                                                                                                                                                                      | 202 | 35.1 | 88                                             | -18  | 10 N |                                                | 5                        | 04   | 5                                             | 28             | 5    | 49   | 15             |  |
| 12  | 2                                       | 06.9 | -1  | 05.7                                                                                                                                                                      | 217 | 03.1 | 90                                             | -18  | 0    |                                                | 5                        | 04   | 5                                             | 28             | 5    | 48   | 15             |  |
| 13  | 17                                      | 07.1 |     | 06.7                                                                                                                                                                      | 231 | 31.1 | 90                                             | -18  | 10 S |                                                | 5                        | 02   | 27                                            | 48             |      | 27   | 55             |  |
| 14  | 32                                      | 07.3 |     | 07.7                                                                                                                                                                      | 245 | 59.2 | 91                                             | -17  | 20   |                                                | 4                        | 59   | 25                                            | 47             |      | 15   | 13             |  |
| 15  | 47                                      | 07.6 |     | 08.7                                                                                                                                                                      | 260 | 27.4 | 92                                             | 35.0 | 30   |                                                | 54                       | 22   |                                               | 45             |      | 14   | 57             |  |
| 16  | 62                                      | 07.8 |     | 09.6                                                                                                                                                                      | 274 | 55.8 | 94                                             | 21.7 | 35   |                                                | 50                       | 20   |                                               | 45             |      | 47   | 70             |  |
| 17  | 77                                      | 08.0 | -1  | 10.6                                                                                                                                                                      | 289 | 24.2 | 94                                             | -17  | 40   |                                                | 4                        | 45   | 5                                             | 17             | 5    | 44   | 14             |  |
| 18  | 92                                      | 08.2 | -1  | 11.6                                                                                                                                                                      | 303 | 52.7 | 95                                             | -16  | 45   |                                                | 4                        | 39   | 5                                             | 14             | 5    | 43   | 14             |  |
| 19  | 107                                     | 08.4 |     | 12.5                                                                                                                                                                      | 318 | 21.3 | 96                                             | 41.3 | 50   |                                                | 31                       | 09   |                                               | 42             |      | 08   | 84             |  |
| 20  | 122                                     | 08.6 |     | 13.5                                                                                                                                                                      | 332 | 50.0 | 97                                             | 27.7 | 52   |                                                | 27                       | 07   |                                               | 41             |      | 14   | 00             |  |
| 21  | 137                                     | 08.9 |     | 14.5                                                                                                                                                                      | 347 | 18.8 | 98                                             | 13.9 | 54   |                                                | 23                       | 05   |                                               | 40             |      | 13   | 52             |  |
| 22  | 152                                     | 09.1 |     | 15.5                                                                                                                                                                      | 1   | 47.6 | 98                                             | -16  | 56   |                                                | 18                       | 03   |                                               | 40             |      | 43   | 93             |  |
| 23  | 167                                     | 09.3 |     | 16.4                                                                                                                                                                      | 16  | 16.6 | 100                                            | -15  | 58   |                                                | 12                       | 5    | 00                                            | 39             |      | 32   | 98             |  |
| 24  | 182                                     | 09.5 | -1  | 17.4                                                                                                                                                                      | 30  | 45.7 | 101                                            | -15  | 60 S |                                                | 4                        | 06   | 4                                             | 56             | 5    | 38   | 13             |  |
| UT  | ARIES                                   |      |     | VENUS                                                                                                                                                                     |     |      | MARTE                                          |      |      | JÚPITER                                        |                          |      | SATURNO                                       |                |      |      |                |  |
|     | PMG: 23 <sup>h</sup> 39 <sup>m</sup> .5 |      |     | Mag: -4.2 PMG: 9 <sup>h</sup> 13 <sup>m</sup>                                                                                                                             |     |      | Mag: +1.7 PMG: 11 <sup>h</sup> 41 <sup>m</sup> |      |      | Mag: -1.7 PMG: 11 <sup>h</sup> 43 <sup>m</sup> |                          |      | Mag: +0.2 PMG: 7 <sup>h</sup> 32 <sup>m</sup> |                |      |      |                |  |
|     | hG ♈                                    |      | Dec | hG ♀                                                                                                                                                                      |     | Dec  | hG ♂                                           |      | Dec  | hG ♃                                           |                          | Dec  | hG ♄                                          |                | Dec  |      |                |  |
| h   | °                                       | '    | °   | °                                                                                                                                                                         | '   | °    | °                                              | '    | °    | °                                              | '                        | °    | °                                             | '              | °    |      |                |  |
| 0   | 4                                       | 09.0 | 221 | 50.1                                                                                                                                                                      | +14 | 34.3 | 184                                            | 36.4 | +1   | 11.6                                           | 183                      | 44.9 | +1                                            | 00.2           | 246  | 37.1 |                |  |
| 1   | 19                                      | 11.4 | 236 | 49.7                                                                                                                                                                      |     | 33.6 | 199                                            | 37.4 |      | 11.0                                           | 198                      | 46.8 | +1                                            | 00.0           | 261  | 39.3 |                |  |
| 2   | 34                                      | 13.9 | 251 | 49.4                                                                                                                                                                      |     | 32.8 | 214                                            | 38.4 |      | 10.3                                           | 213                      | 48.8 | +0                                            | 59.8           | 276  | 41.6 |                |  |
| 3   | 49                                      | 16.4 | 266 | 49.0                                                                                                                                                                      |     | 32.1 | 229                                            | 39.4 |      | 09.7                                           | 228                      | 50.8 |                                               | 59.6           | 291  | 43.9 |                |  |
| 4   | 64                                      | 18.8 | 281 | 48.6                                                                                                                                                                      |     | 31.4 | 244                                            | 40.4 |      | 09.0                                           | 243                      | 52.7 |                                               | 59.4           | 306  | 46.1 |                |  |
| 5   | 79                                      | 21.3 | 296 | 48.2                                                                                                                                                                      | +14 | 30.6 | 259                                            | 41.4 | +1   | 08.4                                           | 258                      | 54.7 | +0                                            | 59.2           | 321  | 48.4 |                |  |
| 6   | 94                                      | 23.8 | 311 | 47.8                                                                                                                                                                      | +14 | 29.9 | 274                                            | 42.3 | +1   | 07.7                                           | 273                      | 56.7 | +0                                            | 58.9           | 336  | 50.7 |                |  |
| 7   | 109                                     | 26.2 | 326 | 47.5                                                                                                                                                                      |     | 29.2 | 289                                            | 43.3 |      | 07.0                                           | 288                      | 58.6 |                                               | 58.7           | 351  | 52.9 |                |  |
| 8   | 124                                     | 28.7 | 341 | 47.1                                                                                                                                                                      |     | 28.5 | 304                                            | 44.3 |      | 06.4                                           | 304                      | 00.6 |                                               | 58.5           | 6    | 55.2 |                |  |
| 9   | 139                                     | 31.2 | 356 | 46.7                                                                                                                                                                      |     | 27.7 | 319                                            | 45.3 |      | 05.7                                           | 319                      | 02.6 |                                               | 58.3           | 21   | 57.5 |                |  |
| 10  | 154                                     | 33.6 | 11  | 46.3                                                                                                                                                                      |     | 27.0 | 334                                            | 46.3 |      | 05.1                                           | 334                      | 04.5 |                                               | 58.1           | 36   | 59.7 |                |  |
| 11  | 169                                     | 36.1 | 26  | 46.0                                                                                                                                                                      | +14 | 26.3 | 349                                            | 47.3 | +1   | 04.4                                           | 349                      | 06.5 | +0                                            | 57.9           | 52   | 02.0 |                |  |
| 12  | 184                                     | 38.6 | 41  | 45.6                                                                                                                                                                      | +14 | 25.5 | 4                                              | 48.3 | +1   | 03.8                                           | 4                        | 08.5 | +0                                            | 57.7           | 67   | 04.3 |                |  |
| 13  | 199                                     | 41.0 | 56  | 45.2                                                                                                                                                                      |     | 24.8 | 19                                             | 49.3 |      | 03.1                                           | 19                       | 10.4 |                                               | 57.4           | 82   | 06.5 |                |  |
| 14  | 214                                     | 43.5 | 71  | 44.8                                                                                                                                                                      |     | 24.0 | 34                                             | 50.3 |      | 02.5                                           | 34                       | 12.4 |                                               | 57.2           | 97   | 08.8 |                |  |
| 15  | 229                                     | 45.9 | 86  | 44.5                                                                                                                                                                      |     | 23.3 | 49                                             | 51.3 |      | 01.8                                           | 49                       | 14.4 |                                               | 57.0           | 112  | 11.1 |                |  |
| 16  | 244                                     | 48.4 | 101 | 44.1                                                                                                                                                                      |     | 22.6 | 64                                             | 52.2 |      | 01.2                                           | 64                       | 16.4 |                                               | 56.8           | 127  | 13.3 |                |  |
| 17  | 259                                     | 50.9 | 116 | 43.7                                                                                                                                                                      | +14 | 21.8 | 79                                             | 53.2 | +1   | 00.5                                           | 79                       | 18.3 | +0                                            | 56.6           | 142  | 15.6 |                |  |
| 18  | 274                                     | 53.3 | 131 | 43.3                                                                                                                                                                      | +14 | 21.1 | 94                                             | 54.2 | +0   | 59.9                                           | 94                       | 20.3 | +0                                            | 56.4           | 157  | 17.9 |                |  |
| 19  | 289                                     | 55.8 | 146 | 43.0                                                                                                                                                                      |     | 20.4 | 109                                            | 55.2 |      | 59.2                                           | 109                      | 22.3 |                                               | 56.2           | 172  | 20.1 |                |  |
| 20  | 304                                     | 58.3 | 161 | 42.6                                                                                                                                                                      |     | 19.6 | 124                                            | 56.2 |      | 58.5                                           | 124                      | 24.2 |                                               | 56.0           | 187  | 22.4 |                |  |
| 21  | 320                                     | 00.7 | 176 | 42.2                                                                                                                                                                      |     | 18.9 | 139                                            | 57.2 |      | 57.9                                           | 139                      | 26.2 |                                               | 55.7           | 202  | 24.7 |                |  |
| 22  | 335                                     | 03.2 | 191 | 41.8                                                                                                                                                                      |     | 18.1 | 154                                            | 58.2 |      | 57.2                                           | 154                      | 28.2 |                                               | 55.5           | 217  | 26.9 |                |  |
| 23  | 350                                     | 05.7 | 206 | 41.4                                                                                                                                                                      |     | 17.4 | 169                                            | 59.2 |      | 56.6                                           | 169                      | 30.1 |                                               | 55.3           | 232  | 29.2 |                |  |
| 24  | 5                                       | 08.1 | 221 | 41.1                                                                                                                                                                      | +14 | 16.6 | 185                                            | 00.2 | +0   | 55.9                                           | 184                      | 32.1 | +0                                            | 55.1           | 247  | 31.5 |                |  |
| Dif | —                                       |      | -4  |                                                                                                                                                                           | -7  |      | +10                                            |      | -7   |                                                | +20                      |      | -2                                            |                | +23  |      | 0              |  |



| UT  | SOL                                                |      |                                                  | LUNA                                                                                                                                                                                              |                                                   |                         | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |       |          | Salida de Luna |          | Puesta de Luna |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------|---------------------------------------------------|---------------|--------------------------------------------------|-------|----------|----------------|----------|----------------|----|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 51 <sup>m</sup> 2 |      |                                                  | Edad: 11. <sup>d</sup> <sub>4</sub> PHE {<br>SD: 16'0<br>PMG: 22 <sup>h</sup> 42 <sup>m</sup><br>4 <sup>h</sup> : 58'8<br>12 <sup>h</sup> : 58'6<br>20 <sup>h</sup> : 58'5<br>R°: 47 <sup>m</sup> |                                                   |                         |                                                   |               |                                                  |       |          |                |          |                |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                                              | Dif                                               | Dec                     |                                                   |               | Dif                                              | Civil | Náutico  | Hora           | R°       | Hora           | R° |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                                 | °                                                 | '                       | °                                                 | h m           | h m                                              | h m   | h m m    | h m m          | h m m    | h m m          |    |
| 0   | 182                                                | 09.5 | -1 17.4                                          | 30                                                                                                                                                                                                | 45.7                                              | -15 32.3                | 60 N                                              | 17 47         | 18 28                                            | 19 17 | 17 54 0  |                | 2 09 101 |                |    |
| 1   | 197                                                | 09.7 |                                                  | 45                                                                                                                                                                                                | 14.8 <sup>101</sup>                               | 18.2 <sup>141</sup>     | 58                                                | 47            | 26                                               | 12    | 48 4     |                | 19 96    |                |    |
| 2   | 212                                                | 09.9 |                                                  | 59                                                                                                                                                                                                | 44.0 <sup>102</sup>                               | -15 04.1 <sup>141</sup> | 56                                                | 48            | 25                                               | 08    | 42 7     |                | 27 93    |                |    |
| 3   | 227                                                | 10.1 |                                                  | 74                                                                                                                                                                                                | 13.4 <sup>104</sup>                               | -14 49.9 <sup>142</sup> | 54                                                | 48            | 23                                               | 05    | 37 10    |                | 35 89    |                |    |
| 4   | 242                                                | 10.4 |                                                  | 88                                                                                                                                                                                                | 42.8 <sup>104</sup>                               | 35.6 <sup>143</sup>     | 52                                                | 48            | 22                                               | 19 01 | 32 13    |                | 42 85    |                |    |
| 5   | 257                                                | 10.6 | -1 22.3                                          | 103                                                                                                                                                                                               | 12.3 <sup>105</sup>                               | -14 21.3 <sup>143</sup> | 50                                                | 17 49         | 18 21                                            | 18 59 | 17 28 15 |                | 2 48 83  |                |    |
| 6   | 272                                                | 10.8 | -1 23.3                                          | 117                                                                                                                                                                                               | 41.9 <sup>106</sup>                               | -14 06.9 <sup>144</sup> | 45                                                | 17 50         | 18 19                                            | 18 53 | 17 19 20 |                | 3 01 77  |                |    |
| 7   | 287                                                | 11.0 |                                                  | 132                                                                                                                                                                                               | 11.5 <sup>106</sup>                               | -13 52.4 <sup>145</sup> | 40                                                | 50            | 17                                               | 49    | 11 25    |                | 12 72    |                |    |
| 8   | 302                                                | 11.2 |                                                  | 146                                                                                                                                                                                               | 41.3 <sup>108</sup>                               | 37.9 <sup>145</sup>     | 35                                                | 51            | 16                                               | 45    | 17 04 29 |                | 21 68    |                |    |
| 9   | 317                                                | 11.4 |                                                  | 161                                                                                                                                                                                               | 11.1 <sup>108</sup>                               | 23.3 <sup>146</sup>     | 30                                                | 51            | 15                                               | 43    | 16 59 31 |                | 28 65    |                |    |
| 10  | 332                                                | 11.6 |                                                  | 175                                                                                                                                                                                               | 41.0 <sup>109</sup>                               | -13 08.6 <sup>147</sup> | 20                                                | 52            | 14                                               | 40    | 48 38    |                | 42 59    |                |    |
| 11  | 347                                                | 11.9 | -1 28.1                                          | 190                                                                                                                                                                                               | 11.0 <sup>110</sup>                               | -12 53.8 <sup>148</sup> | 10 N                                              | 17 53         | 18 14                                            | 18 39 | 16 39 43 |                | 3 54 53  |                |    |
| 12  | 2                                                  | 12.1 | -1 29.1                                          | 204                                                                                                                                                                                               | 41.1 <sup>111</sup>                               | -12 39.1 <sup>147</sup> | 0                                                 | 17 54         | 18 15                                            | 18 39 | 16 31 47 |                | 4 05 49  |                |    |
| 13  | 17                                                 | 12.3 |                                                  | 219                                                                                                                                                                                               | 11.3 <sup>112</sup>                               | 24.2 <sup>149</sup>     | 10 S                                              | 56            | 17                                               | 41    | 22 52    |                | 16 44    |                |    |
| 14  | 32                                                 | 12.5 |                                                  | 233                                                                                                                                                                                               | 41.5 <sup>112</sup>                               | -12 09.3 <sup>149</sup> | 20                                                | 57            | 19                                               | 45    | 13 57    |                | 27 39    |                |    |
| 15  | 47                                                 | 12.7 |                                                  | 248                                                                                                                                                                                               | 11.8 <sup>113</sup>                               | -11 54.3 <sup>150</sup> | 30                                                | 17 59         | 23                                               | 50    | 16 03 63 |                | 40 33    |                |    |
| 16  | 62                                                 | 12.9 |                                                  | 262                                                                                                                                                                                               | 42.2 <sup>114</sup>                               | 39.3 <sup>150</sup>     | 35                                                | 18 00         | 25                                               | 18 55 | 15 57 66 |                | 47 31    |                |    |
| 17  | 77                                                 | 13.1 | -1 34.0                                          | 277                                                                                                                                                                                               | 12.7 <sup>115</sup>                               | -11 24.3 <sup>150</sup> | 40                                                | 18 01         | 18 28                                            | 19 00 | 15 50 70 |                | 4 56 26  |                |    |
| 18  | 92                                                 | 13.3 | -1 34.9                                          | 291                                                                                                                                                                                               | 43.2 <sup>115</sup>                               | -11 09.1 <sup>152</sup> | 45                                                | 18 02         | 18 32                                            | 19 06 | 15 41 76 |                | 5 06 22  |                |    |
| 19  | 107                                                | 13.6 |                                                  | 306                                                                                                                                                                                               | 13.8 <sup>116</sup>                               | -10 54.0 <sup>151</sup> | 50                                                | 04            | 36                                               | 15    | 32 81    |                | 17 17    |                |    |
| 20  | 122                                                | 13.8 |                                                  | 320                                                                                                                                                                                               | 44.5 <sup>117</sup>                               | 38.8 <sup>152</sup>     | 52                                                | 05            | 39                                               | 19    | 27 84    |                | 23 14    |                |    |
| 21  | 137                                                | 14.0 |                                                  | 335                                                                                                                                                                                               | 15.3 <sup>118</sup>                               | 23.5 <sup>153</sup>     | 54                                                | 06            | 41                                               | 24    | 22 87    |                | 29 11    |                |    |
| 22  | 152                                                | 14.2 |                                                  | 349                                                                                                                                                                                               | 46.1 <sup>118</sup>                               | -10 08.2 <sup>153</sup> | 56                                                | 06            | 44                                               | 29    | 16 90    |                | 35 9     |                |    |
| 23  | 167                                                | 14.4 |                                                  | 4                                                                                                                                                                                                 | 17.0 <sup>119</sup>                               | -9 52.9 <sup>153</sup>  | 58                                                | 08            | 47                                               | 35    | 10 94    |                | 43 5     |                |    |
| 24  | 182                                                | 14.6 | -1 40.8                                          | 18                                                                                                                                                                                                | 48.0 <sup>120</sup>                               | -9 37.5 <sup>154</sup>  | 60 S                                              | 18 09         | 18 51                                            | 19 42 | 15 03 98 |                | 5 51 1   |                |    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                                                   | MARTE                                             |                         | JÚPITER                                           |               | SATURNO                                          |       |          |                |          |                |    |
|     | PMG: 23 <sup>h</sup> 35 <sup>m</sup> 6             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 13 <sup>m</sup> |                                                                                                                                                                                                   | Mag: +1.7<br>PMG: 11 <sup>h</sup> 39 <sup>m</sup> |                         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 40 <sup>m</sup> |               | Mag: +0.2<br>PMG: 7 <sup>h</sup> 29 <sup>m</sup> |       |          |                |          |                |    |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                                               | hG ♂                                              | Dec                     | hG ♃                                              | Dec           | hG ♄                                             | Dec   |          |                |          |                |    |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                                 | °                                                 | '                       | °                                                 | '             | °                                                | '     |          |                |          |                |    |
| 0   | 5                                                  | 08.1 | 221                                              | 41.1                                                                                                                                                                                              | 185                                               | 00.2                    | 184                                               | 32.1          | 247                                              | 31.5  |          |                |          |                |    |
| 1   | 20                                                 | 10.6 | 236                                              | 40.7                                                                                                                                                                                              | 200                                               | 01.1                    | 199                                               | 34.1          | 262                                              | 33.7  |          |                |          |                |    |
| 2   | 35                                                 | 13.1 | 251                                              | 40.3                                                                                                                                                                                              | 215                                               | 02.1                    | 214                                               | 36.0          | 277                                              | 36.0  |          |                |          |                |    |
| 3   | 50                                                 | 15.5 | 266                                              | 39.9                                                                                                                                                                                              | 230                                               | 03.1                    | 229                                               | 38.0          | 292                                              | 38.3  |          |                |          |                |    |
| 4   | 65                                                 | 18.0 | 281                                              | 39.6                                                                                                                                                                                              | 245                                               | 04.1                    | 244                                               | 40.0          | 307                                              | 40.6  |          |                |          |                |    |
| 5   | 80                                                 | 20.4 | 296                                              | 39.2                                                                                                                                                                                              | 260                                               | 05.1                    | 259                                               | 41.9          | 322                                              | 42.8  |          |                |          |                |    |
| 6   | 95                                                 | 22.9 | 311                                              | 38.8                                                                                                                                                                                              | 275                                               | 06.1                    | 274                                               | 43.9          | 337                                              | 45.1  |          |                |          |                |    |
| 7   | 110                                                | 25.4 | 326                                              | 38.4                                                                                                                                                                                              | 290                                               | 07.1                    | 289                                               | 45.9          | 352                                              | 47.4  |          |                |          |                |    |
| 8   | 125                                                | 27.8 | 341                                              | 38.1                                                                                                                                                                                              | 305                                               | 08.1                    | 304                                               | 47.8          | 7                                                | 49.6  |          |                |          |                |    |
| 9   | 140                                                | 30.3 | 356                                              | 37.7                                                                                                                                                                                              | 320                                               | 09.1                    | 319                                               | 49.8          | 22                                               | 51.9  |          |                |          |                |    |
| 10  | 155                                                | 32.8 | 11                                               | 37.3                                                                                                                                                                                              | 335                                               | 10.0                    | 334                                               | 51.8          | 37                                               | 54.2  |          |                |          |                |    |
| 11  | 170                                                | 35.2 | 26                                               | 36.9                                                                                                                                                                                              | 350                                               | 11.0                    | 349                                               | 53.7          | 52                                               | 56.4  |          |                |          |                |    |
| 12  | 185                                                | 37.7 | 41                                               | 36.6                                                                                                                                                                                              | 5                                                 | 12.0                    | 4                                                 | 55.7          | 67                                               | 58.7  |          |                |          |                |    |
| 13  | 200                                                | 40.2 | 56                                               | 36.2                                                                                                                                                                                              | 20                                                | 13.0                    | 19                                                | 57.7          | 83                                               | 01.0  |          |                |          |                |    |
| 14  | 215                                                | 42.6 | 71                                               | 35.8                                                                                                                                                                                              | 35                                                | 14.0                    | 34                                                | 59.6          | 98                                               | 03.3  |          |                |          |                |    |
| 15  | 230                                                | 45.1 | 86                                               | 35.4                                                                                                                                                                                              | 50                                                | 15.0                    | 50                                                | 01.6          | 113                                              | 05.5  |          |                |          |                |    |
| 16  | 245                                                | 47.5 | 101                                              | 35.1                                                                                                                                                                                              | 65                                                | 16.0                    | 65                                                | 03.6          | 128                                              | 07.8  |          |                |          |                |    |
| 17  | 260                                                | 50.0 | 116                                              | 34.7                                                                                                                                                                                              | 80                                                | 17.0                    | 80                                                | 05.6          | 143                                              | 10.1  |          |                |          |                |    |
| 18  | 275                                                | 52.5 | 131                                              | 34.3                                                                                                                                                                                              | 95                                                | 18.0                    | 95                                                | 07.5          | 158                                              | 12.3  |          |                |          |                |    |
| 19  | 290                                                | 54.9 | 146                                              | 33.9                                                                                                                                                                                              | 110                                               | 18.9                    | 110                                               | 09.5          | 173                                              | 14.6  |          |                |          |                |    |
| 20  | 305                                                | 57.4 | 161                                              | 33.6                                                                                                                                                                                              | 125                                               | 19.9                    | 125                                               | 11.5          | 188                                              | 16.9  |          |                |          |                |    |
| 21  | 320                                                | 59.9 | 176                                              | 33.2                                                                                                                                                                                              | 140                                               | 20.9                    | 140                                               | 13.4          | 203                                              | 19.2  |          |                |          |                |    |
| 22  | 336                                                | 02.3 | 191                                              | 32.8                                                                                                                                                                                              | 155                                               | 21.9                    | 155                                               | 15.4          | 218                                              | 21.4  |          |                |          |                |    |
| 23  | 351                                                | 04.8 | 206                                              | 32.4                                                                                                                                                                                              | 170                                               | 22.9                    | 170                                               | 17.4          | 233                                              | 23.7  |          |                |          |                |    |
| 24  | 6                                                  | 07.3 | 221                                              | 32.1                                                                                                                                                                                              | 185                                               | 23.9                    | 185                                               | 19.3          | 248                                              | 26.0  |          |                |          |                |    |
| Dif | —                                                  |      | -4                                               | -8                                                                                                                                                                                                | +10                                               | -7                      | +20                                               | -2            | +23                                              | 0     |          |                |          |                |    |

| UT | SOL                                                |      |         | LUNA                                                                                                                           |                     |     |                     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |         |
|----|----------------------------------------------------|------|---------|--------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|---------------------|------|---------|--------------------------|-------|---------------|----------------|----|----------------|---------|
|    | SD: 16'0<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 9 |      |         | Edad: 12 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'2<br>20 <sup>h</sup> : 58'0<br>R°: 45 <sup>m</sup> |                     |     |                     |      |         |                          |       |               |                |    |                |         |
|    | hG ☉                                               | Dec  |         | hG ☾                                                                                                                           | Dif                 | Dec | Dif                 |      |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R°      |
| h  | °                                                  | '    | °       | °                                                                                                                              | '                   | °   | '                   | °    | h       | m                        | h     | m             | h              | m  | h              | m       |
| 0  | 182                                                | 14.6 | -1 40.8 | 18                                                                                                                             | 48.0                | -9  | 37.5                | 60 N | 4       | 26                       | 5     | 15            | 5              | 57 | 17             | 54      |
| 1  | 197                                                | 14.8 |         | 33                                                                                                                             | 19.0 <sup>120</sup> |     | 22.1 <sup>154</sup> | 58   |         | 31                       | 17    |               | 56             | 52 | 3              | 3 50 96 |
| 2  | 212                                                | 15.0 |         | 47                                                                                                                             | 50.1 <sup>121</sup> | -9  | 06.7 <sup>154</sup> | 56   | 35      | 18                       | 56    |               | 49             | 7  | 4 00 88        |         |
| 3  | 227                                                | 15.3 |         | 62                                                                                                                             | 21.2 <sup>121</sup> | -8  | 51.2 <sup>155</sup> | 54   | 38      | 20                       | 55    |               | 47             | 9  | 04 85          |         |
| 4  | 242                                                | 15.5 |         | 76                                                                                                                             | 52.5 <sup>123</sup> |     | 35.6 <sup>156</sup> | 52   | 41      | 21                       | 55    |               | 45             | 12 | 07 83          |         |
| 5  | 257                                                | 15.7 | -1 45.6 | 91                                                                                                                             | 23.8 <sup>123</sup> | -8  | 20.1 <sup>155</sup> | 50   | 4       | 44                       | 5     | 22            | 5              | 54 | 17 43          | 14      |
| 6  | 272                                                | 15.9 | -1 46.6 | 105                                                                                                                            | 55.1 <sup>123</sup> | -8  | 04.5 <sup>156</sup> | 45   | 4       | 50                       | 5     | 24            | 5              | 53 | 17 39          | 19      |
| 7  | 287                                                | 16.1 |         | 120                                                                                                                            | 26.5 <sup>124</sup> | -7  | 48.9 <sup>156</sup> | 40   | 54      | 26                       | 53    |               | 36             | 23 | 24             | 69      |
| 8  | 302                                                | 16.3 |         | 134                                                                                                                            | 58.0 <sup>125</sup> |     | 33.3 <sup>156</sup> | 35   | 4       | 57                       | 27    | 52            | 33             | 27 | 29             | 65      |
| 9  | 317                                                | 16.5 |         | 149                                                                                                                            | 29.5 <sup>125</sup> |     | 17.6 <sup>157</sup> | 30   | 5       | 00                       | 27    | 51            | 30             | 30 | 33             | 62      |
| 10 | 332                                                | 16.7 |         | 164                                                                                                                            | 01.1 <sup>126</sup> | -7  | 01.9 <sup>157</sup> | 20   |         | 02                       | 28    | 50            | 26             | 36 | 41             | 56      |
| 11 | 347                                                | 17.0 | -1 51.5 | 178                                                                                                                            | 32.7 <sup>126</sup> | -6  | 46.2 <sup>157</sup> | 10 N | 5       | 03                       | 5     | 28            | 5              | 49 | 17 22          | 41      |
| 12 | 2                                                  | 17.2 | -1 52.4 | 193                                                                                                                            | 04.4 <sup>127</sup> | -6  | 30.4 <sup>158</sup> | 0    | 5       | 03                       | 5     | 27            | 5              | 48 | 17 18          | 46      |
| 13 | 17                                                 | 17.4 |         | 207                                                                                                                            | 36.2 <sup>128</sup> | -6  | 14.7 <sup>157</sup> | 10 S | 5       | 01                       | 25    | 46            | 14             | 51 | 5              | 00      |
| 14 | 32                                                 | 17.6 |         | 222                                                                                                                            | 08.0 <sup>128</sup> | -5  | 58.9 <sup>158</sup> | 20   | 4       | 57                       | 23    | 45            | 10             | 56 | 06             | 37      |
| 15 | 47                                                 | 17.8 |         | 236                                                                                                                            | 39.8 <sup>128</sup> |     | 43.1 <sup>158</sup> | 30   | 51      | 19                       | 43    |               | 06             | 61 | 13             | 31      |
| 16 | 62                                                 | 18.0 |         | 251                                                                                                                            | 11.7 <sup>129</sup> |     | 27.3 <sup>158</sup> | 35   | 47      | 17                       | 42    |               | 03             | 65 | 18             | 27      |
| 17 | 77                                                 | 18.2 | -1 57.3 | 265                                                                                                                            | 43.7 <sup>130</sup> | -5  | 11.5 <sup>158</sup> | 40   | 4       | 42                       | 5     | 14            | 5              | 41 | 17 00          | 69      |
| 18 | 92                                                 | 18.4 | -1 58.3 | 280                                                                                                                            | 15.7 <sup>130</sup> | -4  | 55.7 <sup>158</sup> | 45   | 4       | 35                       | 5     | 10            | 5              | 39 | 16 57          | 73      |
| 19 | 107                                                | 18.6 | -1 59.3 | 294                                                                                                                            | 47.7 <sup>130</sup> |     | 39.8 <sup>159</sup> | 50   | 27      | 05                       | 37    |               | 53             | 78 | 34             | 15      |
| 20 | 122                                                | 18.9 | -2 00.2 | 309                                                                                                                            | 19.8 <sup>131</sup> |     | 24.0 <sup>158</sup> | 52   | 22      | 03                       | 36    |               | 51             | 81 | 37             | 12      |
| 21 | 137                                                | 19.1 |         | 323                                                                                                                            | 51.9 <sup>131</sup> | -4  | 08.1 <sup>159</sup> | 54   | 18      | 5                        | 00    | 36            | 49             | 83 | 40             | 10      |
| 22 | 152                                                | 19.3 |         | 338                                                                                                                            | 24.1 <sup>132</sup> | -3  | 52.2 <sup>159</sup> | 56   | 12      | 4                        | 57    | 34            | 46             | 87 | 44             | 7       |
| 23 | 167                                                | 19.5 |         | 352                                                                                                                            | 56.3 <sup>132</sup> |     | 36.3 <sup>159</sup> | 58   | 4       | 06                       | 54    | 33            | 44             | 90 | 48             | 3       |
| 24 | 182                                                | 19.7 | -2 04.1 | 7                                                                                                                              | 28.6 <sup>133</sup> | -3  | 20.5 <sup>158</sup> | 60 S | 3       | 59                       | 4     | 50            | 5              | 32 | 16 41          | 94      |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |         | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------------------------------|------|
|     | PMG: 23 <sup>h</sup> 31 <sup>m</sup> 7 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 14 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 38 <sup>m</sup> |     | Mag: -1.7<br>PMG: 11 <sup>h</sup> 37 <sup>m</sup> |         | Mag: +0.2<br>PMG: 7 <sup>h</sup> 25 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec     | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '   | °                                                 | '       | °                                                | '    |
| 0   | 6                                      | 07.3 | 221                                              | 32.1 | +13 58.6                                          | 185 | 23.9                                              | +0 40.2 | 185                                              | 19.3 |
| 1   | 21                                     | 09.7 | 236                                              | 31.7 | 57.8                                              | 200 | 24.9                                              | 39.6    | 200                                              | 21.3 |
| 2   | 36                                     | 12.2 | 251                                              | 31.3 | 57.0                                              | 215 | 25.9                                              | 38.9    | 215                                              | 23.3 |
| 3   | 51                                     | 14.7 | 266                                              | 30.9 | 56.3                                              | 230 | 26.8                                              | 38.3    | 230                                              | 25.2 |
| 4   | 66                                     | 17.1 | 281                                              | 30.6 | 55.5                                              | 245 | 27.8                                              | 37.6    | 245                                              | 27.2 |
| 5   | 81                                     | 19.6 | 296                                              | 30.2 | +13 54.8                                          | 260 | 28.8                                              | +0 37.0 | 260                                              | 29.2 |
| 6   | 96                                     | 22.0 | 311                                              | 29.8 | +13 54.0                                          | 275 | 29.8                                              | +0 36.3 | 275                                              | 31.1 |
| 7   | 111                                    | 24.5 | 326                                              | 29.4 | 53.2                                              | 290 | 30.8                                              | 35.6    | 290                                              | 33.1 |
| 8   | 126                                    | 27.0 | 341                                              | 29.1 | 52.5                                              | 305 | 31.8                                              | 35.0    | 305                                              | 35.1 |
| 9   | 141                                    | 29.4 | 356                                              | 28.7 | 51.7                                              | 320 | 32.8                                              | 34.3    | 320                                              | 37.0 |
| 10  | 156                                    | 31.9 | 11                                               | 28.3 | 50.9                                              | 335 | 33.8                                              | 33.7    | 335                                              | 39.0 |
| 11  | 171                                    | 34.4 | 26                                               | 27.9 | +13 50.1                                          | 350 | 34.8                                              | +0 33.0 | 350                                              | 41.0 |
| 12  | 186                                    | 36.8 | 41                                               | 27.6 | +13 49.4                                          | 5   | 35.7                                              | +0 32.4 | 5                                                | 42.9 |
| 13  | 201                                    | 39.3 | 56                                               | 27.2 | 48.6                                              | 20  | 36.7                                              | 31.7    | 20                                               | 44.9 |
| 14  | 216                                    | 41.8 | 71                                               | 26.8 | 47.8                                              | 35  | 37.7                                              | 31.1    | 35                                               | 46.9 |
| 15  | 231                                    | 44.2 | 86                                               | 26.4 | 47.1                                              | 50  | 38.7                                              | 30.4    | 50                                               | 48.9 |
| 16  | 246                                    | 46.7 | 101                                              | 26.1 | 46.3                                              | 65  | 39.7                                              | 29.8    | 65                                               | 50.8 |
| 17  | 261                                    | 49.1 | 116                                              | 25.7 | +13 45.5                                          | 80  | 40.7                                              | +0 29.1 | 80                                               | 52.8 |
| 18  | 276                                    | 51.6 | 131                                              | 25.3 | +13 44.7                                          | 95  | 41.7                                              | +0 28.4 | 95                                               | 54.8 |
| 19  | 291                                    | 54.1 | 146                                              | 24.9 | 44.0                                              | 110 | 42.7                                              | 27.8    | 110                                              | 56.7 |
| 20  | 306                                    | 56.5 | 161                                              | 24.6 | 43.2                                              | 125 | 43.6                                              | 27.1    | 125                                              | 58.7 |
| 21  | 321                                    | 59.0 | 176                                              | 24.2 | 42.4                                              | 140 | 44.6                                              | 26.5    | 141                                              | 00.7 |
| 22  | 337                                    | 01.5 | 191                                              | 23.8 | 41.6                                              | 155 | 45.6                                              | 25.8    | 156                                              | 02.6 |
| 23  | 352                                    | 03.9 | 206                                              | 23.5 | 40.9                                              | 170 | 46.6                                              | 25.2    | 171                                              | 04.6 |
| 24  | 7                                      | 06.4 | 221                                              | 23.1 | +13 40.1                                          | 185 | 47.6                                              | +0 24.5 | 186                                              | 06.6 |
| Dif | —                                      |      | -4 -8                                            |      | +10 -7                                            |     | +20 -2                                            |         | +23 0                                            |      |

| UT  | SOL                                                |      |                                                  | ☉ LUNA                                                                |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                              |       |          | Salida de Luna                                   |         | Puesta de Luna |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|---------------------------------------------------|-------|----------|--------------------------------------------------|---------|----------------|----|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 5 |      |                                                  | Edad: 13 <sup>d</sup> 4 PHE {<br>SD: 15'8<br>PMG: *** **m<br>R°: ***m |                     |                                                   |         |               |                                                   |       |          |                                                  |         |                |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                  | Dif                 | Dec                                               |         |               | Dif                                               | Civil | Náutico  | Hora                                             | R°      | Hora           | R° |
| h   | °                                                  | '    | °                                                | °                                                                     | '                   | °                                                 | °       | h m           | h m                                               | h m   | h m m    |                                                  | h m m   |                |    |
| 0   | 182                                                | 19.7 | -2 04.1                                          | 7                                                                     | 28.6                | -3 20.5                                           | 60 N    | 17 41         | 18 22                                             | 19 11 | 17 54 0  |                                                  | 5 26 93 |                |    |
| 1   | 197                                                | 19.9 | 05.1                                             | 22                                                                    | 00.9 <sup>133</sup> | -3 04.6 <sup>159</sup>                            | 58      | 42            | 21                                                | 07    | 55 3     |                                                  | 27 89   |                |    |
| 2   | 212                                                | 20.1 | 06.1                                             | 36                                                                    | 33.2 <sup>133</sup> | -2 48.7 <sup>159</sup>                            | 56      | 42            | 19                                                | 03    | 56 6     |                                                  | 28 86   |                |    |
| 3   | 227                                                | 20.3 | 07.0                                             | 51                                                                    | 05.6 <sup>134</sup> | 32.8 <sup>159</sup>                               | 54      | 43            | 18                                                | 19 00 | 56 9     |                                                  | 29 83   |                |    |
| 4   | 242                                                | 20.5 | 08.0                                             | 65                                                                    | 38.0 <sup>134</sup> | 16.9 <sup>159</sup>                               | 52      | 44            | 17                                                | 18 57 | 57 11    |                                                  | 30 80   |                |    |
| 5   | 257                                                | 20.8 | -2 09.0                                          | 80                                                                    | 10.5 <sup>135</sup> | -2 01.0 <sup>159</sup>                            | 50      | 17 44         | 18 17                                             | 18 54 | 17 57 14 |                                                  | 5 30 78 |                |    |
| 6   | 272                                                | 21.0 | -2 09.9                                          | 94                                                                    | 43.0 <sup>135</sup> | -1 45.1 <sup>159</sup>                            | 45      | 17 46         | 18 15                                             | 18 49 | 17 58 19 |                                                  | 5 32 72 |                |    |
| 7   | 287                                                | 21.2 | 10.9                                             | 109                                                                   | 15.5 <sup>135</sup> | 29.3 <sup>158</sup>                               | 40      | 47            | 14                                                | 45    | 17 59 23 |                                                  | 33 68   |                |    |
| 8   | 302                                                | 21.4 | 11.9                                             | 123                                                                   | 48.0 <sup>135</sup> | -1 13.4 <sup>159</sup>                            | 35      | 48            | 13                                                | 42    | 18 00 26 |                                                  | 34 64   |                |    |
| 9   | 317                                                | 21.6 | 12.9                                             | 138                                                                   | 20.6 <sup>136</sup> | -0 57.5 <sup>159</sup>                            | 30      | 49            | 13                                                | 40    | 00 30    |                                                  | 35 61   |                |    |
| 10  | 332                                                | 21.8 | 13.8                                             | 152                                                                   | 53.2 <sup>136</sup> | 41.7 <sup>158</sup>                               | 20      | 51            | 13                                                | 38    | 02 35    |                                                  | 37 55   |                |    |
| 11  | 347                                                | 22.0 | -2 14.8                                          | 167                                                                   | 25.9 <sup>137</sup> | -0 25.8 <sup>159</sup>                            | 10 N    | 17 52         | 18 13                                             | 18 38 | 18 03 40 |                                                  | 5 39 49 |                |    |
| 12  | 2                                                  | 22.2 | -2 15.8                                          | 181                                                                   | 58.5 <sup>136</sup> | -0 10.0 <sup>158</sup>                            | 0       | 17 54         | 18 14                                             | 18 38 | 18 04 44 |                                                  | 5 40 45 |                |    |
| 13  | 17                                                 | 22.4 | 16.8                                             | 196                                                                   | 31.2 <sup>137</sup> | +0 05.8 <sup>158</sup>                            | 10 S    | 55            | 17                                                | 41    | 05 49    |                                                  | 41 41   |                |    |
| 14  | 32                                                 | 22.6 | 17.7                                             | 211                                                                   | 03.9 <sup>137</sup> | 21.7 <sup>159</sup>                               | 20      | 17 57         | 19                                                | 45    | 06 54    |                                                  | 43 35   |                |    |
| 15  | 47                                                 | 22.8 | 18.7                                             | 225                                                                   | 36.7 <sup>138</sup> | 37.4 <sup>157</sup>                               | 30      | 18 00         | 24                                                | 52    | 07 60    |                                                  | 44 30   |                |    |
| 16  | 62                                                 | 23.1 | 19.7                                             | 240                                                                   | 09.4 <sup>137</sup> | +0 53.2 <sup>158</sup>                            | 35      | 01            | 26                                                | 18 56 | 08 63    |                                                  | 45 27   |                |    |
| 17  | 77                                                 | 23.3 | -2 20.6                                          | 254                                                                   | 42.2 <sup>138</sup> | +1 09.0 <sup>158</sup>                            | 40      | 18 03         | 18 30                                             | 19 02 | 18 09 67 |                                                  | 5 46 23 |                |    |
| 18  | 92                                                 | 23.5 | -2 21.6                                          | 269                                                                   | 15.0 <sup>138</sup> | +1 24.7 <sup>157</sup>                            | 45      | 18 05         | 18 34                                             | 19 09 | 18 10 71 |                                                  | 5 47 19 |                |    |
| 19  | 107                                                | 23.7 | 22.6                                             | 283                                                                   | 47.9 <sup>139</sup> | 40.4 <sup>157</sup>                               | 50      | 07            | 39                                                | 18    | 11 77    |                                                  | 49 13   |                |    |
| 20  | 122                                                | 23.9 | 23.6                                             | 298                                                                   | 20.7 <sup>138</sup> | +1 56.1 <sup>157</sup>                            | 52      | 08            | 42                                                | 23    | 12 79    |                                                  | 49 12   |                |    |
| 21  | 137                                                | 24.1 | 24.5                                             | 312                                                                   | 53.6 <sup>139</sup> | +2 11.8 <sup>157</sup>                            | 54      | 09            | 45                                                | 28    | 12 82    |                                                  | 50 9    |                |    |
| 22  | 152                                                | 24.3 | 25.5                                             | 327                                                                   | 26.4 <sup>138</sup> | 27.5 <sup>157</sup>                               | 56      | 10            | 48                                                | 33    | 13 85    |                                                  | 51 6    |                |    |
| 23  | 167                                                | 24.5 | 26.5                                             | 341                                                                   | 59.3 <sup>139</sup> | 43.1 <sup>156</sup>                               | 58      | 12            | 52                                                | 40    | 14 88    |                                                  | 51 4    |                |    |
| 24  | 182                                                | 24.7 | -2 27.4                                          | 356                                                                   | 32.3 <sup>140</sup> | +2 58.7 <sup>156</sup>                            | 60 S    | 18 14         | 18 56                                             | 19 47 | 18 15 92 |                                                  | 5 52 0  |                |    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                       |                     | MARTE                                             |         |               | JÚPITER                                           |       |          | SATURNO                                          |         |                |    |
|     | PMG: 23 <sup>h</sup> 27 <sup>m</sup> 7             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 15 <sup>m</sup> |                                                                       |                     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 36 <sup>m</sup> |         |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 34 <sup>m</sup> |       |          | Mag: +0.2<br>PMG: 7 <sup>h</sup> 22 <sup>m</sup> |         |                |    |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                   |                     | hG ♂                                              | Dec     |               | hG ♃                                              | Dec   |          | hG ♄                                             | Dec     |                |    |
| h   | °                                                  | '    | °                                                | °                                                                     | '                   | °                                                 | °       | '             | °                                                 | °     | '        | °                                                | °       | '              |    |
| 0   | 7                                                  | 06.4 | 221                                              | 23.1                                                                  | +13 40.1            | 185                                               | 47.6    | +0 24.5       | 186                                               | 06.6  | +0 44.8  | 249                                              | 20.6    | +20 49.7       |    |
| 1   | 22                                                 | 08.9 | 236                                              | 22.7                                                                  | 39.3                | 200                                               | 48.6    | 23.9          | 201                                               | 08.5  | 44.6     | 264                                              | 22.8    | 49.6           |    |
| 2   | 37                                                 | 11.3 | 251                                              | 22.3                                                                  | 38.5                | 215                                               | 49.6    | 23.2          | 216                                               | 10.5  | 44.4     | 279                                              | 25.1    | 49.6           |    |
| 3   | 52                                                 | 13.8 | 266                                              | 22.0                                                                  | 37.7                | 230                                               | 50.6    | 22.6          | 231                                               | 12.5  | 44.2     | 294                                              | 27.4    | 49.6           |    |
| 4   | 67                                                 | 16.3 | 281                                              | 21.6                                                                  | 37.0                | 245                                               | 51.5    | 21.9          | 246                                               | 14.4  | 44.0     | 309                                              | 29.7    | 49.5           |    |
| 5   | 82                                                 | 18.7 | 296                                              | 21.2                                                                  | +13 36.2            | 260                                               | 52.5    | +0 21.2       | 261                                               | 16.4  | +0 43.8  | 324                                              | 31.9    | +20 49.5       |    |
| 6   | 97                                                 | 21.2 | 311                                              | 20.8                                                                  | +13 35.4            | 275                                               | 53.5    | +0 20.6       | 276                                               | 18.4  | +0 43.6  | 339                                              | 34.2    | +20 49.5       |    |
| 7   | 112                                                | 23.6 | 326                                              | 20.5                                                                  | 34.6                | 290                                               | 54.5    | 19.9          | 291                                               | 20.3  | 43.3     | 354                                              | 36.5    | 49.4           |    |
| 8   | 127                                                | 26.1 | 341                                              | 20.1                                                                  | 33.8                | 305                                               | 55.5    | 19.3          | 306                                               | 22.3  | 43.1     | 9                                                | 38.8    | 49.4           |    |
| 9   | 142                                                | 28.6 | 356                                              | 19.7                                                                  | 33.0                | 320                                               | 56.5    | 18.6          | 321                                               | 24.3  | 42.9     | 24                                               | 41.1    | 49.4           |    |
| 10  | 157                                                | 31.0 | 11                                               | 19.3                                                                  | 32.2                | 335                                               | 57.5    | 18.0          | 336                                               | 26.3  | 42.7     | 39                                               | 43.3    | 49.4           |    |
| 11  | 172                                                | 33.5 | 26                                               | 19.0                                                                  | +13 31.5            | 350                                               | 58.5    | +0 17.3       | 351                                               | 28.2  | +0 42.5  | 54                                               | 45.6    | +20 49.3       |    |
| 12  | 187                                                | 36.0 | 41                                               | 18.6                                                                  | +13 30.7            | 5                                                 | 59.4    | +0 16.7       | 6                                                 | 30.2  | +0 42.3  | 69                                               | 47.9    | +20 49.3       |    |
| 13  | 202                                                | 38.4 | 56                                               | 18.2                                                                  | 29.9                | 21                                                | 00.4    | 16.0          | 21                                                | 32.2  | 42.1     | 84                                               | 50.2    | 49.3           |    |
| 14  | 217                                                | 40.9 | 71                                               | 17.9                                                                  | 29.1                | 36                                                | 01.4    | 15.4          | 36                                                | 34.1  | 41.9     | 99                                               | 52.4    | 49.2           |    |
| 15  | 232                                                | 43.4 | 86                                               | 17.5                                                                  | 28.3                | 51                                                | 02.4    | 14.7          | 51                                                | 36.1  | 41.6     | 114                                              | 54.7    | 49.2           |    |
| 16  | 247                                                | 45.8 | 101                                              | 17.1                                                                  | 27.5                | 66                                                | 03.4    | 14.0          | 66                                                | 38.1  | 41.4     | 129                                              | 57.0    | 49.2           |    |
| 17  | 262                                                | 48.3 | 116                                              | 16.7                                                                  | +13 26.7            | 81                                                | 04.4    | +0 13.4       | 81                                                | 40.0  | +0 41.2  | 144                                              | 59.3    | +20 49.1       |    |
| 18  | 277                                                | 50.7 | 131                                              | 16.4                                                                  | +13 25.9            | 96                                                | 05.4    | +0 12.7       | 96                                                | 42.0  | +0 41.0  | 160                                              | 01.6    | +20 49.1       |    |
| 19  | 292                                                | 53.2 | 146                                              | 16.0                                                                  | 25.1                | 111                                               | 06.4    | 12.1          | 111                                               | 44.0  | 40.8     | 175                                              | 03.8    | 49.1           |    |
| 20  | 307                                                | 55.7 | 161                                              | 15.6                                                                  | 24.3                | 126                                               | 07.3    | 11.4          | 126                                               | 45.9  | 40.6     | 190                                              | 06.1    | 49.1           |    |
| 21  | 322                                                | 58.1 | 176                                              | 15.3                                                                  | 23.5                | 141                                               | 08.3    | 10.8          | 141                                               | 47.9  | 40.4     | 205                                              | 08.4    | 49.0           |    |
| 22  | 338                                                | 00.6 | 191                                              | 14.9                                                                  | 22.8                | 156                                               | 09.3    | 10.1          | 156                                               | 49.9  | 40.1     | 220                                              | 10.7    | 49.0           |    |
| 23  | 353                                                | 03.1 | 206                                              | 14.5                                                                  | 22.0                | 171                                               | 10.3    | 09.5          | 171                                               | 51.8  | 39.9     | 235                                              | 13.0    | 49.0           |    |
| 24  | 8                                                  | 05.5 | 221                                              | 14.1                                                                  | +13 21.2            | 186                                               | 11.3    | +0 08.8       | 186                                               | 53.8  | +0 39.7  | 250                                              | 15.2    | +20 48.9       |    |
| Dif | —                                                  |      | -4                                               |                                                                       | -8                  | +10                                               |         | -7            | +20                                               |       | -2       | +23                                              |         | 0              |    |

| UT | SOL                                                |      |    | LUNA                                                                                                                                                                              |     |                     | Latitud                | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |      |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|------------------------|--------------------------|---------|---------------|----------------|-------|----------------|------|----|
|    | SD: 16'0<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 2 |      |    | Edad: 14 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 57/2<br>12 <sup>h</sup> : 57/0<br>20 <sup>h</sup> : 56/8<br>SD: 15'6<br>PMG: 0 <sup>h</sup> 14 <sup>m</sup> R°: 45 <sup>m</sup> |     |                     |                        |                          |         |               |                |       |                |      |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                              | Dif | Dec                 |                        | Dif                      | Náutico |               | Civil          | Hora  | R°             | Hora | R° |
| h  | °                                                  | '    | °  | '                                                                                                                                                                                 | °   | '                   | °                      | h                        | m       | h             | m              | h     | m              | h    | m  |
| 0  | 182                                                | 24.7 | -2 | 27.4                                                                                                                                                                              | 356 | 32.3                | +2 58.7                | 60 N                     | 4 31    | 5 20          | 6 01           | 17 54 | 0              | 6 59 | 92 |
| 1  | 197                                                | 24.9 |    | 28.4                                                                                                                                                                              | 11  | 05.2 <sup>139</sup> | +3 14.3 <sup>156</sup> | 58                       | 35      | 21            | 6 00           | 17 58 | 4              | 56   | 88 |
| 2  | 212                                                | 25.1 |    | 29.4                                                                                                                                                                              | 25  | 38.1 <sup>139</sup> | 29.8 <sup>155</sup>    | 56                       | 39      | 22            | 5 59           | 18 02 | 7              | 54   | 84 |
| 3  | 227                                                | 25.3 |    | 30.4                                                                                                                                                                              | 40  | 11.1 <sup>140</sup> | +3 45.3 <sup>155</sup> | 54                       | 42      | 23            | 59             | 05 10 |                | 52   | 88 |
| 4  | 242                                                | 25.6 |    | 31.3                                                                                                                                                                              | 54  | 44.0 <sup>139</sup> | +4 00.8 <sup>155</sup> | 52                       | 45      | 24            | 58             | 08 12 |                | 50   | 79 |
| 5  | 257                                                | 25.8 | -2 | 32.3                                                                                                                                                                              | 69  | 17.0 <sup>140</sup> | +4 16.3 <sup>155</sup> | 50                       | 4 47    | 5 25          | 5 57           | 18 11 | 15             | 6 48 | 76 |
| 6  | 272                                                | 26.0 | -2 | 33.3                                                                                                                                                                              | 83  | 50.0 <sup>140</sup> | +4 31.7 <sup>154</sup> | 45                       | 4 52    | 5 27          | 5 56           | 18 17 | 19             | 6 44 | 71 |
| 7  | 287                                                | 26.2 |    | 34.2                                                                                                                                                                              | 98  | 22.9 <sup>139</sup> | +4 47.1 <sup>154</sup> | 40                       | 56      | 27            | 54             | 22 23 |                | 41   | 67 |
| 8  | 302                                                | 26.4 |    | 35.2                                                                                                                                                                              | 112 | 55.9 <sup>140</sup> | +5 02.4 <sup>153</sup> | 35                       | 4 59    | 28            | 53             | 26 27 |                | 38   | 63 |
| 9  | 317                                                | 26.6 |    | 36.2                                                                                                                                                                              | 127 | 28.9 <sup>140</sup> | 17.7 <sup>153</sup>    | 30                       | 5 01    | 28            | 52             | 30 30 |                | 36   | 60 |
| 10 | 332                                                | 26.8 |    | 37.2                                                                                                                                                                              | 142 | 01.9 <sup>140</sup> | 33.0 <sup>153</sup>    | 20                       | 03      | 28            | 50             | 37 35 |                | 32   | 54 |
| 11 | 347                                                | 27.0 | -2 | 38.1                                                                                                                                                                              | 156 | 34.9 <sup>140</sup> | +5 48.2 <sup>152</sup> | 10 N                     | 5 03    | 5 28          | 5 49           | 18 43 | 40             | 6 28 | 49 |
| 12 | 2                                                  | 27.2 | -2 | 39.1                                                                                                                                                                              | 171 | 07.9 <sup>140</sup> | +6 03.4 <sup>152</sup> | 0                        | 5 02    | 5 26          | 5 47           | 18 48 | 45             | 6 25 | 45 |
| 13 | 17                                                 | 27.4 |    | 40.1                                                                                                                                                                              | 185 | 40.9 <sup>140</sup> | 18.6 <sup>152</sup>    | 10 S                     | 5 00    | 24            | 45             | 18 54 | 49             | 22   | 40 |
| 14 | 32                                                 | 27.6 |    | 41.0                                                                                                                                                                              | 200 | 13.9 <sup>140</sup> | 33.7 <sup>151</sup>    | 20                       | 4 55    | 21            | 43             | 19 00 | 54             | 18   | 35 |
| 15 | 47                                                 | 27.8 |    | 42.0                                                                                                                                                                              | 214 | 46.9 <sup>140</sup> | +6 48.8 <sup>151</sup> | 30                       | 49      | 17            | 41             | 07 60 |                | 14   | 30 |
| 16 | 62                                                 | 28.0 |    | 43.0                                                                                                                                                                              | 229 | 19.9 <sup>140</sup> | +7 03.8 <sup>150</sup> | 35                       | 44      | 14            | 39             | 11 63 |                | 12   | 26 |
| 17 | 77                                                 | 28.2 | -2 | 44.0                                                                                                                                                                              | 243 | 52.9 <sup>140</sup> | +7 18.8 <sup>150</sup> | 40                       | 4 38    | 5 10          | 5 37           | 19 16 | 66             | 6 09 | 23 |
| 18 | 92                                                 | 28.4 | -2 | 44.9                                                                                                                                                                              | 258 | 25.9 <sup>140</sup> | +7 33.7 <sup>149</sup> | 45                       | 4 31    | 5 06          | 5 35           | 19 21 | 71             | 6 06 | 19 |
| 19 | 107                                                | 28.7 |    | 45.9                                                                                                                                                                              | 272 | 58.9 <sup>140</sup> | +7 48.6 <sup>149</sup> | 50                       | 22      | 5 00          | 33             | 28 76 |                | 02   | 14 |
| 20 | 122                                                | 28.9 |    | 46.9                                                                                                                                                                              | 287 | 31.9 <sup>140</sup> | +8 03.5 <sup>149</sup> | 52                       | 17      | 4 58          | 32             | 31 78 |                | 6 01 | 11 |
| 21 | 137                                                | 29.1 |    | 47.8                                                                                                                                                                              | 302 | 04.8 <sup>139</sup> | 18.2 <sup>147</sup>    | 54                       | 12      | 55            | 31             | 34 82 |                | 5 59 | 9  |
| 22 | 152                                                | 29.3 |    | 48.8                                                                                                                                                                              | 316 | 37.8 <sup>140</sup> | 33.0 <sup>148</sup>    | 56                       | 07      | 52            | 29             | 38 85 |                | 57   | 6  |
| 23 | 167                                                | 29.5 |    | 49.8                                                                                                                                                                              | 331 | 10.8 <sup>140</sup> | +8 47.7 <sup>147</sup> | 58                       | 4 00    | 48            | 28             | 42 88 |                | 55   | 3  |
| 24 | 182                                                | 29.7 | -2 | 50.7                                                                                                                                                                              | 345 | 43.7 <sup>139</sup> | +9 02.3 <sup>146</sup> | 60 S                     | 3 52    | 4 44          | 5 26           | 19 47 | 92             | 5 52 | 0  |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG 23 <sup>h</sup> 23 <sup>m</sup> 8 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 15 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 34 <sup>m</sup> |      | Mag: -1.7<br>PMG: 11 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +0.2<br>PMG: 7 <sup>h</sup> 18 <sup>m</sup> |      |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                     | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 8                                     | 05.5 | 221                                              | 14.1 | +13                                               | 21.2 | 186                                               | 53.8 | +0                                               | 39.7 |
| 1   | 23                                    | 08.0 | 236                                              | 13.8 |                                                   | 20.4 | 201                                               | 55.8 |                                                  | 39.5 |
| 2   | 38                                    | 10.5 | 251                                              | 13.4 |                                                   | 19.6 | 216                                               | 57.8 |                                                  | 39.3 |
| 3   | 53                                    | 12.9 | 266                                              | 13.0 |                                                   | 18.8 | 231                                               | 59.7 |                                                  | 39.1 |
| 4   | 68                                    | 15.4 | 281                                              | 12.7 |                                                   | 18.0 | 246                                               | 01.7 |                                                  | 38.9 |
| 5   | 83                                    | 17.9 | 296                                              | 12.3 | +13                                               | 17.2 | 261                                               | 03.7 | +0                                               | 38.7 |
| 6   | 98                                    | 20.3 | 311                                              | 11.9 | +13                                               | 16.4 | 276                                               | 05.6 | +0                                               | 38.4 |
| 7   | 113                                   | 22.8 | 326                                              | 11.5 |                                                   | 15.6 | 291                                               | 07.6 |                                                  | 38.2 |
| 8   | 128                                   | 25.2 | 341                                              | 11.2 |                                                   | 14.8 | 306                                               | 09.6 |                                                  | 38.0 |
| 9   | 143                                   | 27.7 | 356                                              | 10.8 |                                                   | 14.0 | 321                                               | 11.5 |                                                  | 37.8 |
| 10  | 158                                   | 30.2 | 11                                               | 10.4 |                                                   | 13.2 | 336                                               | 13.5 |                                                  | 37.6 |
| 11  | 173                                   | 32.6 | 26                                               | 10.1 | +13                                               | 12.4 | 351                                               | 15.5 | +0                                               | 37.4 |
| 12  | 188                                   | 35.1 | 41                                               | 09.7 | +13                                               | 11.6 | 6                                                 | 23.1 | +0                                               | 00.9 |
| 13  | 203                                   | 37.6 | 56                                               | 09.3 |                                                   | 10.7 | 21                                                | 24.1 | +0                                               | 00.3 |
| 14  | 218                                   | 40.0 | 71                                               | 08.9 |                                                   | 09.9 | 36                                                | 25.1 | -0                                               | 00.4 |
| 15  | 233                                   | 42.5 | 86                                               | 08.6 |                                                   | 09.1 | 51                                                | 26.1 |                                                  | 01.0 |
| 16  | 248                                   | 45.0 | 101                                              | 08.2 |                                                   | 08.3 | 66                                                | 27.1 |                                                  | 01.7 |
| 17  | 263                                   | 47.4 | 116                                              | 07.8 | +13                                               | 07.5 | 81                                                | 28.1 | -0                                               | 02.3 |
| 18  | 278                                   | 49.9 | 131                                              | 07.5 | +13                                               | 06.7 | 96                                                | 29.0 | -0                                               | 03.0 |
| 19  | 293                                   | 52.3 | 146                                              | 07.1 |                                                   | 05.9 | 111                                               | 30.0 |                                                  | 03.6 |
| 20  | 308                                   | 54.8 | 161                                              | 06.7 |                                                   | 05.1 | 126                                               | 31.0 |                                                  | 04.3 |
| 21  | 323                                   | 57.3 | 176                                              | 06.3 |                                                   | 04.3 | 141                                               | 32.0 |                                                  | 05.0 |
| 22  | 338                                   | 59.7 | 191                                              | 06.0 |                                                   | 03.5 | 156                                               | 33.0 |                                                  | 05.6 |
| 23  | 354                                   | 02.2 | 206                                              | 05.6 |                                                   | 02.7 | 171                                               | 34.0 |                                                  | 06.3 |
| 24  | 9                                     | 04.7 | 221                                              | 05.2 | +13                                               | 01.8 | 186                                               | 35.0 | -0                                               | 06.9 |
| Dif | —                                     |      | -4                                               | -8   |                                                   |      | +10                                               | -7   |                                                  |      |
|     |                                       |      |                                                  |      |                                                   |      | +20                                               | -2   |                                                  |      |
|     |                                       |      |                                                  |      |                                                   |      | +23                                               |      |                                                  |      |

| UT  | SOL                                                |      | ☉ LUNA                                                                                                                                                             |      |      |                                                   | Latitud                 | Puesta de Sol | Final del crepúsculo                              |       | Salida de Luna |                                                  | Puesta de Luna |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|---------------------------------------------------|-------------------------|---------------|---------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|------|-----|------|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> 9 |      | Edad: 15 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 56'6<br>12 <sup>h</sup> : 56'4<br>20 <sup>h</sup> : 56'1<br>PMG: 0 <sup>h</sup> 59 <sup>m</sup> R°: 45 <sup>m</sup> |      |      |                                                   |                         |               | Civil                                             |       | Náutico        | Hora                                             | R°             | Hora | R°  |      |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                                                               | Dif  | Dec  | Dif                                               |                         |               |                                                   |       |                |                                                  |                |      |     |      |
| h   | °                                                  | '    | °                                                                                                                                                                  | '    | °    | '                                                 | °                       | h             | m                                                 | h     | m              | h                                                | m              | h    | m   |      |
| 0   | 182                                                | 29.7 | -2                                                                                                                                                                 | 50.7 | 345  | 43.7                                              | +9 02.3                 | 60 N          | 17 35                                             | 18 16 | 19 05          | 17 54                                            | 2              | 8 31 | 92  |      |
| 1   | 197                                                | 29.9 |                                                                                                                                                                    | 51.7 | 0    | 16.6 <sup>139</sup>                               | 16.9 <sup>146</sup>     | 58            | 36                                                | 15    | 19 01          | 18 02                                            | 6              | 24   | 88  |      |
| 2   | 212                                                | 30.1 |                                                                                                                                                                    | 52.7 | 14   | 49.6 <sup>140</sup>                               | 31.4 <sup>145</sup>     | 56            | 37                                                | 14    | 18 57          |                                                  | 9              | 18   | 85  |      |
| 3   | 227                                                | 30.3 |                                                                                                                                                                    | 53.7 | 29   | 22.5 <sup>139</sup>                               | +9 45.9 <sup>145</sup>  | 54            | 38                                                | 13    | 54             | 15                                               | 12             | 13   | 81  |      |
| 4   | 242                                                | 30.5 |                                                                                                                                                                    | 54.6 | 43   | 55.4 <sup>139</sup>                               | +10 00.3 <sup>144</sup> | 52            | 39                                                | 13    | 52             | 20                                               | 15             | 09   | 78  |      |
| 5   | 257                                                | 30.7 | -2                                                                                                                                                                 | 55.6 | 58   | 28.3 <sup>139</sup>                               | +10 14.7 <sup>144</sup> | 50            | 17 40                                             | 18 12 | 18 50          | 18 26                                            | 17             | 8 04 | 76  |      |
| 6   | 272                                                | 30.9 | -2                                                                                                                                                                 | 56.6 | 73   | 01.1 <sup>138</sup>                               | +10 29.0 <sup>143</sup> | 45            | 17 42                                             | 18 11 | 18 45          | 18 36                                            | 23             | 7 55 | 71  |      |
| 7   | 287                                                | 31.1 |                                                                                                                                                                    | 57.5 | 87   | 34.0 <sup>139</sup>                               | 43.2 <sup>142</sup>     | 40            | 44                                                | 11    | 42             | 45                                               | 27             | 48   | 66  |      |
| 8   | 302                                                | 31.3 |                                                                                                                                                                    | 58.5 | 102  | 06.8 <sup>138</sup>                               | +10 57.4 <sup>142</sup> | 35            | 45                                                | 10    | 40             | 18 53                                            | 30             | 41   | 63  |      |
| 9   | 317                                                | 31.5 | -2                                                                                                                                                                 | 59.5 | 116  | 39.7 <sup>139</sup>                               | +11 11.5 <sup>141</sup> | 30            | 46                                                | 10    | 38             | 19 00                                            | 33             | 36   | 59  |      |
| 10  | 332                                                | 31.7 | -3                                                                                                                                                                 | 00.4 | 131  | 12.5 <sup>138</sup>                               | 25.5 <sup>140</sup>     | 20            | 49                                                | 11    | 36             | 12                                               | 38             | 26   | 54  |      |
| 11  | 347                                                | 31.9 | -3                                                                                                                                                                 | 01.4 | 145  | 45.3 <sup>138</sup>                               | +11 39.5 <sup>140</sup> | 10 N          | 17 51                                             | 18 12 | 18 36          | 19 23                                            | 42             | 7 17 | 50  |      |
| 12  | 2                                                  | 32.1 | -3                                                                                                                                                                 | 02.4 | 160  | 18.0 <sup>137</sup>                               | +11 53.4 <sup>139</sup> | 0             | 17 53                                             | 18 14 | 18 38          | 19 33                                            | 46             | 7 10 | 45  |      |
| 13  | 17                                                 | 32.3 |                                                                                                                                                                    | 03.4 | 174  | 50.8 <sup>138</sup>                               | +12 07.3 <sup>139</sup> | 10 S          | 55                                                | 16    | 41             | 43                                               | 50             | 7 02 | 41  |      |
| 14  | 32                                                 | 32.5 |                                                                                                                                                                    | 04.3 | 189  | 23.5 <sup>137</sup>                               | 21.1 <sup>138</sup>     | 20            | 17 58                                             | 20    | 46             | 19 54                                            | 54             | 6 53 | 37  |      |
| 15  | 47                                                 | 32.7 |                                                                                                                                                                    | 05.3 | 203  | 56.2 <sup>137</sup>                               | 34.8 <sup>137</sup>     | 30            | 18 01                                             | 25    | 53             | 20 07                                            | 59             | 44   | 31  |      |
| 16  | 62                                                 | 32.9 |                                                                                                                                                                    | 06.3 | 218  | 28.9 <sup>137</sup>                               | +12 48.5 <sup>137</sup> | 35            | 03                                                | 28    | 18 58          | 14                                               | 62             | 38   | 29  |      |
| 17  | 77                                                 | 33.1 | -3                                                                                                                                                                 | 07.2 | 233  | 01.5 <sup>136</sup>                               | +13 02.1 <sup>136</sup> | 40            | 18 05                                             | 18 32 | 19 04          | 20 22                                            | 66             | 6 32 | 25  |      |
| 18  | 92                                                 | 33.4 | -3                                                                                                                                                                 | 08.2 | 247  | 34.2 <sup>137</sup>                               | +13 15.6 <sup>135</sup> | 45            | 18 07                                             | 18 37 | 19 12          | 20 32                                            | 70             | 6 25 | 21  |      |
| 19  | 107                                                | 33.6 |                                                                                                                                                                    | 09.2 | 262  | 06.8 <sup>136</sup>                               | 29.0 <sup>134</sup>     | 50            | 10                                                | 43    | 22             | 44                                               | 75             | 16   | 16  |      |
| 20  | 122                                                | 33.8 |                                                                                                                                                                    | 10.1 | 276  | 39.4 <sup>136</sup>                               | 42.4 <sup>134</sup>     | 52            | 11                                                | 45    | 26             | 49                                               | 79             | 12   | 14  |      |
| 21  | 137                                                | 34.0 |                                                                                                                                                                    | 11.1 | 291  | 11.9 <sup>135</sup>                               | +13 55.7 <sup>133</sup> | 54            | 13                                                | 49    | 32             | 20 56                                            | 81             | 08   | 11  |      |
| 22  | 152                                                | 34.2 |                                                                                                                                                                    | 12.1 | 305  | 44.4 <sup>135</sup>                               | +14 08.9 <sup>132</sup> | 56            | 14                                                | 52    | 38             | 21 03                                            | 84             | 6 03 | 8   |      |
| 23  | 167                                                | 34.4 |                                                                                                                                                                    | 13.1 | 320  | 16.9 <sup>135</sup>                               | 22.1 <sup>132</sup>     | 58            | 16                                                | 18 56 | 45             | 10                                               | 89             | 5 58 | 5   |      |
| 24  | 182                                                | 34.6 | -3                                                                                                                                                                 | 14.0 | 334  | 49.4 <sup>135</sup>                               | +14 35.1 <sup>130</sup> | 60 S          | 18 18                                             | 19 01 | 19 53          | 21 19                                            | 94             | 5 52 | 1   |      |
| UT  | ARIES                                              |      | VENUS                                                                                                                                                              |      |      | MARTE                                             |                         |               | JÚPITER                                           |       |                | SATURNO                                          |                |      |     |      |
|     | PMG: 23 <sup>h</sup> 19 <sup>m</sup> 9             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 16 <sup>m</sup>                                                                                                                   |      |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 33 <sup>m</sup> |                         |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 28 <sup>m</sup> |       |                | Mag: +0.2<br>PMG: 7 <sup>h</sup> 14 <sup>m</sup> |                |      |     |      |
|     | hG ♈                                               |      | hG ♀                                                                                                                                                               | Dec  | hG ♂ | Dec                                               |                         | hG ♃          |                                                   | Dec   |                | hG ♄                                             |                | Dec  |     |      |
| h   | °                                                  | '    | °                                                                                                                                                                  | '    | °    | '                                                 | °                       | °             | '                                                 | °     | '              | °                                                | °              | '    | °   | '    |
| 0   | 9                                                  | 04.7 | 221                                                                                                                                                                | 05.2 | +13  | 01.8                                              | 186                     | 35.0          | -0                                                | 06.9  | 187            | 41.1                                             | +0             | 34.6 | 251 | 10.0 |
| 1   | 24                                                 | 07.1 | 236                                                                                                                                                                | 04.9 |      | 01.0                                              | 201                     | 35.9          |                                                   | 07.6  | 202            | 43.0                                             |                | 34.4 | 266 | 12.3 |
| 2   | 39                                                 | 09.6 | 251                                                                                                                                                                | 04.5 | +13  | 00.2                                              | 216                     | 36.9          |                                                   | 08.2  | 217            | 45.0                                             |                | 34.2 | 281 | 14.6 |
| 3   | 54                                                 | 12.1 | 266                                                                                                                                                                | 04.1 | +12  | 59.4                                              | 231                     | 37.9          |                                                   | 08.9  | 232            | 47.0                                             |                | 34.0 | 296 | 16.9 |
| 4   | 69                                                 | 14.5 | 281                                                                                                                                                                | 03.8 |      | 58.6                                              | 246                     | 38.9          |                                                   | 09.5  | 247            | 48.9                                             |                | 33.8 | 311 | 19.2 |
| 5   | 84                                                 | 17.0 | 296                                                                                                                                                                | 03.4 | +12  | 57.8                                              | 261                     | 39.9          | -0                                                | 10.2  | 262            | 50.9                                             | +0             | 33.5 | 326 | 21.4 |
| 6   | 99                                                 | 19.5 | 311                                                                                                                                                                | 03.0 | +12  | 56.9                                              | 276                     | 40.9          | -0                                                | 10.8  | 277            | 52.9                                             | +0             | 33.3 | 341 | 23.7 |
| 7   | 114                                                | 21.9 | 326                                                                                                                                                                | 02.6 |      | 56.1                                              | 291                     | 41.9          |                                                   | 11.5  | 292            | 54.8                                             |                | 33.1 | 356 | 26.0 |
| 8   | 129                                                | 24.4 | 341                                                                                                                                                                | 02.3 |      | 55.3                                              | 306                     | 42.8          |                                                   | 12.2  | 307            | 56.8                                             |                | 32.9 | 11  | 28.3 |
| 9   | 144                                                | 26.8 | 356                                                                                                                                                                | 01.9 |      | 54.5                                              | 321                     | 43.8          |                                                   | 12.8  | 322            | 58.8                                             |                | 32.7 | 26  | 30.6 |
| 10  | 159                                                | 29.3 | 11                                                                                                                                                                 | 01.5 |      | 53.7                                              | 336                     | 44.8          |                                                   | 13.5  | 338            | 00.8                                             |                | 32.5 | 41  | 32.9 |
| 11  | 174                                                | 31.8 | 26                                                                                                                                                                 | 01.2 | +12  | 52.8                                              | 351                     | 45.8          | -0                                                | 14.1  | 353            | 02.7                                             | +0             | 32.3 | 56  | 35.2 |
| 12  | 189                                                | 34.2 | 41                                                                                                                                                                 | 00.8 | +12  | 52.0                                              | 6                       | 46.8          | -0                                                | 14.8  | 8              | 04.7                                             | +0             | 32.1 | 71  | 37.4 |
| 13  | 204                                                | 36.7 | 56                                                                                                                                                                 | 00.4 |      | 51.2                                              | 21                      | 47.8          |                                                   | 15.4  | 23             | 06.7                                             |                | 31.8 | 86  | 39.7 |
| 14  | 219                                                | 39.2 | 71                                                                                                                                                                 | 00.1 |      | 50.4                                              | 36                      | 48.8          |                                                   | 16.1  | 38             | 08.6                                             |                | 31.6 | 101 | 42.0 |
| 15  | 234                                                | 41.6 | 85                                                                                                                                                                 | 59.7 |      | 49.6                                              | 51                      | 49.7          |                                                   | 16.7  | 53             | 10.6                                             |                | 31.4 | 116 | 44.3 |
| 16  | 249                                                | 44.1 | 100                                                                                                                                                                | 59.3 |      | 48.7                                              | 66                      | 50.7          |                                                   | 17.4  | 68             | 12.6                                             |                | 31.2 | 131 | 46.6 |
| 17  | 264                                                | 46.6 | 115                                                                                                                                                                | 59.0 | +12  | 47.9                                              | 81                      | 51.7          | -0                                                | 18.1  | 83             | 14.5                                             | +0             | 31.0 | 146 | 48.9 |
| 18  | 279                                                | 49.0 | 130                                                                                                                                                                | 58.6 | +12  | 47.1                                              | 96                      | 52.7          | -0                                                | 18.7  | 98             | 16.5                                             | +0             | 30.8 | 161 | 51.2 |
| 19  | 294                                                | 51.5 | 145                                                                                                                                                                | 58.2 |      | 46.3                                              | 111                     | 53.7          |                                                   | 19.4  | 113            | 18.5                                             |                | 30.6 | 176 | 53.4 |
| 20  | 309                                                | 54.0 | 160                                                                                                                                                                | 57.8 |      | 45.4                                              | 126                     | 54.7          |                                                   | 20.0  | 128            | 20.4                                             |                | 30.3 | 191 | 55.7 |
| 21  | 324                                                | 56.4 | 175                                                                                                                                                                | 57.5 |      | 44.6                                              | 141                     | 55.7          |                                                   | 20.7  | 143            | 22.4                                             |                | 30.1 | 206 | 58.0 |
| 22  | 339                                                | 58.9 | 190                                                                                                                                                                | 57.1 |      | 43.8                                              | 156                     | 56.6          |                                                   | 21.3  | 158            | 24.4                                             |                | 29.9 | 222 | 00.3 |
| 23  | 355                                                | 01.3 | 205                                                                                                                                                                | 56.7 |      | 42.9                                              | 171                     | 57.6          |                                                   | 22.0  | 173            | 26.4                                             |                | 29.7 | 237 | 02.6 |
| 24  | 10                                                 | 03.8 | 220                                                                                                                                                                | 56.4 | +12  | 42.1                                              | 186                     | 58.6          | -0                                                | 22.6  | 188            | 28.3                                             | +0             | 29.5 | 252 | 04.9 |
| Dif | —                                                  |      | -4                                                                                                                                                                 |      | -8   |                                                   | +10                     |               | -7                                                |       | +20            |                                                  | -2             |      | +23 |      |
|     |                                                    |      |                                                                                                                                                                    |      |      |                                                   |                         |               |                                                   |       |                |                                                  |                |      | 0   |      |

| UT  | SOL                                                |      |                                                  | LUNA                                                                                                                                                               |                     |                                                   |      |         | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |          | Puesta de Luna |   |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|------|---------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|----------|----------------|---|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> 5 |      |                                                  | Edad: 16 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 55'9<br>12 <sup>h</sup> : 55'7<br>20 <sup>h</sup> : 55'5<br>PMG: 1 <sup>h</sup> 44 <sup>m</sup> R°: 46 <sup>m</sup> |                     |                                                   |      |         |                                                   |                          |         |                                                  |                |          |                |   |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                               | Dif                 | Dec                                               | Dif  | Náutico |                                                   | Civil                    | Hora    |                                                  | R°             | Hora     | R°             |   |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                  | '                   | °                                                 | '    | °       | h                                                 | m                        | h       | m                                                | h              | m        | h              | m |
| 0   | 182                                                | 34.6 | -3 14.0                                          | 334                                                                                                                                                                | 49.4                | +14 35.1                                          | 130  | 60 N    | 4 36                                              | 5 25                     | 6 06    | 17 56                                            | 3              | 10 03    | 94             |   |
| 1   | 197                                                | 34.8 | 15.0                                             | 349                                                                                                                                                                | 21.9 <sup>135</sup> | +14 48.1                                          | 130  | 58      | 40                                                | 26                       | 05      | 18 08                                            | 8              | 9 52     | 89             |   |
| 2   | 212                                                | 35.0 | 16.0                                             | 3                                                                                                                                                                  | 54.3 <sup>134</sup> | +15 01.1                                          | 130  | 56      | 43                                                | 26                       | 03      | 18 12                                            |                | 43       | 84             |   |
| 3   | 227                                                | 35.2 | 16.9                                             | 18                                                                                                                                                                 | 26.7 <sup>134</sup> | 13.9                                              | 128  | 54      | 46                                                | 27                       | 02      | 27 16                                            |                | 34       | 81             |   |
| 4   | 242                                                | 35.4 | 17.9                                             | 32                                                                                                                                                                 | 59.0 <sup>133</sup> | 26.7                                              | 128  | 52      | 48                                                | 28                       | 01      | 35 19                                            |                | 27       | 78             |   |
| 5   | 257                                                | 35.6 | -3 18.9                                          | 47                                                                                                                                                                 | 31.3 <sup>133</sup> | +15 39.3                                          | 126  | 50      | 4 51                                              | 5 28                     | 6 00    | 18 43                                            | 21             | 9 20     | 75             |   |
| 6   | 272                                                | 35.8 | -3 19.8                                          | 62                                                                                                                                                                 | 03.6 <sup>133</sup> | +15 51.9                                          | 126  | 45      | 4 55                                              | 5 29                     | 5 58    | 18 59                                            | 26             | 9 06     | 70             |   |
| 7   | 287                                                | 36.0 | 20.8                                             | 76                                                                                                                                                                 | 35.9 <sup>133</sup> | +16 04.5                                          | 126  | 40      | 4 58                                              | 29                       | 56      | 19 12                                            | 30             | 8 54     | 66             |   |
| 8   | 302                                                | 36.2 | 21.8                                             | 91                                                                                                                                                                 | 08.1 <sup>132</sup> | 16.9                                              | 124  | 35      | 5 00                                              | 30                       | 55      | 23 33                                            |                | 44       | 62             |   |
| 9   | 317                                                | 36.4 | 22.7                                             | 105                                                                                                                                                                | 40.3 <sup>132</sup> | 29.3                                              | 124  | 30      | 02                                                | 30                       | 53      | 33 36                                            |                | 35       | 60             |   |
| 10  | 332                                                | 36.6 | 23.7                                             | 120                                                                                                                                                                | 12.4 <sup>131</sup> | 41.5                                              | 122  | 20      | 03                                                | 29                       | 51      | 19 50                                            | 40             | 20       | 55             |   |
| 11  | 347                                                | 36.8 | -3 24.7                                          | 134                                                                                                                                                                | 44.5 <sup>131</sup> | +16 53.7                                          | 122  | 10 N    | 5 03                                              | 5 28                     | 5 49    | 20 05                                            | 44             | 8 07     | 51             |   |
| 12  | 2                                                  | 37.0 | -3 25.6                                          | 149                                                                                                                                                                | 16.6 <sup>131</sup> | +17 05.8                                          | 121  | 0       | 5 02                                              | 5 26                     | 5 46    | 20 19                                            | 47             | 7 55     | 47             |   |
| 13  | 17                                                 | 37.2 | 26.6                                             | 163                                                                                                                                                                | 48.7 <sup>131</sup> | 17.8                                              | 120  | 10 S    | 4 58                                              | 23                       | 44      | 33 51                                            |                | 43       | 43             |   |
| 14  | 32                                                 | 37.4 | 27.6                                             | 178                                                                                                                                                                | 20.7 <sup>130</sup> | 29.7                                              | 119  | 20      | 53                                                | 19                       | 41      | 20 48                                            | 55             | 30       | 39             |   |
| 15  | 47                                                 | 37.6 | 28.6                                             | 192                                                                                                                                                                | 52.7 <sup>130</sup> | 41.6                                              | 119  | 30      | 46                                                | 14                       | 38      | 21 06                                            | 59             | 15       | 34             |   |
| 16  | 62                                                 | 37.8 | 29.5                                             | 207                                                                                                                                                                | 24.6 <sup>129</sup> | +17 53.3                                          | 117  | 35      | 41                                                | 11                       | 36      | 16 62                                            |                | 7 07     | 31             |   |
| 17  | 77                                                 | 38.0 | -3 30.5                                          | 221                                                                                                                                                                | 56.5 <sup>129</sup> | +18 05.0                                          | 117  | 40      | 4 35                                              | 5 07                     | 5 34    | 21 28                                            | 65             | 6 57     | 28             |   |
| 18  | 92                                                 | 38.2 | -3 31.5                                          | 236                                                                                                                                                                | 28.4 <sup>129</sup> | +18 16.5                                          | 115  | 45      | 4 27                                              | 5 02                     | 5 32    | 21 42                                            | 69             | 6 46     | 24             |   |
| 19  | 107                                                | 38.4 | 32.4                                             | 251                                                                                                                                                                | 00.2 <sup>128</sup> | 28.0                                              | 115  | 50      | 17                                                | 4 56                     | 29      | 21 59                                            | 75             | 32       | 19             |   |
| 20  | 122                                                | 38.6 | 33.4                                             | 265                                                                                                                                                                | 32.0 <sup>128</sup> | 39.4                                              | 114  | 52      | 12                                                | 53                       | 27      | 22 08                                            | 76             | 26       | 16             |   |
| 21  | 137                                                | 38.8 | 34.4                                             | 280                                                                                                                                                                | 03.7 <sup>127</sup> | +18 50.6                                          | 112  | 54      | 07                                                | 50                       | 26      | 17 80                                            |                | 19       | 14             |   |
| 22  | 152                                                | 39.0 | 35.3                                             | 294                                                                                                                                                                | 35.4 <sup>127</sup> | +19 01.8                                          | 112  | 56      | 4 01                                              | 46                       | 24      | 27 84                                            |                | 11       | 11             |   |
| 23  | 167                                                | 39.2 | 36.3                                             | 309                                                                                                                                                                | 07.1 <sup>127</sup> | 12.9                                              | 111  | 58      | 3 54                                              | 42                       | 22      | 39 88                                            |                | 6 03     | 6              |   |
| 24  | 182                                                | 39.4 | -3 37.3                                          | 323                                                                                                                                                                | 38.7 <sup>126</sup> | +19 23.9                                          | 110  | 60 S    | 3 45                                              | 4 38                     | 5 20    | 22 53                                            | 94             | 5 53     | 2              |   |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                    |                     | MARTE                                             |      |         | JÚPITER                                           |                          |         | SATURNO                                          |                |          |                |   |
|     | PMG: 23 <sup>h</sup> 15 <sup>m</sup> 9             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 16 <sup>m</sup> |                                                                                                                                                                    |                     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 31 <sup>m</sup> |      |         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 25 <sup>m</sup> |                          |         | Mag: +0.2<br>PMG: 7 <sup>h</sup> 11 <sup>m</sup> |                |          |                |   |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                |                     | hG ♂                                              | Dec  |         | hG ♃                                              | Dec                      |         | hG ♄                                             | Dec            |          |                |   |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                  | '                   | °                                                 | '    | °       | °                                                 | '                        | °       | °                                                | '              | °        | '              |   |
| 0   | 10                                                 | 03.8 | 220                                              | 56.4                                                                                                                                                               | +12 42.1            | 186                                               | 58.6 | -0 22.6 | 188                                               | 28.3                     | +0 29.5 | 252                                              | 04.9           | +20 47.6 |                |   |
| 1   | 25                                                 | 06.3 | 235                                              | 56.0                                                                                                                                                               | 41.3                | 201                                               | 59.6 | 23.3    | 203                                               | 30.3                     | 29.3    | 267                                              | 07.2           | 47.5     |                |   |
| 2   | 40                                                 | 08.7 | 250                                              | 55.6                                                                                                                                                               | 40.4                | 217                                               | 00.6 | 24.0    | 218                                               | 32.3                     | 29.1    | 282                                              | 09.5           | 47.5     |                |   |
| 3   | 55                                                 | 11.2 | 265                                              | 55.3                                                                                                                                                               | 39.6                | 232                                               | 01.6 | 24.6    | 233                                               | 34.2                     | 28.9    | 297                                              | 11.7           | 47.5     |                |   |
| 4   | 70                                                 | 13.7 | 280                                              | 54.9                                                                                                                                                               | 38.8                | 247                                               | 02.5 | 25.3    | 248                                               | 36.2                     | 28.6    | 312                                              | 14.0           | 47.5     |                |   |
| 5   | 85                                                 | 16.1 | 295                                              | 54.5                                                                                                                                                               | +12 38.0            | 262                                               | 03.5 | -0 25.9 | 263                                               | 38.2                     | +0 28.4 | 327                                              | 16.3           | +20 47.4 |                |   |
| 6   | 100                                                | 18.6 | 310                                              | 54.2                                                                                                                                                               | +12 37.1            | 277                                               | 04.5 | -0 26.6 | 278                                               | 40.1                     | +0 28.2 | 342                                              | 18.6           | +20 47.4 |                |   |
| 7   | 115                                                | 21.1 | 325                                              | 53.8                                                                                                                                                               | 36.3                | 292                                               | 05.5 | 27.2    | 293                                               | 42.1                     | 28.0    | 357                                              | 20.9           | 47.4     |                |   |
| 8   | 130                                                | 23.5 | 340                                              | 53.4                                                                                                                                                               | 35.4                | 307                                               | 06.5 | 27.9    | 308                                               | 44.1                     | 27.8    | 12                                               | 23.2           | 47.3     |                |   |
| 9   | 145                                                | 26.0 | 355                                              | 53.1                                                                                                                                                               | 34.6                | 322                                               | 07.5 | 28.5    | 323                                               | 46.0                     | 27.6    | 27                                               | 25.5           | 47.3     |                |   |
| 10  | 160                                                | 28.4 | 10                                               | 52.7                                                                                                                                                               | 33.8                | 337                                               | 08.5 | 29.2    | 338                                               | 48.0                     | 27.4    | 42                                               | 27.8           | 47.3     |                |   |
| 11  | 175                                                | 30.9 | 25                                               | 52.3                                                                                                                                                               | +12 32.9            | 352                                               | 09.4 | -0 29.9 | 353                                               | 50.0                     | +0 27.2 | 57                                               | 30.1           | +20 47.3 |                |   |
| 12  | 190                                                | 33.4 | 40                                               | 52.0                                                                                                                                                               | +12 32.1            | 7                                                 | 10.4 | -0 30.5 | 8                                                 | 52.0                     | +0 26.9 | 72                                               | 32.4           | +20 47.2 |                |   |
| 13  | 205                                                | 35.8 | 55                                               | 51.6                                                                                                                                                               | 31.3                | 22                                                | 11.4 | 31.2    | 23                                                | 53.9                     | 26.7    | 87                                               | 34.6           | 47.2     |                |   |
| 14  | 220                                                | 38.3 | 70                                               | 51.2                                                                                                                                                               | 30.4                | 37                                                | 12.4 | 31.8    | 38                                                | 55.9                     | 26.5    | 102                                              | 36.9           | 47.2     |                |   |
| 15  | 235                                                | 40.8 | 85                                               | 50.9                                                                                                                                                               | 29.6                | 52                                                | 13.4 | 32.5    | 53                                                | 57.9                     | 26.3    | 117                                              | 39.2           | 47.2     |                |   |
| 16  | 250                                                | 43.2 | 100                                              | 50.5                                                                                                                                                               | 28.7                | 67                                                | 14.4 | 33.1    | 68                                                | 59.8                     | 26.1    | 132                                              | 41.5           | 47.1     |                |   |
| 17  | 265                                                | 45.7 | 115                                              | 50.1                                                                                                                                                               | +12 27.9            | 82                                                | 15.3 | -0 33.8 | 84                                                | 01.8                     | +0 25.9 | 147                                              | 43.8           | +20 47.1 |                |   |
| 18  | 280                                                | 48.2 | 130                                              | 49.8                                                                                                                                                               | +12 27.1            | 97                                                | 16.3 | -0 34.4 | 99                                                | 03.8                     | +0 25.7 | 162                                              | 46.1           | +20 47.1 |                |   |
| 19  | 295                                                | 50.6 | 145                                              | 49.4                                                                                                                                                               | 26.2                | 112                                               | 17.3 | 35.1    | 114                                               | 05.7                     | 25.5    | 177                                              | 48.4           | 47.0     |                |   |
| 20  | 310                                                | 53.1 | 160                                              | 49.0                                                                                                                                                               | 25.4                | 127                                               | 18.3 | 35.7    | 129                                               | 07.7                     | 25.2    | 192                                              | 50.7           | 47.0     |                |   |
| 21  | 325                                                | 55.6 | 175                                              | 48.7                                                                                                                                                               | 24.5                | 142                                               | 19.3 | 36.4    | 144                                               | 09.7                     | 25.0    | 207                                              | 53.0           | 47.0     |                |   |
| 22  | 340                                                | 58.0 | 190                                              | 48.3                                                                                                                                                               | 23.7                | 157                                               | 20.3 | 37.1    | 159                                               | 11.6                     | 24.8    | 222                                              | 55.3           | 47.0     |                |   |
| 23  | 356                                                | 00.5 | 205                                              | 47.9                                                                                                                                                               | 22.8                | 172                                               | 21.2 | 37.7    | 174                                               | 13.6                     | 24.6    | 237                                              | 57.6           | 46.9     |                |   |
| 24  | 11                                                 | 02.9 | 220                                              | 47.6                                                                                                                                                               | +12 22.0            | 187                                               | 22.2 | -0 38.4 | 189                                               | 15.6                     | +0 24.4 | 252                                              | 59.8           | +20 46.9 |                |   |
| Dif | —                                                  |      | -4 -8                                            |                                                                                                                                                                    |                     | +10 -7                                            |      |         | +20 -2                                            |                          |         | +23 0                                            |                |          | 0              |   |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                           |                         |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                              |          | Salida de Luna                                   |          | Puesta de Luna |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|----------------------------------------------------------------------------------|-------------------------|---------------------------------------------------|----------|---------------|---------------------------------------------------|----------|--------------------------------------------------|----------|----------------|------|
|     | SD: 16:0<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> 2 |      |                                                  | Edad: 17 <sup>d</sup> 4 PHE {<br>SD: 15:1<br>PMG: 2 <sup>h</sup> 30 <sup>m</sup> |                         |                                                   |          |               |                                                   |          |                                                  |          |                |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                             | Dif                     | Dec                                               |          |               | Dif                                               | Civil    | Náutico                                          | Hora     | Rº             | Hora |
| h   | °                                                  | '    | °                                                | '                                                                                | °                       | '                                                 | °        | h m           | h m                                               | h m      | h m m                                            | h m m    | h m m          |      |
| 0   | 182                                                | 39.4 | -3 37.3                                          | 323                                                                              | 38.7                    | +19 23.9                                          | 60 N     | 17 29         | 18 10                                             | 18 58    | 17 59 7                                          | 11 37 94 |                |      |
| 1   | 197                                                | 39.6 |                                                  | 338                                                                              | 10.3 <sup>126</sup>     | 34.8 <sup>109</sup>                               | 58       | 30            | 09                                                | 55       | 18 16 14                                         | 21 87    |                |      |
| 2   | 212                                                | 39.8 |                                                  | 352                                                                              | 41.8 <sup>125</sup>     | 45.6 <sup>108</sup>                               | 56       | 32            | 09                                                | 52       | 30 19                                            | 11 07 82 |                |      |
| 3   | 227                                                | 40.0 |                                                  | 7                                                                                | 13.3 <sup>125</sup>     | +19 56.3 <sup>107</sup>                           | 54       | 33            | 08                                                | 49       | 43 22                                            | 10 55 78 |                |      |
| 4   | 242                                                | 40.2 |                                                  | 21                                                                               | 44.8 <sup>125</sup>     | +20 06.9 <sup>106</sup>                           | 52       | 35            | 08                                                | 47       | 18 54 25                                         | 45 75    |                |      |
| 5   | 257                                                | 40.4 | -3 42.1                                          | 36                                                                               | 16.2 <sup>124</sup>     | +20 17.4 <sup>105</sup>                           | 50       | 17 36         | 18 08                                             | 18 45    | 19 04 28                                         | 10 35 73 |                |      |
| 6   | 272                                                | 40.6 | -3 43.1                                          | 50                                                                               | 47.6 <sup>124</sup>     | +20 27.8 <sup>104</sup>                           | 45       | 17 38         | 18 07                                             | 18 41    | 19 25 32                                         | 10 16 67 |                |      |
| 7   | 287                                                | 40.8 |                                                  | 65                                                                               | 18.9 <sup>123</sup>     | 38.1 <sup>103</sup>                               | 40       | 40            | 07                                                | 39       | 42 35                                            | 10 00 64 |                |      |
| 8   | 302                                                | 41.0 |                                                  | 79                                                                               | 50.2 <sup>123</sup>     | 48.3 <sup>102</sup>                               | 35       | 42            | 07                                                | 37       | 19 56 38                                         | 9 46 62  |                |      |
| 9   | 317                                                | 41.2 |                                                  | 94                                                                               | 21.5 <sup>123</sup>     | +20 58.4 <sup>101</sup>                           | 30       | 44            | 08                                                | 36       | 20 09 40                                         | 35 58    |                |      |
| 10  | 332                                                | 41.4 |                                                  | 108                                                                              | 52.7 <sup>122</sup>     | +21 08.4 <sup>100</sup>                           | 20       | 47            | 09                                                | 35       | 30 44                                            | 9 15 55  |                |      |
| 11  | 347                                                | 41.6 | -3 47.9                                          | 123                                                                              | 23.8 <sup>121</sup>     | +21 18.3 <sup>99</sup>                            | 10 N     | 17 50         | 18 11                                             | 18 35    | 20 49 46                                         | 8 58 51  |                |      |
| 12  | 2                                                  | 41.8 | -3 48.9                                          | 137                                                                              | 54.9 <sup>121</sup>     | +21 28.1 <sup>98</sup>                            | 0        | 17 52         | 18 13                                             | 18 37    | 21 06 50                                         | 8 42 48  |                |      |
| 13  | 17                                                 | 42.0 |                                                  | 152                                                                              | 26.0 <sup>121</sup>     | 37.8 <sup>97</sup>                                | 10 S     | 55            | 16                                                | 41       | 24 52                                            | 26 45    |                |      |
| 14  | 32                                                 | 42.2 |                                                  | 50.8                                                                             | 166 57.1 <sup>121</sup> | 47.4 <sup>96</sup>                                | 20       | 17 58         | 20                                                | 46       | 21 43 55                                         | 8 09 42  |                |      |
| 15  | 47                                                 | 42.4 |                                                  | 51.8                                                                             | 181 28.1 <sup>120</sup> | +21 56.8 <sup>94</sup>                            | 30       | 18 02         | 26                                                | 18 54    | 22 05 59                                         | 7 49 38  |                |      |
| 16  | 62                                                 | 42.5 |                                                  | 52.7                                                                             | 195 59.0 <sup>119</sup> | +22 06.2 <sup>94</sup>                            | 35       | 04            | 30                                                | 19 00    | 18 61                                            | 38 35    |                |      |
| 17  | 77                                                 | 42.7 | -3 53.7                                          | 210                                                                              | 29.9 <sup>119</sup>     | +22 15.4 <sup>92</sup>                            | 40       | 18 07         | 18 34                                             | 19 06    | 22 33 63                                         | 7 25 33  |                |      |
| 18  | 92                                                 | 42.9 | -3 54.7                                          | 225                                                                              | 00.8 <sup>119</sup>     | +22 24.6 <sup>92</sup>                            | 45       | 18 10         | 18 39                                             | 19 14    | 22 51 66                                         | 7 10 29  |                |      |
| 19  | 107                                                | 43.1 |                                                  | 55.6                                                                             | 239 31.6 <sup>118</sup> | 33.6 <sup>90</sup>                                | 50       | 13            | 46                                                | 25       | 23 14 70                                         | 6 51 24  |                |      |
| 20  | 122                                                | 43.3 |                                                  | 56.6                                                                             | 254 02.4 <sup>118</sup> | 42.5 <sup>89</sup>                                | 52       | 15            | 49                                                | 30       | 24 73                                            | 42 22    |                |      |
| 21  | 137                                                | 43.5 |                                                  | 57.6                                                                             | 268 33.1 <sup>117</sup> | +22 51.3 <sup>88</sup>                            | 54       | 16            | 52                                                | 36       | 37 75                                            | 33 18    |                |      |
| 22  | 152                                                | 43.7 |                                                  | 58.5                                                                             | 283 03.8 <sup>117</sup> | +23 00.0 <sup>87</sup>                            | 56       | 18            | 18 56                                             | 42       | 23 51 79                                         | 22 15    |                |      |
| 23  | 167                                                | 43.9 | -3 59.5                                          | 297                                                                              | 34.5 <sup>117</sup>     | +23 08.6 <sup>86</sup>                            | 58       | 21            | 19 01                                             | 50       | ** ** *                                          | 6 09 11  |                |      |
| 24  | 182                                                | 44.1 | -4 00.5                                          | 312                                                                              | 05.1 <sup>116</sup>     | +23 17.1 <sup>85</sup>                            | 60 S     | 18 23         | 19 06                                             | 19 59    | ** ** *                                          | 5 55 4   |                |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                  |                         | MARTE                                             |          |               | JÚPITER                                           |          | SATURNO                                          |          |                |      |
|     | PMG: 23 <sup>h</sup> 12 <sup>m</sup> 0             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 17 <sup>m</sup> |                                                                                  |                         | Mag: +1.7<br>PMG: 11 <sup>h</sup> 30 <sup>m</sup> |          |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 21 <sup>m</sup> |          | Mag: +0.2<br>PMG: 7 <sup>h</sup> 07 <sup>m</sup> |          |                |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                              |                         | hG ♂                                              | Dec      |               | hG ♃                                              | Dec      | hG ♄                                             | Dec      |                |      |
| h   | °                                                  | '    | °                                                | '                                                                                | °                       | '                                                 | °        | '             | °                                                 | '        | °                                                | '        |                |      |
| 0   | 11                                                 | 02.9 | 220 47.6                                         | +12 22.0                                                                         | 187 22.2                | -0 38.4                                           | 189 15.6 | +0 24.4       | 252 59.8                                          | +20 46.9 |                                                  |          |                |      |
| 1   | 26                                                 | 05.4 | 235 47.2                                         | 21.1                                                                             | 202 23.2                | 39.0                                              | 204 17.6 | 24.2          | 268 02.1                                          | 46.9     |                                                  |          |                |      |
| 2   | 41                                                 | 07.9 | 250 46.8                                         | 20.3                                                                             | 217 24.2                | 39.7                                              | 219 19.5 | 24.0          | 283 04.4                                          | 46.9     |                                                  |          |                |      |
| 3   | 56                                                 | 10.3 | 265 46.5                                         | 19.4                                                                             | 232 25.2                | 40.3                                              | 234 21.5 | 23.8          | 298 06.7                                          | 46.8     |                                                  |          |                |      |
| 4   | 71                                                 | 12.8 | 280 46.1                                         | 18.6                                                                             | 247 26.2                | 41.0                                              | 249 23.5 | 23.5          | 313 09.0                                          | 46.8     |                                                  |          |                |      |
| 5   | 86                                                 | 15.3 | 295 45.7                                         | +12 17.7                                                                         | 262 27.1                | -0 41.6                                           | 264 25.4 | +0 23.3       | 328 11.3                                          | +20 46.8 |                                                  |          |                |      |
| 6   | 101                                                | 17.7 | 310 45.4                                         | +12 16.9                                                                         | 277 28.1                | -0 42.3                                           | 279 27.4 | +0 23.1       | 343 13.6                                          | +20 46.7 |                                                  |          |                |      |
| 7   | 116                                                | 20.2 | 325 45.0                                         | 16.0                                                                             | 292 29.1                | 43.0                                              | 294 29.4 | 22.9          | 358 15.9                                          | 46.7     |                                                  |          |                |      |
| 8   | 131                                                | 22.7 | 340 44.6                                         | 15.2                                                                             | 307 30.1                | 43.6                                              | 309 31.3 | 22.7          | 13 18.2                                           | 46.7     |                                                  |          |                |      |
| 9   | 146                                                | 25.1 | 355 44.3                                         | 14.3                                                                             | 322 31.1                | 44.3                                              | 324 33.3 | 22.5          | 28 20.5                                           | 46.7     |                                                  |          |                |      |
| 10  | 161                                                | 27.6 | 10 43.9                                          | 13.5                                                                             | 337 32.1                | 44.9                                              | 339 35.3 | 22.3          | 43 22.8                                           | 46.6     |                                                  |          |                |      |
| 11  | 176                                                | 30.0 | 25 43.5                                          | +12 12.6                                                                         | 352 33.0                | -0 45.6                                           | 354 37.3 | +0 22.1       | 58 25.1                                           | +20 46.6 |                                                  |          |                |      |
| 12  | 191                                                | 32.5 | 40 43.2                                          | +12 11.8                                                                         | 7 34.0                  | -0 46.2                                           | 9 39.2   | +0 21.8       | 73 27.4                                           | +20 46.6 |                                                  |          |                |      |
| 13  | 206                                                | 35.0 | 55 42.8                                          | 10.9                                                                             | 22 35.0                 | 46.9                                              | 24 41.2  | 21.6          | 88 29.7                                           | 46.6     |                                                  |          |                |      |
| 14  | 221                                                | 37.4 | 70 42.4                                          | 10.1                                                                             | 37 36.0                 | 47.5                                              | 39 43.2  | 21.4          | 103 31.9                                          | 46.5     |                                                  |          |                |      |
| 15  | 236                                                | 39.9 | 85 42.1                                          | 09.2                                                                             | 52 37.0                 | 48.2                                              | 54 45.1  | 21.2          | 118 34.2                                          | 46.5     |                                                  |          |                |      |
| 16  | 251                                                | 42.4 | 100 41.7                                         | 08.4                                                                             | 67 38.0                 | 48.9                                              | 69 47.1  | 21.0          | 133 36.5                                          | 46.5     |                                                  |          |                |      |
| 17  | 266                                                | 44.8 | 115 41.3                                         | +12 07.5                                                                         | 82 38.9                 | -0 49.5                                           | 84 49.1  | +0 20.8       | 148 38.8                                          | +20 46.4 |                                                  |          |                |      |
| 18  | 281                                                | 47.3 | 130 41.0                                         | +12 06.6                                                                         | 97 39.9                 | -0 50.2                                           | 99 51.0  | +0 20.6       | 163 41.1                                          | +20 46.4 |                                                  |          |                |      |
| 19  | 296                                                | 49.8 | 145 40.6                                         | 05.8                                                                             | 112 40.9                | 50.8                                              | 114 53.0 | 20.4          | 178 43.4                                          | 46.4     |                                                  |          |                |      |
| 20  | 311                                                | 52.2 | 160 40.2                                         | 04.9                                                                             | 127 41.9                | 51.5                                              | 129 55.0 | 20.1          | 193 45.7                                          | 46.4     |                                                  |          |                |      |
| 21  | 326                                                | 54.7 | 175 39.9                                         | 04.1                                                                             | 142 42.9                | 52.1                                              | 144 57.0 | 19.9          | 208 48.0                                          | 46.3     |                                                  |          |                |      |
| 22  | 341                                                | 57.2 | 190 39.5                                         | 03.2                                                                             | 157 43.9                | 52.8                                              | 159 58.9 | 19.7          | 223 50.3                                          | 46.3     |                                                  |          |                |      |
| 23  | 356                                                | 59.6 | 205 39.2                                         | 02.3                                                                             | 172 44.8                | 53.4                                              | 175 00.9 | 19.5          | 238 52.6                                          | 46.3     |                                                  |          |                |      |
| 24  | 12                                                 | 02.1 | 220 38.8                                         | +12 01.5                                                                         | 187 45.8                | -0 54.1                                           | 190 02.9 | +0 19.3       | 253 54.9                                          | +20 46.3 |                                                  |          |                |      |
| Dif | —                                                  |      | -4                                               | -9                                                                               | +10                     | -7                                                | +20      | -2            | +23                                               |          |                                                  |          |                |      |

| UT | SOL                                    |      |         | LUNA                                                                                                    |      |          |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |
|----|----------------------------------------|------|---------|---------------------------------------------------------------------------------------------------------|------|----------|-----|------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|
|    | SD: 16'0                               |      |         | Edad: 18 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54'9<br>12 <sup>h</sup> : 54'7<br>20 <sup>h</sup> : 54'6 |      |          |     |      |         |                          |       |               |                |    |                |    |
|    | PMG: 11 <sup>h</sup> 48 <sup>m</sup> 9 |      |         | SD: 15'0<br>PMG: 3 <sup>h</sup> 18 <sup>m</sup> R°: 50 <sup>m</sup>                                     |      |          |     |      |         |                          |       |               |                |    |                |    |
|    | hG ☉                                   |      | Dec     | hG ☾                                                                                                    |      | Dif      | Dec | Dif  |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |
| h  | °                                      | '    | °       | °                                                                                                       | '    | °        | °   | '    | °       | h m                      | h m   | h m           | h m m          | m  | h m m          | m  |
| 0  | 182                                    | 44.1 | -4 00.5 | 312                                                                                                     | 05.1 | +23 17.1 | 84  | 17.1 | 60 N    | 4 41                     | 5 29  | 6 11          | 18 06          | 17 | 13 11          | 88 |
| 1  | 197                                    | 44.3 | 01.4    | 326                                                                                                     | 35.6 | 25.5     | 84  | 25.5 | 58      | 44                       | 30    | 09            | 30             | 25 | 12 48          | 80 |
| 2  | 212                                    | 44.5 | 02.4    | 341                                                                                                     | 06.2 | 33.7     | 82  | 33.7 | 56      | 47                       | 30    | 07            | 18 49          | 30 | 29             | 75 |
| 3  | 227                                    | 44.7 | 03.4    | 355                                                                                                     | 36.6 | 41.8     | 81  | 41.8 | 54      | 50                       | 31    | 06            | 19 05          | 33 | 13             | 72 |
| 4  | 242                                    | 44.9 | 04.3    | 10                                                                                                      | 07.1 | 49.8     | 80  | 49.8 | 52      | 52                       | 31    | 05            | 19             | 35 | 12 00          | 69 |
| 5  | 257                                    | 45.1 | -4 05.3 | 24                                                                                                      | 37.5 | +23 57.7 | 79  | 57.7 | 50      | 4 54                     | 5 31  | 6 03          | 19 32          | 36 | 11 48          | 67 |
| 6  | 272                                    | 45.3 | -4 06.3 | 39                                                                                                      | 07.8 | +24 05.5 | 78  | 05.5 | 45      | 4 57                     | 5 31  | 6 01          | 19 57          | 40 | 11 23          | 64 |
| 7  | 287                                    | 45.5 | 07.2    | 53                                                                                                      | 38.1 | 13.2     | 77  | 13.2 | 40      | 5 00                     | 31    | 5 58          | 20 17          | 42 | 11 04          | 61 |
| 8  | 302                                    | 45.7 | 08.2    | 68                                                                                                      | 08.4 | 20.7     | 75  | 20.7 | 35      | 02                       | 31    | 56            | 34             | 44 | 10 48          | 59 |
| 9  | 317                                    | 45.9 | 09.2    | 82                                                                                                      | 38.6 | 28.2     | 75  | 28.2 | 30      | 03                       | 31    | 55            | 20 49          | 45 | 33             | 58 |
| 10 | 332                                    | 46.1 | 10.1    | 97                                                                                                      | 08.8 | 35.5     | 73  | 35.5 | 20      | 04                       | 29    | 51            | 21 14          | 47 | 10 10          | 54 |
| 11 | 347                                    | 46.3 | -4 11.1 | 111                                                                                                     | 39.0 | +24 42.6 | 71  | 42.6 | 10 N    | 5 03                     | 5 27  | 5 48          | 21 35          | 50 | 9 49           | 52 |
| 12 | 2                                      | 46.5 | -4 12.1 | 126                                                                                                     | 09.1 | +24 49.7 | 71  | 49.7 | 0       | 5 01                     | 5 25  | 5 46          | 21 56          | 50 | 9 30           | 50 |
| 13 | 17                                     | 46.6 | 13.0    | 140                                                                                                     | 39.2 | +24 56.7 | 70  | 56.7 | 10 S    | 4 57                     | 22    | 43            | 22 16          | 52 | 9 11           | 48 |
| 14 | 32                                     | 46.8 | 14.0    | 155                                                                                                     | 09.2 | +25 03.5 | 68  | 03.5 | 20      | 52                       | 17    | 39            | 22 38          | 54 | 8 51           | 45 |
| 15 | 47                                     | 47.0 | 14.9    | 169                                                                                                     | 39.2 | 10.2     | 67  | 10.2 | 30      | 44                       | 12    | 36            | 23 04          | 56 | 27             | 43 |
| 16 | 62                                     | 47.2 | 15.9    | 184                                                                                                     | 09.2 | 16.8     | 66  | 16.8 | 35      | 38                       | 08    | 33            | 19             | 57 | 8 13           | 41 |
| 17 | 77                                     | 47.4 | -4 16.9 | 198                                                                                                     | 39.1 | +25 23.2 | 64  | 23.2 | 40      | 4 31                     | 5 04  | 5 31          | 23 36          | 59 | 7 58           | 38 |
| 18 | 92                                     | 47.6 | -4 17.8 | 213                                                                                                     | 09.0 | +25 29.6 | 64  | 29.6 | 45      | 4 23                     | 4 58  | 5 28          | 23 57          | 61 | 7 39           | 35 |
| 19 | 107                                    | 47.8 | 18.8    | 227                                                                                                     | 38.8 | 35.8     | 62  | 35.8 | 50      | 12                       | 52    | 24            | ** ** *        | ** | 15             | 32 |
| 20 | 122                                    | 48.0 | 19.8    | 242                                                                                                     | 08.6 | 41.9     | 61  | 41.9 | 52      | 07                       | 48    | 23            | ** ** *        | ** | 7 04           | 30 |
| 21 | 137                                    | 48.2 | 20.7    | 256                                                                                                     | 38.4 | 47.8     | 59  | 47.8 | 54      | 4 01                     | 45    | 21            | ** ** *        | ** | 6 51           | 27 |
| 22 | 152                                    | 48.4 | 21.7    | 271                                                                                                     | 08.1 | 53.7     | 59  | 53.7 | 56      | 3 55                     | 41    | 19            | ** ** *        | ** | 37             | 23 |
| 23 | 167                                    | 48.6 | 22.7    | 285                                                                                                     | 37.8 | +25 59.4 | 57  | 59.4 | 58      | 47                       | 36    | 16            | 0 07           | 85 | 6 20           | 18 |
| 24 | 182                                    | 48.8 | -4 23.6 | 300                                                                                                     | 07.5 | +26 04.9 | 55  | 04.9 | 60 S    | 3 38                     | 4 31  | 5 14          | 0 27           | 93 | 5 59           | 11 |

| UT  | ARIES                                  |      | VENUS                                            |          | MARTE                                             |         | JÚPITER                                           |         | SATURNO                                          |          |     |  |
|-----|----------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|---------|--------------------------------------------------|----------|-----|--|
|     | PMG: 23 <sup>h</sup> 08 <sup>m</sup> 1 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 18 <sup>m</sup> |          | Mag: +1.7<br>PMG: 11 <sup>h</sup> 28 <sup>m</sup> |         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 18 <sup>m</sup> |         | Mag: +0.2<br>PMG: 7 <sup>h</sup> 03 <sup>m</sup> |          |     |  |
|     | hG ♈                                   |      | hG ♀                                             |          | hG ♂                                              |         | hG ♃                                              |         | hG ♄                                             |          |     |  |
| h   | °                                      | '    | °                                                | °        | '                                                 | °       | °                                                 | '       | °                                                | °        | '   |  |
| 0   | 12                                     | 02.1 | 220 38.8                                         | +12 01.5 | 187 45.8                                          | -0 54.1 | 190 02.9                                          | +0 19.3 | 253 54.9                                         | +20 46.3 |     |  |
| 1   | 27                                     | 04.5 | 235 38.4                                         | +12 00.6 | 202 46.8                                          | 54.8    | 205 04.8                                          | 19.1    | 268 57.2                                         | 46.2     |     |  |
| 2   | 42                                     | 07.0 | 250 38.1                                         | +11 59.8 | 217 47.8                                          | 55.4    | 220 06.8                                          | 18.9    | 283 59.5                                         | 46.2     |     |  |
| 3   | 57                                     | 09.5 | 265 37.7                                         | 58.9     | 232 48.8                                          | 56.1    | 235 08.8                                          | 18.7    | 299 01.8                                         | 46.2     |     |  |
| 4   | 72                                     | 11.9 | 280 37.3                                         | 58.0     | 247 49.8                                          | 56.7    | 250 10.7                                          | 18.5    | 314 04.1                                         | 46.2     |     |  |
| 5   | 87                                     | 14.4 | 295 37.0                                         | +11 57.2 | 262 50.7                                          | -0 57.4 | 265 12.7                                          | +0 18.2 | 329 06.4                                         | +20 46.1 |     |  |
| 6   | 102                                    | 16.9 | 310 36.6                                         | +11 56.3 | 277 51.7                                          | -0 58.0 | 280 14.7                                          | +0 18.0 | 344 08.7                                         | +20 46.1 |     |  |
| 7   | 117                                    | 19.3 | 325 36.2                                         | 55.4     | 292 52.7                                          | 58.7    | 295 16.7                                          | 17.8    | 359 11.0                                         | 46.1     |     |  |
| 8   | 132                                    | 21.8 | 340 35.9                                         | 54.6     | 307 53.7                                          | -0 59.3 | 310 18.6                                          | 17.6    | 14 13.3                                          | 46.0     |     |  |
| 9   | 147                                    | 24.3 | 355 35.5                                         | 53.7     | 322 54.7                                          | -1 00.0 | 325 20.6                                          | 17.4    | 29 15.6                                          | 46.0     |     |  |
| 10  | 162                                    | 26.7 | 10 35.1                                          | 52.8     | 337 55.7                                          | -1 00.7 | 340 22.6                                          | 17.2    | 44 17.9                                          | 46.0     |     |  |
| 11  | 177                                    | 29.2 | 25 34.8                                          | +11 52.0 | 352 56.6                                          | -1 01.3 | 355 24.5                                          | +0 17.0 | 59 20.2                                          | +20 46.0 |     |  |
| 12  | 192                                    | 31.7 | 40 34.4                                          | +11 51.1 | 7 57.6                                            | -1 02.0 | 10 26.5                                           | +0 16.8 | 74 22.5                                          | +20 45.9 |     |  |
| 13  | 207                                    | 34.1 | 55 34.1                                          | 50.2     | 22 58.6                                           | 02.6    | 25 28.5                                           | 16.5    | 89 24.8                                          | 45.9     |     |  |
| 14  | 222                                    | 36.6 | 70 33.7                                          | 49.3     | 37 59.6                                           | 03.3    | 40 30.4                                           | 16.3    | 104 27.1                                         | 45.9     |     |  |
| 15  | 237                                    | 39.0 | 85 33.3                                          | 48.5     | 53 00.6                                           | 03.9    | 55 32.4                                           | 16.1    | 119 29.4                                         | 45.9     |     |  |
| 16  | 252                                    | 41.5 | 100 33.0                                         | 47.6     | 68 01.5                                           | 04.6    | 70 34.4                                           | 15.9    | 134 31.7                                         | 45.8     |     |  |
| 17  | 267                                    | 44.0 | 115 32.6                                         | +11 46.7 | 83 02.5                                           | -1 05.2 | 85 36.4                                           | +0 15.7 | 149 34.0                                         | +20 45.8 |     |  |
| 18  | 282                                    | 46.4 | 130 32.2                                         | +11 45.8 | 98 03.5                                           | -1 05.9 | 100 38.3                                          | +0 15.5 | 164 36.3                                         | +20 45.8 |     |  |
| 19  | 297                                    | 48.9 | 145 31.9                                         | 45.0     | 113 04.5                                          | 06.6    | 115 40.3                                          | 15.3    | 179 38.6                                         | 45.8     |     |  |
| 20  | 312                                    | 51.4 | 160 31.5                                         | 44.1     | 128 05.5                                          | 07.2    | 130 42.3                                          | 15.1    | 194 40.9                                         | 45.7     |     |  |
| 21  | 327                                    | 53.8 | 175 31.2                                         | 43.2     | 143 06.5                                          | 07.9    | 145 44.2                                          | 14.8    | 209 43.2                                         | 45.7     |     |  |
| 22  | 342                                    | 56.3 | 190 30.8                                         | 42.3     | 158 07.4                                          | 08.5    | 160 46.2                                          | 14.6    | 224 45.5                                         | 45.7     |     |  |
| 23  | 357                                    | 58.8 | 205 30.4                                         | 41.5     | 173 08.4                                          | 09.2    | 175 48.2                                          | 14.4    | 239 47.8                                         | 45.7     |     |  |
| 24  | 13                                     | 01.2 | 220 30.1                                         | +11 40.6 | 188 09.4                                          | -1 09.8 | 190 50.2                                          | +0 14.2 | 254 50.1                                         | +20 45.6 |     |  |
| Dif | —                                      |      | -4                                               | -9       | +10                                               |         | -7                                                | +20     |                                                  | -2       | +23 |  |



| UT  | SOL                                    |      |                                                  | LUNA                        |                                                                           |                                                   | Latitud            | Puesta de Sol | Final del crepúsculo                              |         | Salida de Luna      |                                                  | Puesta de Luna |      |
|-----|----------------------------------------|------|--------------------------------------------------|-----------------------------|---------------------------------------------------------------------------|---------------------------------------------------|--------------------|---------------|---------------------------------------------------|---------|---------------------|--------------------------------------------------|----------------|------|
|     | SD: 16'0                               |      |                                                  | Edad: 19 <sup>d</sup> 4 PHE | 4 <sup>h</sup> : 54'5<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'3 |                                                   |                    |               |                                                   |         |                     |                                                  |                |      |
|     | PMG: 11 <sup>h</sup> 48 <sup>m</sup> 6 |      |                                                  |                             | SD: 14'9                                                                  |                                                   |                    |               | PMG: 4 <sup>h</sup> 08 <sup>m</sup>               |         | R°: 51 <sup>m</sup> |                                                  |                |      |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                        | Dif                                                                       | Dec                                               | Dif                |               | Civil                                             | Náutico | Hora                | R°                                               | Hora           | R°   |
| h   | °                                      | '    | °                                                | °                           | '                                                                         | °                                                 | '                  | °             | h m                                               | h m     | h m                 | m                                                | h m            | m    |
| 0   | 182                                    | 48.8 | -4                                               | 300                         | 07.5                                                                      | +26                                               | 04.9               | 60 N          | 17 23                                             | 18 04   | 18 52               | 18 23 38                                         | 14 39 69       |      |
| 1   | 197                                    | 49.0 |                                                  | 314                         | 37.1 <sup>106</sup>                                                       |                                                   | 10.4 <sup>55</sup> | 58            | 25                                                | 04      | 49                  | 18 55 42                                         | 14 08 64       |      |
| 2   | 212                                    | 49.1 |                                                  | 329                         | 06.8 <sup>107</sup>                                                       |                                                   | 15.7 <sup>53</sup> | 56            | 27                                                | 04      | 47                  | 19 19 44                                         | 13 44 62       |      |
| 3   | 227                                    | 49.3 |                                                  | 343                         | 36.3 <sup>105</sup>                                                       |                                                   | 20.9 <sup>52</sup> | 54            | 28                                                | 04      | 45                  | 38 46                                            | 25 61          |      |
| 4   | 242                                    | 49.5 |                                                  | 358                         | 05.9 <sup>106</sup>                                                       |                                                   | 26.0 <sup>51</sup> | 52            | 30                                                | 04      | 43                  | 19 54 47                                         | 13 09 59       |      |
| 5   | 257                                    | 49.7 | -4                                               | 12                          | 35.4 <sup>105</sup>                                                       | +26                                               | 31.0 <sup>50</sup> | 50            | 17 31                                             | 18 04   | 18 41               | 20 08 47                                         | 12 55 59       |      |
| 6   | 272                                    | 49.9 | -4                                               | 27                          | 04.9 <sup>105</sup>                                                       | +26                                               | 35.8 <sup>48</sup> | 45            | 17 35                                             | 18 04   | 18 38               | 20 37 48                                         | 12 27 57       |      |
| 7   | 287                                    | 50.1 |                                                  | 41                          | 34.3 <sup>104</sup>                                                       |                                                   | 40.5 <sup>47</sup> | 40            | 37                                                | 04      | 35                  | 20 59 49                                         | 12 05 56       |      |
| 8   | 302                                    | 50.3 |                                                  | 56                          | 03.7 <sup>104</sup>                                                       |                                                   | 45.0 <sup>45</sup> | 35            | 39                                                | 05      | 34                  | 21 18 49                                         | 11 47 55       |      |
| 9   | 317                                    | 50.5 |                                                  | 70                          | 33.1 <sup>104</sup>                                                       |                                                   | 49.5 <sup>45</sup> | 30            | 42                                                | 05      | 33                  | 21 34 50                                         | 31 54          |      |
| 10  | 332                                    | 50.7 |                                                  | 85                          | 02.5 <sup>104</sup>                                                       |                                                   | 53.8 <sup>43</sup> | 20            | 45                                                | 07      | 33                  | 22 01 51                                         | 11 04 53       |      |
| 11  | 347                                    | 50.9 | -4                                               | 99                          | 31.8 <sup>103</sup>                                                       | +26                                               | 57.9 <sup>41</sup> | 10 N          | 17 49                                             | 18 10   | 18 34               | 22 25 51                                         | 10 41 53       |      |
| 12  | 2                                      | 51.1 | -4                                               | 114                         | 01.2 <sup>104</sup>                                                       | +27                                               | 02.0 <sup>41</sup> | 0             | 17 52                                             | 18 13   | 18 37               | 22 46 52                                         | 10 20 51       |      |
| 13  | 17                                     | 51.2 |                                                  | 128                         | 30.4 <sup>102</sup>                                                       |                                                   | 05.9 <sup>39</sup> | 10 S          | 55                                                | 16      | 41                  | 23 08 52                                         | 9 59 50        |      |
| 14  | 32                                     | 51.4 |                                                  | 142                         | 59.7 <sup>103</sup>                                                       |                                                   | 09.6 <sup>37</sup> | 20            | 17 59                                             | 21      | 47                  | 23 32 52                                         | 36 49          |      |
| 15  | 47                                     | 51.6 |                                                  | 157                         | 29.0 <sup>103</sup>                                                       |                                                   | 13.3 <sup>37</sup> | 30            | 18 03                                             | 27      | 18 56               | *** ** *                                         | 9 10 47        |      |
| 16  | 62                                     | 51.8 |                                                  | 171                         | 58.2 <sup>102</sup>                                                       |                                                   | 16.8 <sup>35</sup> | 35            | 06                                                | 31      | 19 01               | *** ** *                                         | 8 54 47        |      |
| 17  | 77                                     | 52.0 | -4                                               | 186                         | 27.4 <sup>102</sup>                                                       | +27                                               | 20.2 <sup>34</sup> | 40            | 18 09                                             | 18 36   | 19 08               | *** ** *                                         | 8 36 46        |      |
| 18  | 92                                     | 52.2 | -4                                               | 200                         | 56.6 <sup>102</sup>                                                       | +27                                               | 23.4 <sup>32</sup> | 45            | 18 12                                             | 18 42   | 19 17               | *** ** *                                         | 8 14 44        |      |
| 19  | 107                                    | 52.4 |                                                  | 215                         | 25.7 <sup>101</sup>                                                       |                                                   | 26.5 <sup>31</sup> | 50            | 16                                                | 49      | 29                  | 0 24 64                                          | 7 47 42        |      |
| 20  | 122                                    | 52.6 |                                                  | 229                         | 54.9 <sup>102</sup>                                                       |                                                   | 29.5 <sup>30</sup> | 52            | 18                                                | 52      | 34                  | 37 65                                            | 34 40          |      |
| 21  | 137                                    | 52.8 |                                                  | 244                         | 24.0 <sup>101</sup>                                                       |                                                   | 32.4 <sup>29</sup> | 54            | 20                                                | 18 56   | 40                  | 0 52 67                                          | 18 39          |      |
| 22  | 152                                    | 52.9 |                                                  | 258                         | 53.1 <sup>101</sup>                                                       |                                                   | 35.1 <sup>27</sup> | 56            | 22                                                | 19 01   | 47                  | 1 10 70                                          | 7 00 36        |      |
| 23  | 167                                    | 53.1 |                                                  | 273                         | 22.2 <sup>101</sup>                                                       |                                                   | 37.7 <sup>26</sup> | 58            | 25                                                | 05      | 19 55               | 1 32 73                                          | 6 38 32        |      |
| 24  | 182                                    | 53.3 | -4                                               | 287                         | 51.2 <sup>100</sup>                                                       | +27                                               | 40.1 <sup>24</sup> | 60 S          | 18 28                                             | 19 11   | 20 05               | 2 00 81                                          | 6 10 24        |      |
| UT  | ARIES                                  |      | VENUS                                            |                             |                                                                           | MARTE                                             |                    |               | JÚPITER                                           |         |                     | SATURNO                                          |                |      |
|     | PMG: 23 <sup>h</sup> 04 <sup>m</sup> 1 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 18 <sup>m</sup> |                             |                                                                           | Mag: +1.7<br>PMG: 11 <sup>h</sup> 27 <sup>m</sup> |                    |               | Mag: -1.7<br>PMG: 11 <sup>h</sup> 15 <sup>m</sup> |         |                     | Mag: +0.2<br>PMG: 7 <sup>h</sup> 00 <sup>m</sup> |                |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec                         |                                                                           | hG ♂                                              | Dec                |               | hG ♃                                              | Dec     |                     | hG ♄                                             | Dec            |      |
| h   | °                                      | '    | °                                                | °                           | '                                                                         | °                                                 | °                  | '             | °                                                 | °       | '                   | °                                                | °              | '    |
| 0   | 13                                     | 01.2 | 220                                              | 30.1                        | +11                                                                       | 40.6                                              | 188                | 09.4          | -1                                                | 09.8    | 190                 | 50.2                                             | +0             | 14.2 |
| 1   | 28                                     | 03.7 | 235                                              | 29.7                        |                                                                           | 39.7                                              | 203                | 10.4          |                                                   | 10.5    | 205                 | 52.1                                             |                | 14.0 |
| 2   | 43                                     | 06.2 | 250                                              | 29.3                        |                                                                           | 38.8                                              | 218                | 11.4          |                                                   | 11.1    | 220                 | 54.1                                             |                | 13.8 |
| 3   | 58                                     | 08.6 | 265                                              | 29.0                        |                                                                           | 38.0                                              | 233                | 12.3          |                                                   | 11.8    | 235                 | 56.1                                             |                | 13.6 |
| 4   | 73                                     | 11.1 | 280                                              | 28.6                        |                                                                           | 37.1                                              | 248                | 13.3          |                                                   | 12.5    | 250                 | 58.0                                             |                | 13.4 |
| 5   | 88                                     | 13.5 | 295                                              | 28.3                        | +11                                                                       | 36.2                                              | 263                | 14.3          | -1                                                | 13.1    | 266                 | 00.0                                             | +0             | 13.2 |
| 6   | 103                                    | 16.0 | 310                                              | 27.9                        | +11                                                                       | 35.3                                              | 278                | 15.3          | -1                                                | 13.8    | 281                 | 02.0                                             | +0             | 12.9 |
| 7   | 118                                    | 18.5 | 325                                              | 27.5                        |                                                                           | 34.4                                              | 293                | 16.3          |                                                   | 14.4    | 296                 | 03.9                                             |                | 12.7 |
| 8   | 133                                    | 20.9 | 340                                              | 27.2                        |                                                                           | 33.5                                              | 308                | 17.2          |                                                   | 15.1    | 311                 | 05.9                                             |                | 12.5 |
| 9   | 148                                    | 23.4 | 355                                              | 26.8                        |                                                                           | 32.7                                              | 323                | 18.2          |                                                   | 15.7    | 326                 | 07.9                                             |                | 12.3 |
| 10  | 163                                    | 25.9 | 10                                               | 26.4                        |                                                                           | 31.8                                              | 338                | 19.2          |                                                   | 16.4    | 341                 | 09.9                                             |                | 12.1 |
| 11  | 178                                    | 28.3 | 25                                               | 26.1                        | +11                                                                       | 30.9                                              | 353                | 20.2          | -1                                                | 17.0    | 356                 | 11.8                                             | +0             | 11.9 |
| 12  | 193                                    | 30.8 | 40                                               | 25.7                        | +11                                                                       | 30.0                                              | 8                  | 21.2          | -1                                                | 17.7    | 11                  | 13.8                                             | +0             | 11.7 |
| 13  | 208                                    | 33.3 | 55                                               | 25.4                        |                                                                           | 29.1                                              | 23                 | 22.2          |                                                   | 18.4    | 26                  | 15.8                                             |                | 11.5 |
| 14  | 223                                    | 35.7 | 70                                               | 25.0                        |                                                                           | 28.2                                              | 38                 | 23.1          |                                                   | 19.0    | 41                  | 17.7                                             |                | 11.2 |
| 15  | 238                                    | 38.2 | 85                                               | 24.6                        |                                                                           | 27.3                                              | 53                 | 24.1          |                                                   | 19.7    | 56                  | 19.7                                             |                | 11.0 |
| 16  | 253                                    | 40.6 | 100                                              | 24.3                        |                                                                           | 26.5                                              | 68                 | 25.1          |                                                   | 20.3    | 71                  | 21.7                                             |                | 10.8 |
| 17  | 268                                    | 43.1 | 115                                              | 23.9                        | +11                                                                       | 25.6                                              | 83                 | 26.1          | -1                                                | 21.0    | 86                  | 23.7                                             | +0             | 10.6 |
| 18  | 283                                    | 45.6 | 130                                              | 23.6                        | +11                                                                       | 24.7                                              | 98                 | 27.1          | -1                                                | 21.6    | 101                 | 25.6                                             | +0             | 10.4 |
| 19  | 298                                    | 48.0 | 145                                              | 23.2                        |                                                                           | 23.8                                              | 113                | 28.0          |                                                   | 22.3    | 116                 | 27.6                                             |                | 10.2 |
| 20  | 313                                    | 50.5 | 160                                              | 22.8                        |                                                                           | 22.9                                              | 128                | 29.0          |                                                   | 22.9    | 131                 | 29.6                                             |                | 10.0 |
| 21  | 328                                    | 53.0 | 175                                              | 22.5                        |                                                                           | 22.0                                              | 143                | 30.0          |                                                   | 23.6    | 146                 | 31.5                                             |                | 09.8 |
| 22  | 343                                    | 55.4 | 190                                              | 22.1                        |                                                                           | 21.1                                              | 158                | 31.0          |                                                   | 24.3    | 161                 | 33.5                                             |                | 09.6 |
| 23  | 358                                    | 57.9 | 205                                              | 21.8                        |                                                                           | 20.2                                              | 173                | 32.0          |                                                   | 24.9    | 176                 | 35.5                                             |                | 09.3 |
| 24  | 14                                     | 00.4 | 220                                              | 21.4                        | +11                                                                       | 19.3                                              | 188                | 32.9          | -1                                                | 25.6    | 191                 | 37.4                                             | +0             | 09.1 |
| Dif | —                                      |      | -4                                               | -9                          |                                                                           | +10                                               | -7                 |               | +20                                               | -2      |                     | +23                                              | 0              |      |

| UT | SOL                                    |      |         | LUNA                                                                                                     |      |              | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |          | Puesta de Luna |       |    |
|----|----------------------------------------|------|---------|----------------------------------------------------------------------------------------------------------|------|--------------|---------|--------------------------|---------|---------------|----------------|----------|----------------|-------|----|
|    | SD: 16'0                               |      |         | Edad: 20 <sup>d</sup> .4 PHE { 4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'2 |      |              |         |                          |         |               |                |          |                |       |    |
|    | PMG: 11 <sup>h</sup> 48 <sup>m</sup> 3 |      |         | SD: 14'8<br>PMG: 4 <sup>h</sup> 59 <sup>m</sup> R°: 51 <sup>m</sup>                                      |      |              |         |                          |         |               |                |          |                |       |    |
|    | hG ☉                                   | Dec  |         | hG ☾                                                                                                     | Dif  | Dec          | Dif     |                          | Náutico | Civil         |                | Hora     | R°             | Hora  | R° |
| h  | °                                      | '    | °       | °                                                                                                        | '    | °            | '       | °                        | h m     | h m           | h m            | h m m    |                | h m m |    |
| 0  | 182                                    | 53.3 | -4 46.7 | 287                                                                                                      | 51.2 | +27 40.1     | 23      | 60 N                     | 4 46    | 5 34          | 6 16           | 19 01 68 | 15 48 38       |       |    |
| 1  | 197                                    | 53.5 | 47.7    | 302                                                                                                      | 20.3 | 101 42.4     | 23      | 58                       | 49      | 34            | 13             | 19 37 64 | 15 12 43       |       |    |
| 2  | 212                                    | 53.7 | 48.7    | 316                                                                                                      | 49.3 | 100 44.6     | 22      | 56                       | 51      | 34            | 11             | 20 03 61 | 14 46 45       |       |    |
| 3  | 227                                    | 53.9 | 49.6    | 331                                                                                                      | 18.4 | 101 46.6     | 20      | 54                       | 53      | 34            | 10             | 24 60    | 26 46          |       |    |
| 4  | 242                                    | 54.1 | 50.6    | 345                                                                                                      | 47.4 | 100 48.6     | 20      | 52                       | 55      | 34            | 08             | 41 59    | 14 08 47       |       |    |
| 5  | 257                                    | 54.3 | -4 51.5 | 0                                                                                                        | 16.4 | 100 +27 50.3 | 17      | 50                       | 4 57    | 5 34          | 6 06           | 20 55 59 | 13 54 47       |       |    |
| 6  | 272                                    | 54.4 | -4 52.5 | 14                                                                                                       | 45.4 | 100 +27 52.0 | 17      | 45                       | 5 00    | 5 34          | 6 03           | 21 25 57 | 13 24 49       |       |    |
| 7  | 287                                    | 54.6 | 53.5    | 29                                                                                                       | 14.4 | 100 53.5     | 15      | 40                       | 02      | 33            | 6 00           | 21 48 56 | 13 01 49       |       |    |
| 8  | 302                                    | 54.8 | 54.4    | 43                                                                                                       | 43.4 | 100 54.8     | 13      | 35                       | 03      | 33            | 5 58           | 22 07 55 | 12 42 49       |       |    |
| 9  | 317                                    | 55.0 | 55.4    | 58                                                                                                       | 12.4 | 100 56.1     | 13      | 30                       | 04      | 32            | 56             | 24 54    | 12 25 50       |       |    |
| 10 | 332                                    | 55.2 | 56.3    | 72                                                                                                       | 41.3 | 99 57.2      | 11      | 20                       | 04      | 30            | 52             | 22 52 53 | 11 57 51       |       |    |
| 11 | 347                                    | 55.4 | -4 57.3 | 87                                                                                                       | 10.3 | 100 +27 58.1 | 9       | 10 N                     | 5 03    | 5 27          | 5 48           | 23 16 52 | 11 34 51       |       |    |
| 12 | 2                                      | 55.6 | -4 58.3 | 101                                                                                                      | 39.2 | 99 +27 59.0  | 9       | 0                        | 5 00    | 5 24          | 5 45           | 23 38 51 | 11 11 52       |       |    |
| 13 | 17                                     | 55.7 | -4 59.2 | 116                                                                                                      | 08.2 | 100 +27 59.7 | 7       | 10 S                     | 4 56    | 20            | 42             | ** ** *  | 10 49 52       |       |    |
| 14 | 32                                     | 55.9 | -5 00.2 | 130                                                                                                      | 37.2 | 100 +28 00.2 | 5       | 20                       | 50      | 16            | 38             | ** ** *  | 10 25 52       |       |    |
| 15 | 47                                     | 56.1 | 01.1    | 145                                                                                                      | 06.1 | 99 00.6      | 4       | 30                       | 41      | 09            | 33             | 0 00 52  | 9 57 53        |       |    |
| 16 | 62                                     | 56.3 | 02.1    | 159                                                                                                      | 35.1 | 100 00.9     | 3       | 35                       | 35      | 05            | 31             | 16 52    | 41 52          |       |    |
| 17 | 77                                     | 56.5 | -5 03.1 | 174                                                                                                      | 04.0 | 99 +28 01.1  | 2       | 40                       | 4 28    | 5 00          | 5 28           | 0 35 53  | 9 22 52        |       |    |
| 18 | 92                                     | 56.7 | -5 04.0 | 188                                                                                                      | 33.0 | 100 +28 01.1 | 0       | 45                       | 4 19    | 4 54          | 5 24           | 0 58 53  | 8 58 53        |       |    |
| 19 | 107                                    | 56.9 | 05.0    | 203                                                                                                      | 01.9 | 99 01.0      | 1       | 50                       | 08      | 47            | 20             | 1 28 53  | 29 52          |       |    |
| 20 | 122                                    | 57.0 | 05.9    | 217                                                                                                      | 30.9 | 100 00.7     | 3       | 52                       | 4 02    | 44            | 18             | 42 53    | 8 14 53        |       |    |
| 21 | 137                                    | 57.2 | 06.9    | 231                                                                                                      | 59.9 | 100 +28 00.3 | 4       | 54                       | 3 56    | 40            | 16             | 1 59 54  | 7 57 53        |       |    |
| 22 | 152                                    | 57.4 | 07.9    | 246                                                                                                      | 28.8 | 99 +27 59.8  | 5       | 56                       | 49      | 35            | 13             | 2 20 53  | 36 53          |       |    |
| 23 | 167                                    | 57.6 | 08.8    | 260                                                                                                      | 57.8 | 100 59.2     | 6       | 58                       | 41      | 30            | 11             | 2 45 54  | 7 10 53        |       |    |
| 24 | 182                                    | 57.8 | -5 09.8 | 275                                                                                                      | 26.8 | 100 +27 58.4 | 8       | 60 S                     | 3 31    | 4 25          | 5 08           | 3 21 54  | 6 34 54        |       |    |

| UT  | ARIES                                  |      | VENUS                                            |          | MARTE                                             |         | JÚPITER                                           |         | SATURNO                                          |          |
|-----|----------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|---------|--------------------------------------------------|----------|
|     | PMG: 23 <sup>h</sup> 00 <sup>m</sup> 2 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 19 <sup>m</sup> |          | Mag: +1.7<br>PMG: 11 <sup>h</sup> 25 <sup>m</sup> |         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 12 <sup>m</sup> |         | Mag: +0.2<br>PMG: 6 <sup>h</sup> 56 <sup>m</sup> |          |
|     | hG ♈                                   |      | hG ♀                                             | Dec      | hG ♂                                              | Dec     | hG ♃                                              | Dec     | hG ♄                                             | Dec      |
| h   | °                                      | '    | °                                                | '        | °                                                 | '       | °                                                 | '       | °                                                | '        |
| 0   | 14                                     | 00.4 | 220 21.4                                         | +11 19.3 | 188 32.9                                          | -1 25.6 | 191 37.4                                          | +0 09.1 | 255 45.3                                         | +20 45.0 |
| 1   | 29                                     | 02.8 | 235 21.0                                         | 18.4     | 203 33.9                                          | 26.2    | 206 39.4                                          | 08.9    | 270 47.6                                         | 45.0     |
| 2   | 44                                     | 05.3 | 250 20.7                                         | 17.5     | 218 34.9                                          | 26.9    | 221 41.4                                          | 08.7    | 285 49.9                                         | 45.0     |
| 3   | 59                                     | 07.8 | 265 20.3                                         | 16.6     | 233 35.9                                          | 27.5    | 236 43.4                                          | 08.5    | 300 52.2                                         | 44.9     |
| 4   | 74                                     | 10.2 | 280 20.0                                         | 15.8     | 248 36.9                                          | 28.2    | 251 45.3                                          | 08.3    | 315 54.5                                         | 44.9     |
| 5   | 89                                     | 12.7 | 295 19.6                                         | +11 14.9 | 263 37.8                                          | -1 28.8 | 266 47.3                                          | +0 08.1 | 330 56.8                                         | +20 44.9 |
| 6   | 104                                    | 15.1 | 310 19.2                                         | +11 14.0 | 278 38.8                                          | -1 29.5 | 281 49.3                                          | +0 07.9 | 345 59.1                                         | +20 44.9 |
| 7   | 119                                    | 17.6 | 325 18.9                                         | 13.1     | 293 39.8                                          | 30.1    | 296 51.2                                          | 07.6    | 1 01.4                                           | 44.8     |
| 8   | 134                                    | 20.1 | 340 18.5                                         | 12.2     | 308 40.8                                          | 30.8    | 311 53.2                                          | 07.4    | 16 03.7                                          | 44.8     |
| 9   | 149                                    | 22.5 | 355 18.2                                         | 11.3     | 323 41.8                                          | 31.5    | 326 55.2                                          | 07.2    | 31 06.1                                          | 44.8     |
| 10  | 164                                    | 25.0 | 10 17.8                                          | 10.4     | 338 42.7                                          | 32.1    | 341 57.2                                          | 07.0    | 46 08.4                                          | 44.8     |
| 11  | 179                                    | 27.5 | 25 17.4                                          | +11 09.5 | 353 43.7                                          | -1 32.8 | 356 59.1                                          | +0 06.8 | 61 10.7                                          | +20 44.7 |
| 12  | 194                                    | 29.9 | 40 17.1                                          | +11 08.6 | 8 44.7                                            | -1 33.4 | 12 01.1                                           | +0 06.6 | 76 13.0                                          | +20 44.7 |
| 13  | 209                                    | 32.4 | 55 16.7                                          | 07.7     | 23 45.7                                           | 34.1    | 27 03.1                                           | 06.4    | 91 15.3                                          | 44.7     |
| 14  | 224                                    | 34.9 | 70 16.4                                          | 06.8     | 38 46.7                                           | 34.7    | 42 05.0                                           | 06.2    | 106 17.6                                         | 44.7     |
| 15  | 239                                    | 37.3 | 85 16.0                                          | 05.9     | 53 47.6                                           | 35.4    | 57 07.0                                           | 06.0    | 121 19.9                                         | 44.6     |
| 16  | 254                                    | 39.8 | 100 15.6                                         | 05.0     | 68 48.6                                           | 36.0    | 72 09.0                                           | 05.7    | 136 22.2                                         | 44.6     |
| 17  | 269                                    | 42.3 | 115 15.3                                         | +11 04.1 | 83 49.6                                           | -1 36.7 | 87 11.0                                           | +0 05.5 | 151 24.5                                         | +20 44.6 |
| 18  | 284                                    | 44.7 | 130 14.9                                         | +11 03.1 | 98 50.6                                           | -1 37.4 | 102 12.9                                          | +0 05.3 | 166 26.8                                         | +20 44.6 |
| 19  | 299                                    | 47.2 | 145 14.6                                         | 02.2     | 113 51.5                                          | 38.0    | 117 14.9                                          | 05.1    | 181 29.1                                         | 44.5     |
| 20  | 314                                    | 49.6 | 160 14.2                                         | 01.3     | 128 52.5                                          | 38.7    | 132 16.9                                          | 04.9    | 196 31.4                                         | 44.5     |
| 21  | 329                                    | 52.1 | 175 13.8                                         | +11 00.4 | 143 53.5                                          | 39.3    | 147 18.8                                          | 04.7    | 211 33.7                                         | 44.5     |
| 22  | 344                                    | 54.6 | 190 13.5                                         | +10 59.5 | 158 54.5                                          | 40.0    | 162 20.8                                          | 04.5    | 226 36.0                                         | 44.5     |
| 23  | 359                                    | 57.0 | 205 13.1                                         | 58.6     | 173 55.5                                          | 40.6    | 177 22.8                                          | 04.3    | 241 38.3                                         | 44.4     |
| 24  | 14                                     | 59.5 | 220 12.8                                         | +10 57.7 | 188 56.4                                          | -1 41.3 | 192 24.8                                          | +0 04.1 | 256 40.7                                         | +20 44.4 |
| Dif | —                                      |      | -4                                               | -9       | +10                                               | -7      | +20                                               | -2      | +23                                              |          |

| UT | SOL                                                |      |  LUNA                                         |      |     | Latitud             | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |          |          |
|----|----------------------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------|------|-----|---------------------|---------------|----------------------|-------|----------------|-------|----------------|----------|----------|
|    | SD: 16'0<br>PMG: 11 <sup>h</sup> 48 <sup>m</sup> 0 |      | Edad: 21 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'3<br>20 <sup>h</sup> : 54'3<br>R°: 51 <sup>m</sup> |      |     |                     |               |                      |       |                |       |                |          |          |
|    | hG ☉                                               | Dec  | hG ☾                                                                                                                           | Dif  | Dec |                     |               | Dif                  | Civil | Náutico        | Hora  | R°             | Hora     | R°       |
| h  | °                                                  | '    | °                                                                                                                              | '    | °   | '                   | °             | h m                  | h m   | h m            | h m   | h m            | h m      |          |
| 0  | 182                                                | 57.8 | -5                                                                                                                             | 09.8 | 275 | 26.8                | +27           | 58.4                 | 60 N  | 17 17          | 17 58 | 18 46          | 20 09 87 | 16 26 18 |
| 1  | 197                                                | 58.0 |                                                                                                                                | 10.7 | 289 | 55.8 <sup>100</sup> |               | 57.4                 | 58    | 19             | 58    | 44             | 20 41 79 | 15 55 25 |
| 2  | 212                                                | 58.1 |                                                                                                                                | 11.7 | 304 | 24.8 <sup>100</sup> |               | 56.4                 | 56    | 22             | 59    | 42             | 21 04 75 | 31 29    |
| 3  | 227                                                | 58.3 |                                                                                                                                | 12.7 | 318 | 53.8 <sup>100</sup> |               | 55.2                 | 54    | 24             | 59    | 40             | 24 71    | 15 12 32 |
| 4  | 242                                                | 58.5 |                                                                                                                                | 13.6 | 333 | 22.9 <sup>101</sup> |               | 53.8                 | 52    | 25             | 59    | 38             | 40 68    | 14 55 35 |
| 5  | 257                                                | 58.7 | -5                                                                                                                             | 14.6 | 347 | 51.9 <sup>100</sup> | +27           | 52.4                 | 50    | 17 27          | 17 59 | 18 37          | 21 54 66 | 14 41 37 |
| 6  | 272                                                | 58.9 | -5                                                                                                                             | 15.5 | 2   | 21.0 <sup>101</sup> | +27           | 50.8                 | 45    | 17 31          | 18 00 | 18 34          | 22 22 63 | 14 13 39 |
| 7  | 287                                                | 59.1 |                                                                                                                                | 16.5 | 16  | 50.0 <sup>100</sup> |               | 49.0                 | 40    | 34             | 01    | 32             | 22 44 61 | 13 50 42 |
| 8  | 302                                                | 59.2 |                                                                                                                                | 17.5 | 31  | 19.1 <sup>101</sup> |               | 47.1                 | 35    | 37             | 02    | 31             | 23 02 59 | 31 44    |
| 9  | 317                                                | 59.4 |                                                                                                                                | 18.4 | 45  | 48.2 <sup>101</sup> |               | 45.1                 | 30    | 39             | 03    | 31             | 18 57    | 13 15 45 |
| 10 | 332                                                | 59.6 |                                                                                                                                | 19.4 | 60  | 17.3 <sup>101</sup> |               | 43.0                 | 20    | 44             | 06    | 31             | 23 45 54 | 12 48 47 |
| 11 | 347                                                | 59.8 | -5                                                                                                                             | 20.3 | 74  | 46.5 <sup>102</sup> | +27           | 40.7                 | 10 N  | 17 47          | 18 09 | 18 33          | ** ** *  | 12 25 48 |
| 12 | 3                                                  | 00.0 | -5                                                                                                                             | 21.3 | 89  | 15.6 <sup>101</sup> | +27           | 38.3                 | 0     | 17 51          | 18 12 | 18 36          | ** ** *  | 12 03 50 |
| 13 | 18                                                 | 00.2 |                                                                                                                                | 22.2 | 103 | 44.8 <sup>102</sup> |               | 35.8                 | 10 S  | 55             | 16    | 41             | 0 00 50  | 11 41 52 |
| 14 | 33                                                 | 00.3 |                                                                                                                                | 23.2 | 118 | 14.0 <sup>102</sup> |               | 33.1                 | 20    | 17 59          | 22    | 48             | 24 49    | 11 17 54 |
| 15 | 48                                                 | 00.5 |                                                                                                                                | 24.2 | 132 | 43.2 <sup>102</sup> |               | 30.3                 | 30    | 18 04          | 29    | 18 57          | 0 52 47  | 10 50 55 |
| 16 | 63                                                 | 00.7 |                                                                                                                                | 25.1 | 147 | 12.5 <sup>103</sup> |               | 27.4                 | 35    | 07             | 33    | 19 03          | 1 08 47  | 33 57    |
| 17 | 78                                                 | 00.9 | -5                                                                                                                             | 26.1 | 161 | 41.7 <sup>102</sup> | +27           | 24.3                 | 40    | 18 11          | 18 38 | 19 11          | 1 28 45  | 10 14 59 |
| 18 | 93                                                 | 01.1 | -5                                                                                                                             | 27.0 | 176 | 11.0 <sup>103</sup> | +27           | 21.1                 | 45    | 18 15          | 18 44 | 19 20          | 1 51 44  | 9 51 60  |
| 19 | 108                                                | 01.2 |                                                                                                                                | 28.0 | 190 | 40.3 <sup>103</sup> |               | 17.8                 | 50    | 19             | 52    | 32             | 2 21 41  | 21 63    |
| 20 | 123                                                | 01.4 |                                                                                                                                | 28.9 | 205 | 09.7 <sup>104</sup> |               | 14.3                 | 52    | 22             | 18 56 | 38             | 35 41    | 9 07 64  |
| 21 | 138                                                | 01.6 |                                                                                                                                | 29.9 | 219 | 39.0 <sup>103</sup> |               | 10.7                 | 54    | 24             | 19 00 | 45             | 2 53 38  | 8 50 66  |
| 22 | 153                                                | 01.8 |                                                                                                                                | 30.9 | 234 | 08.4 <sup>104</sup> |               | 07.0                 | 56    | 27             | 05    | 19 52          | 3 13 36  | 29 69    |
| 23 | 168                                                | 02.0 |                                                                                                                                | 31.8 | 248 | 37.8 <sup>104</sup> | +27           | 03.1                 | 58    | 30             | 10    | 20 01          | 3 39 33  | 8 03 73  |
| 24 | 183                                                | 02.1 | -5                                                                                                                             | 32.8 | 263 | 07.3 <sup>105</sup> | +26           | 59.2                 | 60 S  | 18 33          | 19 16 | 20 11          | 4 15 25  | 7 28 80  |

| UT  | ARIES                                  |      | VENUS                                            |          | MARTE                                             |         | JÚPITER                                           |         | SATURNO                                          |         |          |      |          |          |
|-----|----------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|---------|---------------------------------------------------|---------|--------------------------------------------------|---------|----------|------|----------|----------|
|     | PMG: 22 <sup>h</sup> 56 <sup>m</sup> 3 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 19 <sup>m</sup> |          | Mag: +1.7<br>PMG: 11 <sup>h</sup> 23 <sup>m</sup> |         | Mag: -1.7<br>PMG: 11 <sup>h</sup> 09 <sup>m</sup> |         | Mag: +0.2<br>PMG: 6 <sup>h</sup> 52 <sup>m</sup> |         |          |      |          |          |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec      | hG ♂                                              | Dec     | hG ♃                                              | Dec     | hG ♄                                             | Dec     |          |      |          |          |
| h   | °                                      | '    | °                                                | '        | °                                                 | '       | °                                                 | '       | °                                                | '       |          |      |          |          |
| 0   | 14                                     | 59.5 | 220                                              | 12.8     | +10 57.7                                          | 188     | 56.4                                              | -1 41.3 | 192                                              | 24.8    | +0 04.1  | 256  | 40.7     | +20 44.4 |
| 1   | 30                                     | 02.0 | 235                                              | 12.4     | 56.8                                              | 203     | 57.4                                              | 41.9    | 207                                              | 26.7    | 03.8     | 271  | 43.0     | 44.4     |
| 2   | 45                                     | 04.4 | 250                                              | 12.1     | 55.9                                              | 218     | 58.4                                              | 42.6    | 222                                              | 28.7    | 03.6     | 286  | 45.3     | 44.4     |
| 3   | 60                                     | 06.9 | 265                                              | 11.7     | 55.0                                              | 233     | 59.4                                              | 43.3    | 237                                              | 30.7    | 03.4     | 301  | 47.6     | 44.3     |
| 4   | 75                                     | 09.4 | 280                                              | 11.3     | 54.1                                              | 249     | 00.4                                              | 43.9    | 252                                              | 32.6    | 03.2     | 316  | 49.9     | 44.3     |
| 5   | 90                                     | 11.8 | 295                                              | 11.0     | +10 53.2                                          | 264     | 01.3                                              | -1 44.6 | 267                                              | 34.6    | +0 03.0  | 331  | 52.2     | +20 44.3 |
| 6   | 105                                    | 14.3 | 310                                              | 10.6     | +10 52.3                                          | 279     | 02.3                                              | -1 45.2 | 282                                              | 36.6    | +0 02.8  | 346  | 54.5     | +20 44.3 |
| 7   | 120                                    | 16.8 | 325                                              | 10.3     | 51.3                                              | 294     | 03.3                                              | 45.9    | 297                                              | 38.6    | 02.6     | 1    | 56.8     | 44.2     |
| 8   | 135                                    | 19.2 | 340                                              | 09.9     | 50.4                                              | 309     | 04.3                                              | 46.5    | 312                                              | 40.5    | 02.4     | 16   | 59.1     | 44.2     |
| 9   | 150                                    | 21.7 | 355                                              | 09.6     | 49.5                                              | 324     | 05.3                                              | 47.2    | 327                                              | 42.5    | 02.2     | 32   | 01.4     | 44.2     |
| 10  | 165                                    | 24.1 | 10 09.2                                          | 48.6     | 339                                               | 06.2    | 47.8                                              | 342     | 44.5                                             | 01.9    | 47       | 03.7 | 44.2     |          |
| 11  | 180                                    | 26.6 | 25 08.8                                          | +10 47.7 | 354                                               | 07.2    | -1 48.5                                           | 357     | 46.4                                             | +0 01.7 | 62       | 06.1 | +20 44.1 |          |
| 12  | 195                                    | 29.1 | 40 08.5                                          | +10 46.8 | 9 08.2                                            | -1 49.1 | 12 48.4                                           | +0 01.5 | 77                                               | 08.4    | +20 44.1 |      |          |          |
| 13  | 210                                    | 31.5 | 55 08.1                                          | 45.9     | 24 09.2                                           | 49.8    | 27 50.4                                           | 01.3    | 92                                               | 10.7    | 44.1     |      |          |          |
| 14  | 225                                    | 34.0 | 70 07.8                                          | 44.9     | 39 10.1                                           | 50.5    | 42 52.4                                           | 01.1    | 107                                              | 13.0    | 44.1     |      |          |          |
| 15  | 240                                    | 36.5 | 85 07.4                                          | 44.0     | 54 11.1                                           | 51.1    | 57 54.3                                           | 00.9    | 122                                              | 15.3    | 44.0     |      |          |          |
| 16  | 255                                    | 38.9 | 100 07.1                                         | 43.1     | 69 12.1                                           | 51.8    | 72 56.3                                           | 00.7    | 137                                              | 17.6    | 44.0     |      |          |          |
| 17  | 270                                    | 41.4 | 115 06.7                                         | +10 42.2 | 84 13.1                                           | -1 52.4 | 87 58.3                                           | +0 00.5 | 152                                              | 19.9    | +20 44.0 |      |          |          |
| 18  | 285                                    | 43.9 | 130 06.3                                         | +10 41.3 | 99 14.1                                           | -1 53.1 | 103 00.2                                          | +0 00.3 | 167                                              | 22.2    | +20 44.0 |      |          |          |
| 19  | 300                                    | 46.3 | 145 06.0                                         | 40.3     | 114 15.0                                          | 53.7    | 118 02.2                                          | +0 00.0 | 182                                              | 24.5    | 43.9     |      |          |          |
| 20  | 315                                    | 48.8 | 160 05.6                                         | 39.4     | 129 16.0                                          | 54.4    | 133 04.2                                          | -0 00.2 | 197                                              | 26.9    | 43.9     |      |          |          |
| 21  | 330                                    | 51.2 | 175 05.3                                         | 38.5     | 144 17.0                                          | 55.0    | 148 06.2                                          | 00.4    | 212                                              | 29.2    | 43.9     |      |          |          |
| 22  | 345                                    | 53.7 | 190 04.9                                         | 37.6     | 159 18.0                                          | 55.7    | 163 08.1                                          | 00.6    | 227                                              | 31.5    | 43.9     |      |          |          |
| 23  | 0                                      | 56.2 | 205 04.6                                         | 36.7     | 174 18.9                                          | 56.4    | 178 10.1                                          | 00.8    | 242                                              | 33.8    | 43.9     |      |          |          |
| 24  | 15                                     | 58.6 | 220 04.2                                         | +10 35.7 | 189 19.9                                          | -1 57.0 | 193 12.1                                          | -0 01.0 | 257                                              | 36.1    | +20 43.8 |      |          |          |
| Dif | —                                      |      | -4 -9                                            |          | +10 -7                                            |         | +20 -2                                            |         | +23 0                                            |         |          |      |          |          |

| UT            | SOL                                    |      |                                 |  LUNA |     |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |      |            | Puesta de Luna |    |    |    |    |
|---------------|----------------------------------------|------|---------------------------------|----------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|-------|---------------|----------------|------|------------|----------------|----|----|----|----|
|               | SD: 16'0                               |      |                                 | Edad: 22 <sup>d</sup> 4                                                                |     |                     |         |                          |       |               |                |      |            |                |    |    |    |    |
|               | PMG: 11 <sup>h</sup> 47 <sup>m</sup> 7 |      |                                 | PHE { 4 <sup>h</sup> : 54'4<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'5        |     |                     |         |                          |       |               |                |      |            |                |    |    |    |    |
| hG ☉      Dec |                                        |      | hG ☾      Dif      Dec      Dif |                                                                                        |     |                     |         | Náutico                  | Civil | Hora    R°    |                |      | Hora    R° |                |    |    |    |    |
| h             | o                                      | '    | o                               | '                                                                                      | o   | '                   | o       | '                        | h     | m             | h              | m    | h          | m              | h  | m  | h  | m  |
| 0             | 183                                    | 02.1 | -5                              | 32.8                                                                                   | 263 | 07.3                | +26     | 59.2                     | 60 N  | 4 51          | 5 39           | 6 20 | 21         | 36             | 93 | 16 | 44 | 7  |
| 1             | 198                                    | 02.3 |                                 | 33.7                                                                                   | 277 | 36.8 <sup>105</sup> |         | 55.1 41                  | 58    | 53            | 39             | 18   | 22         | 00             | 86 | 20 | 14 |    |
| 2             | 213                                    | 02.5 |                                 | 34.7                                                                                   | 292 | 06.3 <sup>105</sup> |         | 50.8 43                  | 56    | 55            | 38             | 15   | 19         | 81             | 16 | 00 | 19 |    |
| 3             | 228                                    | 02.7 |                                 | 35.6                                                                                   | 306 | 35.8 <sup>105</sup> |         | 46.4 44                  | 54    | 57            | 38             | 13   | 35         | 77             | 15 | 44 | 22 |    |
| 4             | 243                                    | 02.9 |                                 | 36.6                                                                                   | 321 | 05.4 <sup>106</sup> |         | 41.9 45                  | 52    | 4 59          | 38             | 11   | 22         | 48             | 75 | 30 | 25 |    |
| 5             | 258                                    | 03.0 | -5                              | 37.6                                                                                   | 335 | 35.0 <sup>106</sup> | +26     | 37.3 46                  | 50    | 5 00          | 5 37           | 6 10 | 23         | 00             | 72 | 15 | 18 | 27 |
| 6             | 273                                    | 03.2 | -5                              | 38.5                                                                                   | 350 | 04.6 <sup>106</sup> | +26     | 32.6 47                  | 45    | 5 02          | 5 36           | 6 06 | 23         | 25             | 67 | 14 | 52 | 32 |
| 7             | 288                                    | 03.4 |                                 | 39.5                                                                                   | 4   | 34.3 <sup>107</sup> |         | 27.7 49                  | 40    | 04            | 35             | 02   | 23         | 45             | 63 | 32 | 35 |    |
| 8             | 303                                    | 03.6 |                                 | 40.4                                                                                   | 19  | 04.0 <sup>107</sup> |         | 22.7 50                  | 35    | 05            | 34             | 6 00 | **         | **             | ** | 15 | 38 |    |
| 9             | 318                                    | 03.7 |                                 | 41.4                                                                                   | 33  | 33.7 <sup>107</sup> |         | 17.5 52                  | 30    | 05            | 33             | 5 57 | **         | **             | ** | 14 | 00 | 40 |
| 10            | 333                                    | 03.9 |                                 | 42.3                                                                                   | 48  | 03.5 <sup>108</sup> |         | 12.3 52                  | 20    | 05            | 30             | 52   | **         | **             | ** | 13 | 35 | 44 |
| 11            | 348                                    | 04.1 | -5                              | 43.3                                                                                   | 62  | 33.3 <sup>108</sup> | +26     | 06.9 54                  | 10 N  | 5 03          | 5 27           | 5 48 | 0 08       | 52             | 13 | 13 | 47 |    |
| 12            | 3                                      | 04.3 | -5                              | 44.2                                                                                   | 77  | 03.1 <sup>108</sup> | +26     | 01.4 55                  | 0     | 5 00          | 5 24           | 5 44 | 0 29       | 50             | 12 | 53 | 49 |    |
| 13            | 18                                     | 04.5 |                                 | 45.2                                                                                   | 91  | 33.0 <sup>109</sup> | +25     | 55.8 56                  | 10 S  | 4 55          | 19             | 40   | 0 50       | 48             | 33 | 51 |    |    |
| 14            | 33                                     | 04.6 |                                 | 46.1                                                                                   | 106 | 02.9 <sup>109</sup> |         | 50.0 58                  | 20    | 48            | 14             | 36   | 1 13       | 45             | 12 | 11 | 54 |    |
| 15            | 48                                     | 04.8 |                                 | 47.1                                                                                   | 120 | 32.9 <sup>110</sup> |         | 44.1 59                  | 30    | 38            | 07             | 31   | 39         | 43             | 11 | 45 | 58 |    |
| 16            | 63                                     | 05.0 |                                 | 48.1                                                                                   | 135 | 02.9 <sup>110</sup> |         | 38.1 60                  | 35    | 32            | 5 02           | 28   | 1 55       | 41             | 30 | 60 |    |    |
| 17            | 78                                     | 05.2 | -5                              | 49.0                                                                                   | 149 | 32.9 <sup>110</sup> | +25     | 32.0 61                  | 40    | 4 25          | 4 57           | 5 24 | 2 13       | 39             | 11 | 13 | 62 |    |
| 18            | 93                                     | 05.3 | -5                              | 50.0                                                                                   | 164 | 03.0 <sup>111</sup> | +25     | 25.7 63                  | 45    | 4 15          | 4 51           | 5 20 | 2 35       | 35             | 10 | 51 | 66 |    |
| 19            | 108                                    | 05.5 |                                 | 50.9                                                                                   | 178 | 33.1 <sup>111</sup> |         | 19.4 63                  | 50    | 4 03          | 43             | 16   | 3 02       | 32             | 24 | 24 | 70 |    |
| 20            | 123                                    | 05.7 |                                 | 51.9                                                                                   | 193 | 03.3 <sup>112</sup> |         | 12.9 65                  | 52    | 3 57          | 39             | 13   | 16         | 29             | 10 | 11 | 72 |    |
| 21            | 138                                    | 05.9 |                                 | 52.8                                                                                   | 207 | 33.4 <sup>111</sup> | +25     | 06.3 66                  | 54    | 50            | 35             | 11   | 31         | 27             | 9  | 56 | 75 |    |
| 22            | 153                                    | 06.0 |                                 | 53.8                                                                                   | 222 | 03.7 <sup>113</sup> | +24     | 59.5 68                  | 56    | 43            | 30             | 08   | 3          | 49             | 24 | 38 | 79 |    |
| 23            | 168                                    | 06.2 |                                 | 54.7                                                                                   | 236 | 33.9 <sup>112</sup> |         | 52.7 68                  | 58    | 34            | 24             | 05   | 4 12       | 18             | 9  | 16 | 84 |    |
| 24            | 183                                    | 06.4 | -5                              | 55.7                                                                                   | 251 | 04.3 <sup>114</sup> | +24     | 45.7 70                  | 60 S  | 3 24          | 4 18           | 5 02 | 4 40       | 11             | 8  | 48 | 92 |    |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG 22 <sup>h</sup> 52 <sup>m</sup> 3 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 20 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 22 <sup>m</sup> |      | Mag: -1.7<br>PMG: 11 <sup>h</sup> 06 <sup>m</sup> |      | Mag: +0.2<br>PMG: 6 <sup>h</sup> 49 <sup>m</sup> |      |
|     | hG ♈                                  | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | o                                     | '    | o                                                | '    | o                                                 | '    | o                                                 | '    | o                                                | '    |
| 0   | 15                                    | 58.6 | 220                                              | 04.2 | +10                                               | 35.7 | 189                                               | 19.9 | -1                                               | 57.0 |
| 1   | 31                                    | 01.1 | 235                                              | 03.9 |                                                   | 34.8 | 204                                               | 20.9 |                                                  | 57.7 |
| 2   | 46                                    | 03.6 | 250                                              | 03.5 |                                                   | 33.9 | 219                                               | 21.9 |                                                  | 58.3 |
| 3   | 61                                    | 06.0 | 265                                              | 03.1 |                                                   | 33.0 | 234                                               | 22.8 |                                                  | 59.0 |
| 4   | 76                                    | 08.5 | 280                                              | 02.8 |                                                   | 32.0 | 249                                               | 23.8 | -1                                               | 59.6 |
| 5   | 91                                    | 11.0 | 295                                              | 02.4 | +10                                               | 31.1 | 264                                               | 24.8 | -2                                               | 00.3 |
| 6   | 106                                   | 13.4 | 310                                              | 02.1 | +10                                               | 30.2 | 279                                               | 25.8 | -2                                               | 00.9 |
| 7   | 121                                   | 15.9 | 325                                              | 01.7 |                                                   | 29.3 | 294                                               | 26.8 |                                                  | 01.6 |
| 8   | 136                                   | 18.4 | 340                                              | 01.4 |                                                   | 28.3 | 309                                               | 27.7 |                                                  | 02.2 |
| 9   | 151                                   | 20.8 | 355                                              | 01.0 |                                                   | 27.4 | 324                                               | 28.7 |                                                  | 02.9 |
| 10  | 166                                   | 23.3 | 10                                               | 00.7 |                                                   | 26.5 | 339                                               | 29.7 |                                                  | 03.6 |
| 11  | 181                                   | 25.7 | 25                                               | 00.3 | +10                                               | 25.6 | 354                                               | 30.7 | -2                                               | 04.2 |
| 12  | 196                                   | 28.2 | 39                                               | 59.9 | +10                                               | 24.6 | 9                                                 | 31.6 | -2                                               | 04.9 |
| 13  | 211                                   | 30.7 | 54                                               | 59.6 |                                                   | 23.7 | 24                                                | 32.6 |                                                  | 05.5 |
| 14  | 226                                   | 33.1 | 69                                               | 59.2 |                                                   | 22.8 | 39                                                | 33.6 |                                                  | 06.2 |
| 15  | 241                                   | 35.6 | 84                                               | 58.9 |                                                   | 21.8 | 54                                                | 34.6 |                                                  | 06.8 |
| 16  | 256                                   | 38.1 | 99                                               | 58.5 |                                                   | 20.9 | 69                                                | 35.5 |                                                  | 07.5 |
| 17  | 271                                   | 40.5 | 114                                              | 58.2 | +10                                               | 20.0 | 84                                                | 36.5 | -2                                               | 08.1 |
| 18  | 286                                   | 43.0 | 129                                              | 57.8 | +10                                               | 19.0 | 99                                                | 37.5 | -2                                               | 08.8 |
| 19  | 301                                   | 45.5 | 144                                              | 57.5 |                                                   | 18.1 | 114                                               | 38.5 |                                                  | 09.5 |
| 20  | 316                                   | 47.9 | 159                                              | 57.1 |                                                   | 17.2 | 129                                               | 39.5 |                                                  | 10.1 |
| 21  | 331                                   | 50.4 | 174                                              | 56.8 |                                                   | 16.2 | 144                                               | 40.4 |                                                  | 10.8 |
| 22  | 346                                   | 52.9 | 189                                              | 56.4 |                                                   | 15.3 | 159                                               | 41.4 |                                                  | 11.4 |
| 23  | 1                                     | 55.3 | 204                                              | 56.0 |                                                   | 14.4 | 174                                               | 42.4 |                                                  | 12.1 |
| 24  | 16                                    | 57.8 | 219                                              | 55.7 | +10                                               | 13.4 | 189                                               | 43.4 | -2                                               | 12.7 |
| Dif | —                                     |      | -4                                               |      | -9                                                |      | +10                                               |      | -7                                               |      |
|     |                                       |      |                                                  |      |                                                   |      |                                                   | +20  |                                                  | -2   |
|     |                                       |      |                                                  |      |                                                   |      |                                                   |      | +23                                              |      |

| UT  | SOL                                    |      |                                               | ☾ LUNA                                                                                                  |                                                |                     | Latitud                                        | Puesta de Sol      | Final del crepúsculo                          |         | Salida de Luna |       | Puesta de Luna |          |
|-----|----------------------------------------|------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------|------------------------------------------------|---------------------|------------------------------------------------|--------------------|-----------------------------------------------|---------|----------------|-------|----------------|----------|
|     | SD: 16'0                               |      |                                               | Edad: 23 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54'7<br>12 <sup>h</sup> : 54'8<br>20 <sup>h</sup> : 55'0 |                                                |                     |                                                |                    |                                               |         |                |       |                |          |
|     | PMG: 11 <sup>h</sup> 47 <sup>m</sup> 4 |      |                                               | SD: 14'9 PMG: 7 <sup>h</sup> 30 <sup>m</sup> R°: 48 <sup>m</sup>                                        |                                                |                     |                                                |                    |                                               |         |                |       |                |          |
|     | hG ☉                                   | Dec  |                                               | hG ☾                                                                                                    | Dif                                            | Dec                 | Dif                                            |                    | Civil                                         | Náutico | Hora           | R°    | Hora           | R°       |
| h   | °                                      | '    | °                                             | '                                                                                                       | '                                              | '                   | '                                              | °                  | h m                                           | h m     | h m            | h m m | h m m          | h m m    |
| 0   | 183                                    | 06.4 | -5                                            | 55.7                                                                                                    | 251                                            | 04.3                | +24                                            | 45.7               | 60 N                                          | 17 11   | 17 52          | 18 40 | 23 09 94       | 16 51 3  |
| 1   | 198                                    | 06.6 |                                               | 56.6                                                                                                    | 265                                            | 34.6 <sup>113</sup> |                                                | 38.6 <sup>71</sup> | 58                                            | 14      | 53             | 38    | 26 88          | 34 8     |
| 2   | 213                                    | 06.7 |                                               | 57.6                                                                                                    | 280                                            | 05.0 <sup>114</sup> |                                                | 31.4 <sup>72</sup> | 56                                            | 16      | 53             | 36    | 40 84          | 19 13    |
| 3   | 228                                    | 06.9 |                                               | 58.5                                                                                                    | 294                                            | 35.5 <sup>115</sup> |                                                | 24.1 <sup>73</sup> | 54                                            | 19      | 54             | 35    | 23 52 80       | 16 06 16 |
| 4   | 243                                    | 07.1 | -5                                            | 59.5                                                                                                    | 309                                            | 05.9 <sup>114</sup> |                                                | 16.6 <sup>75</sup> | 52                                            | 21      | 55             | 34    | *** ** *       | 15 55 19 |
| 5   | 258                                    | 07.3 | -6                                            | 00.5                                                                                                    | 323                                            | 36.5 <sup>116</sup> | +24                                            | 09.1 <sup>75</sup> | 50                                            | 17 23   | 17 55          | 18 32 | *** ** *       | 15 45 21 |
| 6   | 273                                    | 07.4 | -6                                            | 01.4                                                                                                    | 338                                            | 07.0 <sup>115</sup> | +24                                            | 01.4 <sup>77</sup> | 45                                            | 17 27   | 17 57          | 18 30 | *** ** *       | 15 24 26 |
| 7   | 288                                    | 07.6 |                                               | 02.4                                                                                                    | 352                                            | 37.6 <sup>116</sup> | +23                                            | 53.6 <sup>78</sup> | 40                                            | 31      | 58             | 29    | *** ** *       | 15 07 30 |
| 8   | 303                                    | 07.8 |                                               | 03.3                                                                                                    | 7                                              | 08.3 <sup>117</sup> |                                                | 45.7 <sup>79</sup> | 35                                            | 34      | 17 59          | 29    | 0 01 61        | 14 53 33 |
| 9   | 318                                    | 08.0 |                                               | 04.3                                                                                                    | 21                                             | 39.0 <sup>117</sup> |                                                | 37.7 <sup>80</sup> | 30                                            | 37      | 18 01          | 29    | 15 58          | 40 36    |
| 10  | 333                                    | 08.1 |                                               | 05.2                                                                                                    | 36                                             | 09.7 <sup>117</sup> |                                                | 29.6 <sup>81</sup> | 20                                            | 42      | 04             | 30    | 0 39 54        | 19 40    |
| 11  | 348                                    | 08.3 | -6                                            | 06.2                                                                                                    | 50                                             | 40.5 <sup>118</sup> | +23                                            | 21.3 <sup>83</sup> | 10 N                                          | 17 46   | 18 07          | 18 32 | 1 00 51        | 14 00 44 |
| 12  | 3                                      | 08.5 | -6                                            | 07.1                                                                                                    | 65                                             | 11.3 <sup>118</sup> | +23                                            | 13.0 <sup>83</sup> | 0                                             | 17 51   | 18 12          | 18 36 | 1 19 48        | 13 42 47 |
| 13  | 18                                     | 08.6 |                                               | 08.1                                                                                                    | 79                                             | 42.2 <sup>119</sup> | +23                                            | 04.5 <sup>85</sup> | 10 S                                          | 17 55   | 16             | 41    | 38 45          | 24 51    |
| 14  | 33                                     | 08.8 |                                               | 09.0                                                                                                    | 94                                             | 13.1 <sup>119</sup> | +22                                            | 55.9 <sup>86</sup> | 20                                            | 18 00   | 22             | 48    | 1 58 42        | 13 05 55 |
| 15  | 48                                     | 09.0 |                                               | 10.0                                                                                                    | 108                                            | 44.1 <sup>120</sup> |                                                | 47.3 <sup>86</sup> | 30                                            | 06      | 30             | 18 58 | 2 22 38        | 12 43 59 |
| 16  | 63                                     | 09.2 |                                               | 10.9                                                                                                    | 123                                            | 15.1 <sup>120</sup> |                                                | 38.5 <sup>88</sup> | 35                                            | 09      | 35             | 19 05 | 36 35          | 30 61    |
| 17  | 78                                     | 09.3 | -6                                            | 11.9                                                                                                    | 137                                            | 46.1 <sup>120</sup> | +22                                            | 29.6 <sup>89</sup> | 40                                            | 18 13   | 18 40          | 19 13 | 2 52 32        | 12 15 64 |
| 18  | 93                                     | 09.5 | -6                                            | 12.8                                                                                                    | 152                                            | 17.2 <sup>121</sup> | +22                                            | 20.5 <sup>91</sup> | 45                                            | 18 17   | 18 47          | 19 23 | 3 10 29        | 11 57 68 |
| 19  | 108                                    | 09.7 |                                               | 13.8                                                                                                    | 166                                            | 48.3 <sup>121</sup> |                                                | 11.4 <sup>91</sup> | 50                                            | 22      | 18 56          | 36    | 34 24          | 34 74    |
| 20  | 123                                    | 09.9 |                                               | 14.7                                                                                                    | 181                                            | 19.5 <sup>122</sup> | +22                                            | 02.2 <sup>92</sup> | 52                                            | 25      | 19 00          | 42    | 45 22          | 23 76    |
| 21  | 138                                    | 10.0 |                                               | 15.7                                                                                                    | 195                                            | 50.7 <sup>122</sup> | +21                                            | 52.9 <sup>93</sup> | 54                                            | 28      | 04             | 49    | 3 58 19        | 11 11 79 |
| 22  | 153                                    | 10.2 |                                               | 16.6                                                                                                    | 210                                            | 22.0 <sup>123</sup> |                                                | 43.4 <sup>95</sup> | 56                                            | 31      | 09             | 19 57 | 4 13 15        | 10 57 83 |
| 23  | 168                                    | 10.4 |                                               | 17.6                                                                                                    | 224                                            | 53.3 <sup>123</sup> |                                                | 33.9 <sup>95</sup> | 58                                            | 34      | 15             | 20 06 | 30 10          | 40 88    |
| 24  | 183                                    | 10.5 | -6                                            | 18.5                                                                                                    | 239                                            | 24.6 <sup>123</sup> | +21                                            | 24.2 <sup>97</sup> | 60 S                                          | 18 38   | 19 22          | 20 17 | 4 51 4         | 10 20 94 |
| UT  | ARIES                                  |      | VENUS                                         |                                                                                                         | MARTE                                          |                     | JÚPITER                                        |                    | SATURNO                                       |         |                |       |                |          |
|     | PMG: 22 <sup>h</sup> 48 <sup>m</sup> 4 |      | Mag: -4.1 PMG: 9 <sup>h</sup> 21 <sup>m</sup> |                                                                                                         | Mag: +1.7 PMG: 11 <sup>h</sup> 20 <sup>m</sup> |                     | Mag: -1.7 PMG: 11 <sup>h</sup> 03 <sup>m</sup> |                    | Mag: +0.2 PMG: 6 <sup>h</sup> 45 <sup>m</sup> |         |                |       |                |          |
|     | hG ♈                                   |      | hG ♀                                          | Dec                                                                                                     | hG ♂                                           | Dec                 | hG ♃                                           | Dec                | hG ♄                                          | Dec     |                |       |                |          |
| h   | °                                      | '    | °                                             | '                                                                                                       | °                                              | '                   | °                                              | '                  | °                                             | '       |                |       |                |          |
| 0   | 16                                     | 57.8 | 219                                           | 55.7                                                                                                    | +10                                            | 13.4                | 189                                            | 59.4               | -0                                            | 06.1    |                |       |                |          |
| 1   | 32                                     | 00.2 | 234                                           | 55.3                                                                                                    |                                                | 12.5                | 204                                            | 44.3               |                                               | 06.3    |                |       |                |          |
| 2   | 47                                     | 02.7 | 249                                           | 55.0                                                                                                    |                                                | 11.5                | 219                                            | 45.3               |                                               | 06.5    |                |       |                |          |
| 3   | 62                                     | 05.2 | 264                                           | 54.6                                                                                                    |                                                | 10.6                | 234                                            | 46.3               |                                               | 06.7    |                |       |                |          |
| 4   | 77                                     | 07.6 | 279                                           | 54.3                                                                                                    |                                                | 09.7                | 249                                            | 47.3               |                                               | 06.9    |                |       |                |          |
| 5   | 92                                     | 10.1 | 294                                           | 53.9                                                                                                    | +10                                            | 08.7                | 264                                            | 48.2               | -2                                            | 07.1    |                |       |                |          |
| 6   | 107                                    | 12.6 | 309                                           | 53.6                                                                                                    | +10                                            | 07.8                | 279                                            | 49.2               | -2                                            | 07.3    |                |       |                |          |
| 7   | 122                                    | 15.0 | 324                                           | 53.2                                                                                                    |                                                | 06.8                | 294                                            | 50.2               |                                               | 07.5    |                |       |                |          |
| 8   | 137                                    | 17.5 | 339                                           | 52.9                                                                                                    |                                                | 05.9                | 309                                            | 51.2               |                                               | 07.7    |                |       |                |          |
| 9   | 152                                    | 20.0 | 354                                           | 52.5                                                                                                    |                                                | 05.0                | 324                                            | 52.1               |                                               | 08.0    |                |       |                |          |
| 10  | 167                                    | 22.4 | 9                                             | 52.2                                                                                                    |                                                | 04.0                | 339                                            | 53.1               |                                               | 08.2    |                |       |                |          |
| 11  | 182                                    | 24.9 | 24                                            | 51.8                                                                                                    | +10                                            | 03.1                | 354                                            | 54.1               | -2                                            | 08.4    |                |       |                |          |
| 12  | 197                                    | 27.4 | 39                                            | 51.5                                                                                                    | +10                                            | 02.1                | 9                                              | 55.1               | -2                                            | 08.6    |                |       |                |          |
| 13  | 212                                    | 29.8 | 54                                            | 51.1                                                                                                    |                                                | 01.2                | 24                                             | 56.0               |                                               | 08.8    |                |       |                |          |
| 14  | 227                                    | 32.3 | 69                                            | 50.7                                                                                                    | +10                                            | 00.2                | 39                                             | 57.0               |                                               | 09.0    |                |       |                |          |
| 15  | 242                                    | 34.7 | 84                                            | 50.4                                                                                                    | +9                                             | 59.3                | 54                                             | 58.0               |                                               | 09.2    |                |       |                |          |
| 16  | 257                                    | 37.2 | 99                                            | 50.0                                                                                                    |                                                | 58.4                | 69                                             | 59.0               |                                               | 09.4    |                |       |                |          |
| 17  | 272                                    | 39.7 | 114                                           | 49.7                                                                                                    | +9                                             | 57.4                | 84                                             | 59.9               | -2                                            | 09.6    |                |       |                |          |
| 18  | 287                                    | 42.1 | 129                                           | 49.3                                                                                                    | +9                                             | 56.5                | 100                                            | 00.9               | -2                                            | 09.8    |                |       |                |          |
| 19  | 302                                    | 44.6 | 144                                           | 49.0                                                                                                    |                                                | 55.5                | 115                                            | 01.9               |                                               | 10.1    |                |       |                |          |
| 20  | 317                                    | 47.1 | 159                                           | 48.6                                                                                                    |                                                | 54.6                | 130                                            | 02.9               |                                               | 10.3    |                |       |                |          |
| 21  | 332                                    | 49.5 | 174                                           | 48.3                                                                                                    |                                                | 53.6                | 145                                            | 03.8               |                                               | 10.5    |                |       |                |          |
| 22  | 347                                    | 52.0 | 189                                           | 47.9                                                                                                    |                                                | 52.7                | 160                                            | 04.8               |                                               | 10.7    |                |       |                |          |
| 23  | 2                                      | 54.5 | 204                                           | 47.6                                                                                                    |                                                | 51.7                | 175                                            | 05.8               |                                               | 10.9    |                |       |                |          |
| 24  | 17                                     | 56.9 | 219                                           | 47.2                                                                                                    | +9                                             | 50.8                | 190                                            | 06.8               | -2                                            | 11.1    |                |       |                |          |
| Dif | —                                      |      | -4                                            | -9                                                                                                      |                                                | +10                 | -7                                             | +20                |                                               | -2      |                |       |                |          |
|     |                                        |      |                                               |                                                                                                         |                                                |                     |                                                |                    |                                               | +23     |                |       |                |          |
|     |                                        |      |                                               |                                                                                                         |                                                |                     |                                                |                    |                                               | 0       |                |       |                |          |

| UT | SOL                                                |      |    |  LUNA                                                                                            |     |                     | Latitud                 | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |         | Puesta de Luna |       |    |
|----|----------------------------------------------------|------|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-------------------------|--------------------------|---------|---------------|----------------|---------|----------------|-------|----|
|    | SD: 16'0<br>PMG: 11 <sup>h</sup> 47 <sup>m</sup> 2 |      |    | Edad: 24 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 55'1<br>12 <sup>h</sup> : 55'3<br>20 <sup>h</sup> : 55'5<br>SD: 15'0<br>PMG: 8 <sup>h</sup> 18 <sup>m</sup> R°: 46 <sup>m</sup> |     |                     |                         |                          |         |               |                |         |                |       |    |
|    | hG ☉                                               | Dec  |    | hG ☾                                                                                                                                                                              | Dif | Dec                 |                         | Dif                      | Náutico |               | Civil          | Hora    | R°             | Hora  | R° |
| h  | °                                                  | '    | °  | '                                                                                                                                                                                 | °   | '                   | °                       | h                        | m       | h             | m              | h       | m              | h     | m  |
| 0  | 183                                                | 10.5 | -6 | 18.5                                                                                                                                                                              | 239 | 24.6                | +21 24.2                | 60 N                     | 4 55    | 5 44          | 6 25           | ** ** * | ** ** *        | 16 54 | 1  |
| 1  | 198                                                | 10.7 |    | 19.5                                                                                                                                                                              | 253 | 56.0 <sup>124</sup> | 14.5 <sup>97</sup>      | 58                       | 57      | 43            | 22             | ** ** * | ** ** *        | 42    | 6  |
| 2  | 213                                                | 10.9 |    | 20.4                                                                                                                                                                              | 268 | 27.5 <sup>125</sup> | +21 04.6 <sup>99</sup>  | 56                       | 4 59    | 42            | 20             | ** ** * | ** ** *        | 32    | 9  |
| 3  | 228                                                | 11.0 |    | 21.4                                                                                                                                                                              | 282 | 58.9 <sup>124</sup> | +20 54.7 <sup>99</sup>  | 54                       | 5 01    | 42            | 17             | ** ** * | ** ** *        | 22    | 12 |
| 4  | 243                                                | 11.2 |    | 22.3                                                                                                                                                                              | 297 | 30.5 <sup>126</sup> | 44.6 <sup>101</sup>     | 52                       | 02      | 41            | 15             | 0 03    | 77             | 14    | 15 |
| 5  | 258                                                | 11.4 | -6 | 23.3                                                                                                                                                                              | 312 | 02.0 <sup>125</sup> | +20 34.4 <sup>102</sup> | 50                       | 5 03    | 5 40          | 6 13           | 0 12    | 75             | 16 06 | 18 |
| 6  | 273                                                | 11.6 | -6 | 24.2                                                                                                                                                                              | 326 | 33.6 <sup>126</sup> | +20 24.2 <sup>102</sup> | 45                       | 5 05    | 5 39          | 6 08           | 0 32    | 69             | 15 50 | 23 |
| 7  | 288                                                | 11.7 |    | 25.2                                                                                                                                                                              | 341 | 05.3 <sup>127</sup> | 13.8 <sup>104</sup>     | 40                       | 06      | 37            | 04             | 0 48    | 65             | 37    | 26 |
| 8  | 303                                                | 11.9 |    | 26.1                                                                                                                                                                              | 355 | 36.9 <sup>126</sup> | +20 03.3 <sup>105</sup> | 35                       | 06      | 36            | 6 01           | 1 02    | 61             | 26    | 29 |
| 9  | 318                                                | 12.1 |    | 27.1                                                                                                                                                                              | 10  | 08.7 <sup>128</sup> | +19 52.8 <sup>105</sup> | 30                       | 06      | 34            | 5 58           | 13      | 59             | 15    | 16 |
| 10 | 333                                                | 12.2 |    | 28.0                                                                                                                                                                              | 24  | 40.4 <sup>127</sup> | 42.1 <sup>107</sup>     | 20                       | 05      | 31            | 53             | 33      | 55             | 14    | 59 |
| 11 | 348                                                | 12.4 | -6 | 29.0                                                                                                                                                                              | 39  | 12.2 <sup>128</sup> | +19 31.4 <sup>107</sup> | 10 N                     | 5 03    | 5 27          | 5 48           | 1 51    | 50             | 14    | 44 |
| 12 | 3                                                  | 12.6 | -6 | 29.9                                                                                                                                                                              | 53  | 44.1 <sup>129</sup> | +19 20.5 <sup>109</sup> | 0                        | 4 59    | 5 23          | 5 44           | 2 07    | 46             | 14    | 29 |
| 13 | 18                                                 | 12.7 |    | 30.9                                                                                                                                                                              | 68  | 16.0 <sup>129</sup> | +19 09.6 <sup>109</sup> | 10 S                     | 54      | 18            | 39             | 23      | 42             | 15    | 50 |
| 14 | 33                                                 | 12.9 |    | 31.8                                                                                                                                                                              | 82  | 47.9 <sup>129</sup> | +18 58.5 <sup>111</sup> | 20                       | 46      | 12            | 34             | 2 40    | 39             | 14    | 00 |
| 15 | 48                                                 | 13.1 |    | 32.8                                                                                                                                                                              | 97  | 19.9 <sup>130</sup> | 47.4 <sup>111</sup>     | 30                       | 36      | 04            | 29             | 3 00    | 33             | 13    | 42 |
| 16 | 63                                                 | 13.2 |    | 33.7                                                                                                                                                                              | 111 | 51.9 <sup>130</sup> | 36.2 <sup>112</sup>     | 35                       | 29      | 5 00          | 25             | 11      | 31             | 31    | 62 |
| 17 | 78                                                 | 13.4 | -6 | 34.7                                                                                                                                                                              | 126 | 23.9 <sup>130</sup> | +18 24.9 <sup>113</sup> | 40                       | 4 21    | 4 54          | 5 21           | 3 24    | 28             | 13    | 19 |
| 18 | 93                                                 | 13.6 | -6 | 35.6                                                                                                                                                                              | 140 | 56.0 <sup>131</sup> | +18 13.4 <sup>115</sup> | 45                       | 4 11    | 4 47          | 5 17           | 3 39    | 24             | 13    | 05 |
| 19 | 108                                                | 13.7 |    | 36.6                                                                                                                                                                              | 155 | 28.1 <sup>131</sup> | +18 01.9 <sup>115</sup> | 50                       | 3 58    | 38            | 11             | 3 58    | 19             | 12    | 48 |
| 20 | 123                                                | 13.9 |    | 37.5                                                                                                                                                                              | 170 | 00.2 <sup>131</sup> | +17 50.4 <sup>115</sup> | 52                       | 52      | 34            | 09             | 4 07    | 16             | 39    | 78 |
| 21 | 138                                                | 14.1 |    | 38.5                                                                                                                                                                              | 184 | 32.4 <sup>132</sup> | 38.7 <sup>117</sup>     | 54                       | 45      | 29            | 06             | 17      | 13             | 30    | 81 |
| 22 | 153                                                | 14.2 |    | 39.4                                                                                                                                                                              | 199 | 04.6 <sup>132</sup> | 26.9 <sup>118</sup>     | 56                       | 37      | 24            | 03             | 28      | 10             | 20    | 84 |
| 23 | 168                                                | 14.4 |    | 40.3                                                                                                                                                                              | 213 | 36.9 <sup>133</sup> | 15.0 <sup>119</sup>     | 58                       | 27      | 19            | 5 00           | 40      | 7              | 12    | 08 |
| 24 | 183                                                | 14.6 | -6 | 41.3                                                                                                                                                                              | 228 | 09.2 <sup>133</sup> | +17 03.1 <sup>119</sup> | 60 S                     | 3 16    | 4 12          | 4 56           | 4 55    | 2              | 11    | 54 |

| UT  | ARIES                                 |      | VENUS                                            |      | MARTE                                             |          | JÚPITER                                           |          | SATURNO                                          |          |
|-----|---------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|----------|---------------------------------------------------|----------|--------------------------------------------------|----------|
|     | PMG 22 <sup>h</sup> 44 <sup>m</sup> 5 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 21 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 19 <sup>m</sup> |          | Mag: -1.7<br>PMG: 10 <sup>h</sup> 59 <sup>m</sup> |          | Mag: +0.2<br>PMG: 6 <sup>h</sup> 41 <sup>m</sup> |          |
|     | hG ♈                                  |      | hG ♀                                             | Dec  | hG ♂                                              | Dec      | hG ♃                                              | Dec      | hG ♄                                             | Dec      |
| h   | °                                     | '    | °                                                | '    | °                                                 | '        | °                                                 | '        | °                                                | '        |
| 0   | 17                                    | 56.9 | 219                                              | 47.2 | +9 50.8                                           | 190 06.8 | -2 28.4                                           | 194 46.8 | -0 11.1                                          | 259 27.3 |
| 1   | 32                                    | 59.4 | 234                                              | 46.9 | 49.8                                              | 205 07.7 | 29.1                                              | 209 48.7 | 11.3                                             | 274 29.6 |
| 2   | 48                                    | 01.8 | 249                                              | 46.5 | 48.9                                              | 220 08.7 | 29.7                                              | 224 50.7 | 11.5                                             | 289 32.0 |
| 3   | 63                                    | 04.3 | 264                                              | 46.2 | 47.9                                              | 235 09.7 | 30.4                                              | 239 52.7 | 11.7                                             | 304 34.3 |
| 4   | 78                                    | 06.8 | 279                                              | 45.8 | 47.0                                              | 250 10.7 | 31.0                                              | 254 54.7 | 11.9                                             | 319 36.6 |
| 5   | 93                                    | 09.2 | 294                                              | 45.5 | +9 46.0                                           | 265 11.6 | -2 31.7                                           | 269 56.6 | -0 12.2                                          | 334 38.9 |
| 6   | 108                                   | 11.7 | 309                                              | 45.1 | +9 45.1                                           | 280 12.6 | -2 32.4                                           | 284 58.6 | -0 12.4                                          | 349 41.2 |
| 7   | 123                                   | 14.2 | 324                                              | 44.8 | 44.1                                              | 295 13.6 | 33.0                                              | 300 00.6 | 12.6                                             | 4 43.6   |
| 8   | 138                                   | 16.6 | 339                                              | 44.4 | 43.1                                              | 310 14.6 | 33.7                                              | 315 02.6 | 12.8                                             | 19 45.9  |
| 9   | 153                                   | 19.1 | 354                                              | 44.1 | 42.2                                              | 325 15.5 | 34.3                                              | 330 04.5 | 13.0                                             | 34 48.2  |
| 10  | 168                                   | 21.6 | 9                                                | 43.7 | 41.2                                              | 340 16.5 | 35.0                                              | 345 06.5 | 13.2                                             | 49 50.5  |
| 11  | 183                                   | 24.0 | 24                                               | 43.4 | +9 40.3                                           | 355 17.5 | -2 35.6                                           | 0 08.5   | -0 13.4                                          | 64 52.9  |
| 12  | 198                                   | 26.5 | 39                                               | 43.0 | +9 39.3                                           | 10 18.4  | -2 36.3                                           | 15 10.5  | -0 13.6                                          | 79 55.2  |
| 13  | 213                                   | 29.0 | 54                                               | 42.7 | 38.4                                              | 25 19.4  | 36.9                                              | 30 12.4  | 13.8                                             | 94 57.5  |
| 14  | 228                                   | 31.4 | 69                                               | 42.3 | 37.4                                              | 40 20.4  | 37.6                                              | 45 14.4  | 14.0                                             | 109 59.8 |
| 15  | 243                                   | 33.9 | 84                                               | 42.0 | 36.5                                              | 55 21.4  | 38.2                                              | 60 16.4  | 14.3                                             | 125 02.1 |
| 16  | 258                                   | 36.3 | 99                                               | 41.6 | 35.5                                              | 70 22.3  | 38.9                                              | 75 18.3  | 14.5                                             | 140 04.5 |
| 17  | 273                                   | 38.8 | 114                                              | 41.3 | +9 34.5                                           | 85 23.3  | -2 39.6                                           | 90 20.3  | -0 14.7                                          | 155 06.8 |
| 18  | 288                                   | 41.3 | 129                                              | 40.9 | +9 33.6                                           | 100 24.3 | -2 40.2                                           | 105 22.3 | -0 14.9                                          | 170 09.1 |
| 19  | 303                                   | 43.7 | 144                                              | 40.6 | 32.6                                              | 115 25.3 | 40.9                                              | 120 24.3 | 15.1                                             | 185 11.4 |
| 20  | 318                                   | 46.2 | 159                                              | 40.2 | 31.6                                              | 130 26.2 | 41.5                                              | 135 26.2 | 15.3                                             | 200 13.8 |
| 21  | 333                                   | 48.7 | 174                                              | 39.9 | 30.7                                              | 145 27.2 | 42.2                                              | 150 28.2 | 15.5                                             | 215 16.1 |
| 22  | 348                                   | 51.1 | 189                                              | 39.5 | 29.7                                              | 160 28.2 | 42.8                                              | 165 30.2 | 15.7                                             | 230 18.4 |
| 23  | 3                                     | 53.6 | 204                                              | 39.2 | 28.8                                              | 175 29.2 | 43.5                                              | 180 32.2 | 15.9                                             | 245 20.7 |
| 24  | 18                                    | 56.1 | 219                                              | 38.8 | +9 27.8                                           | 190 30.1 | -2 44.1                                           | 195 34.1 | -0 16.1                                          | 260 23.1 |
| Dif | —                                     |      | -4                                               | -10  |                                                   | +10      | -7                                                | +20      | -2                                               | +23      |

| UT  | SOL                                    |      | ☾ LUNA                                                                                                  |      |     |                                                | Latitud                 | Puesta de Sol | Final del crepúsculo                           |       | Salida de Luna |                                               | Puesta de Luna |          |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------------------------------------------------------------|------|-----|------------------------------------------------|-------------------------|---------------|------------------------------------------------|-------|----------------|-----------------------------------------------|----------------|----------|-----|------|-----|------|
|     | SD: 16'0                               |      | Edad: 25 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 55'7<br>12 <sup>h</sup> : 55'9<br>20 <sup>h</sup> : 56'2 |      |     |                                                |                         |               | Civil                                          |       | Náutico        |                                               | Hora R°        |          |     |      |     |      |
|     | PMG: 11 <sup>h</sup> 46 <sup>m</sup> 9 |      | SD: 15'1 PMG: 9 <sup>h</sup> 04 <sup>m</sup> R°: 45 <sup>m</sup>                                        |      |     |                                                |                         |               |                                                |       |                |                                               |                |          |     |      |     |      |
|     | hG ☉                                   | Dec  | hG ☾                                                                                                    | Dif  | Dec | Dif                                            |                         |               |                                                |       |                |                                               |                |          |     |      |     |      |
| h   | °                                      | '    | °                                                                                                       | '    | °   | '                                              | °                       | h m           | h m                                            | h m   | h m            | h m                                           | h m            | m        |     |      |     |      |
| 0   | 183                                    | 14.6 | -6                                                                                                      | 41.3 | 228 | 09.2                                           | +17 03.1                | 60 N          | 17 05                                          | 17 47 | 18 35          | 0 43                                          | 92             | 16 55 1  |     |      |     |      |
| 1   | 198                                    | 14.7 |                                                                                                         | 42.2 | 242 | 41.5 <sup>133</sup>                            | +16 51.1 <sup>120</sup> | 58            | 08                                             | 48    | 33             | 0 54                                          | 88             | 48 3     |     |      |     |      |
| 2   | 213                                    | 14.9 |                                                                                                         | 43.2 | 257 | 13.9 <sup>134</sup>                            | 38.9 <sup>122</sup>     | 56            | 11                                             | 48    | 31             | 1 04                                          | 84             | 41 7     |     |      |     |      |
| 3   | 228                                    | 15.1 |                                                                                                         | 44.1 | 271 | 46.2 <sup>133</sup>                            | 26.7 <sup>122</sup>     | 54            | 14                                             | 49    | 30             | 12                                            | 81             | 34 10    |     |      |     |      |
| 4   | 243                                    | 15.2 |                                                                                                         | 45.1 | 286 | 18.7 <sup>135</sup>                            | 14.5 <sup>122</sup>     | 52            | 16                                             | 50    | 29             | 20                                            | 78             | 29 12    |     |      |     |      |
| 5   | 258                                    | 15.4 | -6                                                                                                      | 46.0 | 300 | 51.1 <sup>134</sup>                            | +16 02.1 <sup>124</sup> | 50            | 17 19                                          | 17 51 | 18 28          | 1 27                                          | 75             | 16 24 14 |     |      |     |      |
| 6   | 273                                    | 15.5 | -6                                                                                                      | 47.0 | 315 | 23.6 <sup>135</sup>                            | +15 49.6 <sup>125</sup> | 45            | 17 24                                          | 17 53 | 18 27          | 1 41                                          | 70             | 16 13 19 |     |      |     |      |
| 7   | 288                                    | 15.7 |                                                                                                         | 47.9 | 329 | 56.1 <sup>135</sup>                            | 37.1 <sup>125</sup>     | 40            | 28                                             | 55    | 26             | 1 53                                          | 66             | 16 03 24 |     |      |     |      |
| 8   | 303                                    | 15.9 |                                                                                                         | 48.9 | 344 | 28.7 <sup>136</sup>                            | 24.5 <sup>126</sup>     | 35            | 31                                             | 57    | 26             | 2 03                                          | 63             | 15 55 27 |     |      |     |      |
| 9   | 318                                    | 16.0 |                                                                                                         | 49.8 | 359 | 01.2 <sup>135</sup>                            | +15 11.8 <sup>127</sup> | 30            | 35                                             | 17 59 | 26             | 12                                            | 59             | 48 30    |     |      |     |      |
| 10  | 333                                    | 16.2 |                                                                                                         | 50.8 | 13  | 33.8 <sup>136</sup>                            | +14 59.0 <sup>128</sup> | 20            | 40                                             | 18 02 | 28             | 28                                            | 53             | 36 35    |     |      |     |      |
| 11  | 348                                    | 16.4 | -6                                                                                                      | 51.7 | 28  | 06.5 <sup>137</sup>                            | +14 46.2 <sup>128</sup> | 10 N          | 17 45                                          | 18 06 | 18 31          | 2 41                                          | 49             | 15 25 40 |     |      |     |      |
| 12  | 3                                      | 16.5 | -6                                                                                                      | 52.6 | 42  | 39.1 <sup>136</sup>                            | +14 33.2 <sup>130</sup> | 0             | 17 50                                          | 18 11 | 18 35          | 2 53                                          | 45             | 15 15 44 |     |      |     |      |
| 13  | 18                                     | 16.7 |                                                                                                         | 53.6 | 57  | 11.8 <sup>137</sup>                            | 20.2 <sup>130</sup>     | 10 S          | 17 55                                          | 16    | 41             | 3 05                                          | 41             | 15 05 48 |     |      |     |      |
| 14  | 33                                     | 16.9 |                                                                                                         | 54.5 | 71  | 44.5 <sup>137</sup>                            | +14 07.1 <sup>131</sup> | 20            | 18 01                                          | 23    | 18 49          | 19                                            | 36             | 14 53 54 |     |      |     |      |
| 15  | 48                                     | 17.0 |                                                                                                         | 55.5 | 86  | 17.2 <sup>137</sup>                            | +13 54.0 <sup>131</sup> | 30            | 07                                             | 31    | 19 00          | 33                                            | 32             | 41 59    |     |      |     |      |
| 16  | 63                                     | 17.2 |                                                                                                         | 56.4 | 100 | 50.0 <sup>138</sup>                            | 40.7 <sup>133</sup>     | 35            | 11                                             | 36    | 07             | 42                                            | 28             | 33 63    |     |      |     |      |
| 17  | 78                                     | 17.3 | -6                                                                                                      | 57.4 | 115 | 22.8 <sup>138</sup>                            | +13 27.4 <sup>133</sup> | 40            | 18 15                                          | 18 42 | 19 15          | 3 52                                          | 25             | 14 25 66 |     |      |     |      |
| 18  | 93                                     | 17.5 | -6                                                                                                      | 58.3 | 129 | 55.6 <sup>138</sup>                            | +13 14.1 <sup>133</sup> | 45            | 18 20                                          | 18 50 | 19 26          | 4 03                                          | 21             | 14 15 70 |     |      |     |      |
| 19  | 108                                    | 17.7 | -6                                                                                                      | 59.3 | 144 | 28.4 <sup>138</sup>                            | +13 00.6 <sup>135</sup> | 50            | 26                                             | 18 59 | 40             | 17                                            | 16             | 14 03 75 |     |      |     |      |
| 20  | 123                                    | 17.8 | -7                                                                                                      | 00.2 | 159 | 01.2 <sup>138</sup>                            | +12 47.1 <sup>135</sup> | 52            | 28                                             | 19 03 | 46             | 23                                            | 14             | 13 57 78 |     |      |     |      |
| 21  | 138                                    | 18.0 |                                                                                                         | 01.1 | 173 | 34.1 <sup>139</sup>                            | 33.5 <sup>136</sup>     | 54            | 31                                             | 08    | 19 54          | 30                                            | 11             | 51 81    |     |      |     |      |
| 22  | 153                                    | 18.1 |                                                                                                         | 02.1 | 188 | 07.0 <sup>139</sup>                            | 19.8 <sup>137</sup>     | 56            | 35                                             | 14    | 20 02          | 38                                            | 8              | 44 84    |     |      |     |      |
| 23  | 168                                    | 18.3 |                                                                                                         | 03.0 | 202 | 39.9 <sup>139</sup>                            | +12 06.1 <sup>137</sup> | 58            | 39                                             | 20    | 12             | 47                                            | 5              | 36 87    |     |      |     |      |
| 24  | 183                                    | 18.5 | -7                                                                                                      | 04.0 | 217 | 12.8 <sup>139</sup>                            | +11 52.3 <sup>138</sup> | 60 S          | 18 43                                          | 19 27 | 20 24          | 4 57                                          | 1              | 13 27 91 |     |      |     |      |
| UT  | ARIES                                  |      | VENUS                                                                                                   |      |     | MARTE                                          |                         |               | JÚPITER                                        |       |                | SATURNO                                       |                |          |     |      |     |      |
|     | PMG 22 <sup>h</sup> 40 <sup>m</sup> 5  |      | Mag: -4.1 PMG: 9 <sup>h</sup> 22 <sup>m</sup>                                                           |      |     | Mag: +1.7 PMG: 11 <sup>h</sup> 17 <sup>m</sup> |                         |               | Mag: -1.7 PMG: 10 <sup>h</sup> 56 <sup>m</sup> |       |                | Mag: +0.2 PMG: 6 <sup>h</sup> 37 <sup>m</sup> |                |          |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                                                                                    | Dec  |     | hG ♂                                           | Dec                     |               | hG ♃                                           | Dec   |                | hG ♄                                          | Dec            |          |     |      |     |      |
| h   | °                                      | '    | °                                                                                                       | '    | °   | '                                              | °                       | '             | °                                              | '     | °              | '                                             | °              | '        |     |      |     |      |
| 0   | 18                                     | 56.1 | 219                                                                                                     | 38.8 | +9  | 27.8                                           | 190                     | 30.1          | -2                                             | 44.1  | 195            | 34.1                                          | -0             | 16.1     | 260 | 23.1 | +20 | 42.2 |
| 1   | 33                                     | 58.5 | 234                                                                                                     | 38.5 |     | 26.8                                           | 205                     | 31.1          |                                                | 44.8  | 210            | 36.1                                          |                | 16.3     | 275 | 25.4 |     | 42.2 |
| 2   | 49                                     | 01.0 | 249                                                                                                     | 38.1 |     | 25.9                                           | 220                     | 32.1          |                                                | 45.4  | 225            | 38.1                                          |                | 16.6     | 290 | 27.7 |     | 42.1 |
| 3   | 64                                     | 03.5 | 264                                                                                                     | 37.8 |     | 24.9                                           | 235                     | 33.0          |                                                | 46.1  | 240            | 40.1                                          |                | 16.8     | 305 | 30.0 |     | 42.1 |
| 4   | 79                                     | 05.9 | 279                                                                                                     | 37.4 |     | 23.9                                           | 250                     | 34.0          |                                                | 46.7  | 255            | 42.0                                          |                | 17.0     | 320 | 32.4 |     | 42.1 |
| 5   | 94                                     | 08.4 | 294                                                                                                     | 37.1 | +9  | 23.0                                           | 265                     | 35.0          | -2                                             | 47.4  | 270            | 44.0                                          | -0             | 17.2     | 335 | 34.7 | +20 | 42.1 |
| 6   | 109                                    | 10.8 | 309                                                                                                     | 36.7 | +9  | 22.0                                           | 280                     | 36.0          | -2                                             | 48.1  | 285            | 46.0                                          | -0             | 17.4     | 350 | 37.0 | +20 | 42.1 |
| 7   | 124                                    | 13.3 | 324                                                                                                     | 36.4 |     | 21.0                                           | 295                     | 36.9          |                                                | 48.7  | 300            | 48.0                                          |                | 17.6     | 5   | 39.3 |     | 42.0 |
| 8   | 139                                    | 15.8 | 339                                                                                                     | 36.0 |     | 20.1                                           | 310                     | 37.9          |                                                | 49.4  | 315            | 49.9                                          |                | 17.8     | 20  | 41.7 |     | 42.0 |
| 9   | 154                                    | 18.2 | 354                                                                                                     | 35.7 |     | 19.1                                           | 325                     | 38.9          |                                                | 50.0  | 330            | 51.9                                          |                | 18.0     | 35  | 44.0 |     | 42.0 |
| 10  | 169                                    | 20.7 | 9                                                                                                       | 35.3 |     | 18.1                                           | 340                     | 39.8          |                                                | 50.7  | 345            | 53.9                                          |                | 18.2     | 50  | 46.3 |     | 42.0 |
| 11  | 184                                    | 23.2 | 24                                                                                                      | 35.0 | +9  | 17.2                                           | 355                     | 40.8          | -2                                             | 51.3  | 0              | 55.9                                          | -0             | 18.4     | 65  | 48.7 | +20 | 41.9 |
| 12  | 199                                    | 25.6 | 39                                                                                                      | 34.6 | +9  | 16.2                                           | 10                      | 41.8          | -2                                             | 52.0  | 15             | 57.8                                          | -0             | 18.7     | 80  | 51.0 | +20 | 41.9 |
| 13  | 214                                    | 28.1 | 54                                                                                                      | 34.3 |     | 15.2                                           | 25                      | 42.8          |                                                | 52.6  | 30             | 59.8                                          |                | 18.9     | 95  | 53.3 |     | 41.9 |
| 14  | 229                                    | 30.6 | 69                                                                                                      | 33.9 |     | 14.3                                           | 40                      | 43.7          |                                                | 53.3  | 46             | 01.8                                          |                | 19.1     | 110 | 55.6 |     | 41.9 |
| 15  | 244                                    | 33.0 | 84                                                                                                      | 33.6 |     | 13.3                                           | 55                      | 44.7          |                                                | 53.9  | 61             | 03.8                                          |                | 19.3     | 125 | 58.0 |     | 41.9 |
| 16  | 259                                    | 35.5 | 99                                                                                                      | 33.2 |     | 12.3                                           | 70                      | 45.7          |                                                | 54.6  | 76             | 05.7                                          |                | 19.5     | 141 | 00.3 |     | 41.8 |
| 17  | 274                                    | 37.9 | 114                                                                                                     | 32.9 | +9  | 11.3                                           | 85                      | 46.6          | -2                                             | 55.2  | 91             | 07.7                                          | -0             | 19.7     | 156 | 02.6 | +20 | 41.8 |
| 18  | 289                                    | 40.4 | 129                                                                                                     | 32.5 | +9  | 10.4                                           | 100                     | 47.6          | -2                                             | 55.9  | 106            | 09.7                                          | -0             | 19.9     | 171 | 05.0 | +20 | 41.8 |
| 19  | 304                                    | 42.9 | 144                                                                                                     | 32.2 |     | 09.4                                           | 115                     | 48.6          |                                                | 56.5  | 121            | 11.7                                          |                | 20.1     | 186 | 07.3 |     | 41.8 |
| 20  | 319                                    | 45.3 | 159                                                                                                     | 31.8 |     | 08.4                                           | 130                     | 49.6          |                                                | 57.2  | 136            | 13.6                                          |                | 20.3     | 201 | 09.6 |     | 41.8 |
| 21  | 334                                    | 47.8 | 174                                                                                                     | 31.5 |     | 07.4                                           | 145                     | 50.5          |                                                | 57.9  | 151            | 15.6                                          |                | 20.5     | 216 | 11.9 |     | 41.7 |
| 22  | 349                                    | 50.3 | 189                                                                                                     | 31.1 |     | 06.5                                           | 160                     | 51.5          |                                                | 58.5  | 166            | 17.6                                          |                | 20.7     | 231 | 14.3 |     | 41.7 |
| 23  | 4                                      | 52.7 | 204                                                                                                     | 30.8 |     | 05.5                                           | 175                     | 52.5          |                                                | 59.2  | 181            | 19.6                                          |                | 21.0     | 246 | 16.6 |     | 41.7 |
| 24  | 19                                     | 55.2 | 219                                                                                                     | 30.5 | +9  | 04.5                                           | 190                     | 53.4          | -2                                             | 59.8  | 196            | 21.5                                          | -0             | 21.2     | 261 | 18.9 | +20 | 41.7 |
| Dif | —                                      |      | -3                                                                                                      | -10  |     | +10                                            | -7                      |               |                                                | +20   | -2             |                                               |                | +23      | 0   |      |     |      |

| UT  | SOL                                                |      |                                                  | ● LUNA                                                                                                                                                             |     |                                                   | Latitud                 | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |       |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|-------------------------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|-------|-----|------|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 6 |      |                                                  | Edad: 26 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 56'4<br>12 <sup>h</sup> : 56'6<br>20 <sup>h</sup> : 56'9<br>PMG: 9 <sup>h</sup> 49 <sup>m</sup> R°: 44 <sup>m</sup> |     |                                                   |                         |                          |                                                   |               |                |                                                  |                |       |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                               | Dif | Dec                                               |                         | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora  | R°  |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °                       | h                        | m                                                 | h             | m              | h                                                | m              | h     | m   |      |
| 0   | 183                                                | 18.5 | -7                                               | 04.0                                                                                                                                                               | 217 | 12.8                                              | +11 52.3                | 60 N                     | 5 00                                              | 5 48          | 6 30           | 2 15                                             | 92             | 16 56 | **  |      |
| 1   | 198                                                | 18.6 |                                                  | 04.9                                                                                                                                                               | 231 | 45.8 <sup>140</sup>                               | 38.4 <sup>139</sup>     | 58                       | 02                                                | 47            | 27             | 22                                               | 87             | 51    | 4   |      |
| 2   | 213                                                | 18.8 |                                                  | 05.9                                                                                                                                                               | 246 | 18.7 <sup>139</sup>                               | 24.5 <sup>139</sup>     | 56                       | 03                                                | 46            | 24             | 28                                               | 84             | 48    | 6   |      |
| 3   | 228                                                | 18.9 |                                                  | 06.8                                                                                                                                                               | 260 | 51.7 <sup>140</sup>                               | +11 10.5 <sup>140</sup> | 54                       | 04                                                | 45            | 21             | 33                                               | 81             | 44    | 9   |      |
| 4   | 243                                                | 19.1 |                                                  | 07.7                                                                                                                                                               | 275 | 24.7 <sup>140</sup>                               | +10 56.4 <sup>141</sup> | 52                       | 05                                                | 44            | 18             | 38                                               | 78             | 41    | 12  |      |
| 5   | 258                                                | 19.3 | -7                                               | 08.7                                                                                                                                                               | 289 | 57.7 <sup>140</sup>                               | +10 42.3 <sup>141</sup> | 50                       | 5 06                                              | 5 43          | 6 16           | 2 42                                             | 76             | 16 38 | 14  |      |
| 6   | 273                                                | 19.4 | -7                                               | 09.6                                                                                                                                                               | 304 | 30.7 <sup>140</sup>                               | +10 28.1 <sup>142</sup> | 45                       | 5 07                                              | 5 41          | 6 11           | 2 51                                             | 71             | 16 32 | 19  |      |
| 7   | 288                                                | 19.6 |                                                  | 10.6                                                                                                                                                               | 319 | 03.7 <sup>140</sup>                               | +10 13.9 <sup>142</sup> | 40                       | 08                                                | 39            | 07             | 2 59                                             | 66             | 27    | 23  |      |
| 8   | 303                                                | 19.7 |                                                  | 11.5                                                                                                                                                               | 333 | 36.7 <sup>140</sup>                               | +9 59.6 <sup>143</sup>  | 35                       | 08                                                | 37            | 6 03           | 3 06                                             | 62             | 22    | 27  |      |
| 9   | 318                                                | 19.9 |                                                  | 12.4                                                                                                                                                               | 348 | 09.8 <sup>141</sup>                               | 45.2 <sup>144</sup>     | 30                       | 08                                                | 35            | 5 59           | 11                                               | 60             | 18    | 30  |      |
| 10  | 333                                                | 20.1 |                                                  | 13.4                                                                                                                                                               | 2   | 42.8 <sup>140</sup>                               | 30.8 <sup>144</sup>     | 20                       | 06                                                | 31            | 54             | 21                                               | 54             | 11    | 35  |      |
| 11  | 348                                                | 20.2 | -7                                               | 14.3                                                                                                                                                               | 17  | 15.9 <sup>141</sup>                               | +9 16.3 <sup>145</sup>  | 10 N                     | 5 03                                              | 5 27          | 5 48           | 3 30                                             | 49             | 16 05 | 40  |      |
| 12  | 3                                                  | 20.4 | -7                                               | 15.3                                                                                                                                                               | 31  | 48.9 <sup>140</sup>                               | +9 01.8 <sup>145</sup>  | 0                        | 4 58                                              | 5 23          | 5 43           | 3 38                                             | 45             | 15 59 | 45  |      |
| 13  | 18                                                 | 20.5 |                                                  | 16.2                                                                                                                                                               | 46  | 22.0 <sup>141</sup>                               | +8 47.2 <sup>146</sup>  | 10 S                     | 52                                                | 17            | 38             | 46                                               | 40             | 53    | 50  |      |
| 14  | 33                                                 | 20.7 |                                                  | 17.2                                                                                                                                                               | 60  | 55.1 <sup>141</sup>                               | 32.5 <sup>147</sup>     | 20                       | 44                                                | 10            | 33             | 3 55                                             | 35             | 47    | 54  |      |
| 15  | 48                                                 | 20.8 |                                                  | 18.1                                                                                                                                                               | 75  | 28.2 <sup>141</sup>                               | 17.8 <sup>147</sup>     | 30                       | 33                                                | 5 02          | 26             | 4 05                                             | 29             | 40    | 60  |      |
| 16  | 63                                                 | 21.0 |                                                  | 19.0                                                                                                                                                               | 90  | 01.3 <sup>141</sup>                               | +8 03.1 <sup>147</sup>  | 35                       | 26                                                | 4 57          | 22             | 10                                               | 27             | 36    | 63  |      |
| 17  | 78                                                 | 21.2 | -7                                               | 20.0                                                                                                                                                               | 104 | 34.3 <sup>140</sup>                               | +7 48.3 <sup>148</sup>  | 40                       | 4 18                                              | 4 51          | 5 18           | 4 17                                             | 23             | 15 31 | 67  |      |
| 18  | 93                                                 | 21.3 | -7                                               | 20.9                                                                                                                                                               | 119 | 07.4 <sup>141</sup>                               | +7 33.4 <sup>149</sup>  | 45                       | 4 07                                              | 4 43          | 5 13           | 4 24                                             | 19             | 15 25 | 71  |      |
| 19  | 108                                                | 21.5 |                                                  | 21.9                                                                                                                                                               | 133 | 40.5 <sup>141</sup>                               | 18.5 <sup>149</sup>     | 50                       | 3 53                                              | 34            | 07             | 33                                               | 14             | 18    | 77  |      |
| 20  | 123                                                | 21.6 |                                                  | 22.8                                                                                                                                                               | 148 | 13.6 <sup>141</sup>                               | +7 03.5 <sup>150</sup>  | 52                       | 47                                                | 29            | 04             | 37                                               | 12             | 15    | 79  |      |
| 21  | 138                                                | 21.8 |                                                  | 23.7                                                                                                                                                               | 162 | 46.7 <sup>141</sup>                               | +6 48.5 <sup>150</sup>  | 54                       | 39                                                | 24            | 5 01           | 41                                               | 10             | 12    | 81  |      |
| 22  | 153                                                | 21.9 |                                                  | 24.7                                                                                                                                                               | 177 | 19.8 <sup>141</sup>                               | 33.5 <sup>150</sup>     | 56                       | 31                                                | 19            | 4 58           | 46                                               | 7              | 08    | 85  |      |
| 23  | 168                                                | 22.1 |                                                  | 25.6                                                                                                                                                               | 191 | 52.9 <sup>141</sup>                               | 18.4 <sup>151</sup>     | 58                       | 21                                                | 13            | 54             | 52                                               | 3              | 15 03 | 89  |      |
| 24  | 183                                                | 22.2 | -7                                               | 26.5                                                                                                                                                               | 206 | 26.0 <sup>141</sup>                               | +6 03.3 <sup>151</sup>  | 60 S                     | 3 09                                              | 4 06          | 4 50           | 4 58                                             | 0              | 14 58 | 92  |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                    |     | MARTE                                             |                         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |       |     |      |
|     | PMG: 22 <sup>h</sup> 36 <sup>m</sup> 6             |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 22 <sup>m</sup> |                                                                                                                                                                    |     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 16 <sup>m</sup> |                         |                          | Mag: -1.7<br>PMG: 10 <sup>h</sup> 53 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 6 <sup>h</sup> 34 <sup>m</sup> |                |       |     |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                |     | hG ♂                                              | Dec                     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |       |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °                       | '                        | °                                                 | '             | °              | '                                                | '              | °     | '   |      |
| 0   | 19                                                 | 55.2 | 219                                              | 30.5                                                                                                                                                               | +9  | 04.5                                              | 190                     | 53.4                     | -2                                                | 59.8          | 196            | 21.5                                             | -0             | 21.2  | 261 | 18.9 |
| 1   | 34                                                 | 57.7 | 234                                              | 30.1                                                                                                                                                               |     | 03.5                                              | 205                     | 54.4                     | -3                                                | 00.5          | 211            | 23.5                                             |                | 21.4  | 276 | 21.3 |
| 2   | 50                                                 | 00.1 | 249                                              | 29.8                                                                                                                                                               |     | 02.6                                              | 220                     | 55.4                     |                                                   | 01.1          | 226            | 25.5                                             |                | 21.6  | 291 | 23.6 |
| 3   | 65                                                 | 02.6 | 264                                              | 29.4                                                                                                                                                               |     | 01.6                                              | 235                     | 56.4                     |                                                   | 01.8          | 241            | 27.5                                             |                | 21.8  | 306 | 25.9 |
| 4   | 80                                                 | 05.1 | 279                                              | 29.1                                                                                                                                                               | +9  | 00.6                                              | 250                     | 57.3                     |                                                   | 02.4          | 256            | 29.4                                             |                | 22.0  | 321 | 28.2 |
| 5   | 95                                                 | 07.5 | 294                                              | 28.7                                                                                                                                                               | +8  | 59.6                                              | 265                     | 58.3                     | -3                                                | 03.1          | 271            | 31.4                                             | -0             | 22.2  | 336 | 30.6 |
| 6   | 110                                                | 10.0 | 309                                              | 28.4                                                                                                                                                               | +8  | 58.6                                              | 280                     | 59.3                     | -3                                                | 03.7          | 286            | 33.4                                             | -0             | 22.4  | 351 | 32.9 |
| 7   | 125                                                | 12.4 | 324                                              | 28.0                                                                                                                                                               |     | 57.7                                              | 296                     | 00.2                     |                                                   | 04.4          | 301            | 35.4                                             |                | 22.6  | 6   | 35.2 |
| 8   | 140                                                | 14.9 | 339                                              | 27.7                                                                                                                                                               |     | 56.7                                              | 311                     | 01.2                     |                                                   | 05.0          | 316            | 37.3                                             |                | 22.8  | 21  | 37.6 |
| 9   | 155                                                | 17.4 | 354                                              | 27.3                                                                                                                                                               |     | 55.7                                              | 326                     | 02.2                     |                                                   | 05.7          | 331            | 39.3                                             |                | 23.0  | 36  | 39.9 |
| 10  | 170                                                | 19.8 | 9                                                | 27.0                                                                                                                                                               |     | 54.7                                              | 341                     | 03.2                     |                                                   | 06.3          | 346            | 41.3                                             |                | 23.2  | 51  | 42.2 |
| 11  | 185                                                | 22.3 | 24                                               | 26.6                                                                                                                                                               | +8  | 53.7                                              | 356                     | 04.1                     | -3                                                | 07.0          | 1              | 43.3                                             | -0             | 23.5  | 66  | 44.6 |
| 12  | 200                                                | 24.8 | 39                                               | 26.3                                                                                                                                                               | +8  | 52.8                                              | 11                      | 05.1                     | -3                                                | 07.7          | 16             | 45.2                                             | -0             | 23.7  | 81  | 46.9 |
| 13  | 215                                                | 27.2 | 54                                               | 25.9                                                                                                                                                               |     | 51.8                                              | 26                      | 06.1                     |                                                   | 08.3          | 31             | 47.2                                             |                | 23.9  | 96  | 49.2 |
| 14  | 230                                                | 29.7 | 69                                               | 25.6                                                                                                                                                               |     | 50.8                                              | 41                      | 07.0                     |                                                   | 09.0          | 46             | 49.2                                             |                | 24.1  | 111 | 51.6 |
| 15  | 245                                                | 32.2 | 84                                               | 25.3                                                                                                                                                               |     | 49.8                                              | 56                      | 08.0                     |                                                   | 09.6          | 61             | 51.2                                             |                | 24.3  | 126 | 53.9 |
| 16  | 260                                                | 34.6 | 99                                               | 24.9                                                                                                                                                               |     | 48.8                                              | 71                      | 09.0                     |                                                   | 10.3          | 76             | 53.1                                             |                | 24.5  | 141 | 56.2 |
| 17  | 275                                                | 37.1 | 114                                              | 24.6                                                                                                                                                               | +8  | 47.8                                              | 86                      | 09.9                     | -3                                                | 10.9          | 91             | 55.1                                             | -0             | 24.7  | 156 | 58.6 |
| 18  | 290                                                | 39.5 | 129                                              | 24.2                                                                                                                                                               | +8  | 46.8                                              | 101                     | 10.9                     | -3                                                | 11.6          | 106            | 57.1                                             | -0             | 24.9  | 172 | 00.9 |
| 19  | 305                                                | 42.0 | 144                                              | 23.9                                                                                                                                                               |     | 45.9                                              | 116                     | 11.9                     |                                                   | 12.2          | 121            | 59.1                                             |                | 25.1  | 187 | 03.2 |
| 20  | 320                                                | 44.5 | 159                                              | 23.5                                                                                                                                                               |     | 44.9                                              | 131                     | 12.9                     |                                                   | 12.9          | 137            | 01.0                                             |                | 25.3  | 202 | 05.6 |
| 21  | 335                                                | 46.9 | 174                                              | 23.2                                                                                                                                                               |     | 43.9                                              | 146                     | 13.8                     |                                                   | 13.5          | 152            | 03.0                                             |                | 25.5  | 217 | 07.9 |
| 22  | 350                                                | 49.4 | 189                                              | 22.8                                                                                                                                                               |     | 42.9                                              | 161                     | 14.8                     |                                                   | 14.2          | 167            | 05.0                                             |                | 25.8  | 232 | 10.2 |
| 23  | 5                                                  | 51.9 | 204                                              | 22.5                                                                                                                                                               |     | 41.9                                              | 176                     | 15.8                     |                                                   | 14.8          | 182            | 07.0                                             |                | 26.0  | 247 | 12.6 |
| 24  | 20                                                 | 54.3 | 219                                              | 22.1                                                                                                                                                               | +8  | 40.9                                              | 191                     | 16.7                     | -3                                                | 15.5          | 197            | 08.9                                             | -0             | 26.2  | 262 | 14.9 |
| Dif | —                                                  |      | -3                                               | -10                                                                                                                                                                |     | +10                                               | -7                      |                          |                                                   | +20           | -2             |                                                  | +23            |       | 0   |      |



| UT  | SOL                                    |      | ● LUNA                                                                                                                         |         |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |         | Puesta de Luna |       |
|-----|----------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------|---------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|--------------------------------------------------|---------|----------------|---------|----------------|-------|
|     | SD: 16'0                               |      | Edad: 27 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 57'1<br>12 <sup>h</sup> : 57'4<br>20 <sup>h</sup> : 57'6<br>R°: 45 <sup>m</sup> |         |                                                   |                     |                                                   |               |                                                  |         |                |         |                |       |
|     | PMG: 11 <sup>h</sup> 46 <sup>m</sup> 4 |      | SD: 15'5<br>PMG: 10 <sup>h</sup> 33 <sup>m</sup>                                                                               |         |                                                   |                     |                                                   |               |                                                  |         |                |         |                |       |
|     | hG ☉                                   | Dec  | hG ☾                                                                                                                           | Dif     | Dec                                               | Dif                 |                                                   |               | Civil                                            | Náutico | Hora           | R°      | Hora           | R°    |
| h   | °                                      | '    | °                                                                                                                              | '       | °                                                 | '                   | °                                                 | h m           | h m                                              | h m     | h m m          | h m m   | h m m          | h m m |
| 0   | 183                                    | 22.2 | -7 26.5                                                                                                                        |         | 206                                               | 26.0                | +6 03.3                                           | 60 N          | 16 59                                            | 17 41   | 18 29          | 3 47 92 | 16 55 0        |       |
| 1   | 198                                    | 22.4 |                                                                                                                                | 27.5    | 220                                               | 59.0 <sup>140</sup> | +5 48.1 <sup>152</sup>                            | 58            | 17 03                                            | 42      | 28             | 49 90   | 55 3           |       |
| 2   | 213                                    | 22.6 |                                                                                                                                | 28.4    | 235                                               | 32.1 <sup>141</sup> | 32.8 <sup>153</sup>                               | 56            | 06                                               | 44      | 26             | 52 86   | 54 6           |       |
| 3   | 228                                    | 22.7 |                                                                                                                                | 29.4    | 250                                               | 05.2 <sup>141</sup> | 17.6 <sup>152</sup>                               | 54            | 09                                               | 45      | 26             | 54 83   | 53 9           |       |
| 4   | 243                                    | 22.9 |                                                                                                                                | 30.3    | 264                                               | 38.2 <sup>140</sup> | +5 02.3 <sup>153</sup>                            | 52            | 12                                               | 46      | 25             | 56 80   | 53 11          |       |
| 5   | 258                                    | 23.0 | -7 31.2                                                                                                                        |         | 279                                               | 11.2 <sup>140</sup> | +4 46.9 <sup>154</sup>                            | 50            | 17 14                                            | 17 47   | 18 24          | 3 58 78 | 16 52 14       |       |
| 6   | 273                                    | 23.2 | -7 32.2                                                                                                                        |         | 293                                               | 44.3 <sup>141</sup> | +4 31.5 <sup>154</sup>                            | 45            | 17 20                                            | 17 49   | 18 23          | 4 02 72 | 16 51 18       |       |
| 7   | 288                                    | 23.3 |                                                                                                                                | 33.1    | 308                                               | 17.3 <sup>140</sup> | 16.1 <sup>154</sup>                               | 40            | 25                                               | 52      | 23             | 05 68   | 50 23          |       |
| 8   | 303                                    | 23.5 |                                                                                                                                | 34.1    | 322                                               | 50.3 <sup>140</sup> | +4 00.7 <sup>154</sup>                            | 35            | 29                                               | 54      | 23             | 08 64   | 49 26          |       |
| 9   | 318                                    | 23.6 |                                                                                                                                | 35.0    | 337                                               | 23.3 <sup>140</sup> | +3 45.2 <sup>155</sup>                            | 30            | 32                                               | 17 56   | 24             | 11 60   | 48 30          |       |
| 10  | 333                                    | 23.8 |                                                                                                                                | 35.9    | 351                                               | 56.3 <sup>140</sup> | 29.6 <sup>156</sup>                               | 20            | 39                                               | 18 01   | 26             | 15 55   | 46 36          |       |
| 11  | 348                                    | 23.9 | -7 36.9                                                                                                                        |         | 6                                                 | 29.2 <sup>139</sup> | +3 14.1 <sup>155</sup>                            | 10 N          | 17 44                                            | 18 05   | 18 30          | 4 19 50 | 16 45 41       |       |
| 12  | 3                                      | 24.1 | -7 37.8                                                                                                                        |         | 21                                                | 02.2 <sup>140</sup> | +2 58.5 <sup>156</sup>                            | 0             | 17 50                                            | 18 11   | 18 35          | 4 23 45 | 16 44 45       |       |
| 13  | 18                                     | 24.2 |                                                                                                                                | 38.7    | 35                                                | 35.1 <sup>139</sup> | 42.9 <sup>156</sup>                               | 10 S          | 17 55                                            | 16      | 41             | 26 40   | 43 50          |       |
| 14  | 33                                     | 24.4 |                                                                                                                                | 39.7    | 50                                                | 08.0 <sup>139</sup> | 27.2 <sup>157</sup>                               | 20            | 18 01                                            | 24      | 18 50          | 30 35   | 41 56          |       |
| 15  | 48                                     | 24.5 |                                                                                                                                | 40.6    | 64                                                | 40.9 <sup>139</sup> | +2 11.5 <sup>157</sup>                            | 30            | 08                                               | 33      | 19 01          | 34 30   | 40 61          |       |
| 16  | 63                                     | 24.7 |                                                                                                                                | 41.5    | 79                                                | 13.7 <sup>138</sup> | +1 55.8 <sup>157</sup>                            | 35            | 12                                               | 38      | 09             | 37 26   | 39 64          |       |
| 17  | 78                                     | 24.8 | -7 42.5                                                                                                                        |         | 93                                                | 46.6 <sup>139</sup> | +1 40.1 <sup>157</sup>                            | 40            | 18 17                                            | 18 45   | 19 18          | 4 40 22 | 16 38 68       |       |
| 18  | 93                                     | 25.0 | -7 43.4                                                                                                                        |         | 108                                               | 19.4 <sup>138</sup> | +1 24.3 <sup>158</sup>                            | 45            | 18 22                                            | 18 53   | 19 29          | 4 43 19 | 16 36 74       |       |
| 19  | 108                                    | 25.1 |                                                                                                                                | 44.4    | 122                                               | 52.2 <sup>138</sup> | +1 08.6 <sup>157</sup>                            | 50            | 29                                               | 19 02   | 43             | 47 13   | 35 78          |       |
| 20  | 123                                    | 25.3 |                                                                                                                                | 45.3    | 137                                               | 24.9 <sup>137</sup> | +0 52.8 <sup>158</sup>                            | 52            | 32                                               | 07      | 50             | 49 11   | 34 81          |       |
| 21  | 138                                    | 25.4 |                                                                                                                                | 46.2    | 151                                               | 57.7 <sup>138</sup> | 36.9 <sup>159</sup>                               | 54            | 35                                               | 12      | 19 58          | 51 8    | 33 84          |       |
| 22  | 153                                    | 25.6 |                                                                                                                                | 47.2    | 166                                               | 30.4 <sup>137</sup> | 21.1 <sup>158</sup>                               | 56            | 39                                               | 18      | 20 07          | 53 6    | 33 86          |       |
| 23  | 168                                    | 25.7 |                                                                                                                                | 48.1    | 181                                               | 03.0 <sup>136</sup> | +0 05.2 <sup>159</sup>                            | 58            | 43                                               | 25      | 18             | 55 3    | 32 90          |       |
| 24  | 183                                    | 25.9 | -7 49.0                                                                                                                        |         | 195                                               | 35.7 <sup>137</sup> | -0 10.6 <sup>158</sup>                            | 60 S          | 18 48                                            | 19 32   | 20 30          | 4 58 ** | 16 30 95       |       |
| UT  | ARIES                                  |      | VENUS                                                                                                                          |         | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                          |         |                |         |                |       |
|     | PMG: 22 <sup>h</sup> 32 <sup>m</sup> 7 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 23 <sup>m</sup>                                                                               |         | Mag: +1.7<br>PMG: 11 <sup>h</sup> 14 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 10 <sup>h</sup> 50 <sup>m</sup> |               | Mag: +0.2<br>PMG: 6 <sup>h</sup> 30 <sup>m</sup> |         |                |         |                |       |
|     | hG ♈                                   | hG ♀ | Dec                                                                                                                            | hG ♂    | Dec                                               | hG ♃                | Dec                                               | hG ♄          | Dec                                              |         |                |         |                |       |
| h   | °                                      | °    | '                                                                                                                              | °       | '                                                 | °                   | '                                                 | °             | '                                                |         |                |         |                |       |
| 0   | 20                                     | 54.3 | 219 22.1                                                                                                                       | +8 40.9 | 191 16.7                                          | -3 15.5             | 197 08.9                                          | -0 26.2       | 262 14.9                                         |         |                |         |                |       |
| 1   | 35                                     | 56.8 | 234 21.8                                                                                                                       | 39.9    | 206 17.7                                          | 16.1                | 212 10.9                                          | 26.4          | 277 17.2                                         |         |                |         |                |       |
| 2   | 50                                     | 59.3 | 249 21.5                                                                                                                       | 38.9    | 221 18.7                                          | 16.8                | 227 12.9                                          | 26.6          | 292 19.6                                         |         |                |         |                |       |
| 3   | 66                                     | 01.7 | 264 21.1                                                                                                                       | 37.9    | 236 19.6                                          | 17.4                | 242 14.9                                          | 26.8          | 307 21.9                                         |         |                |         |                |       |
| 4   | 81                                     | 04.2 | 279 20.8                                                                                                                       | 37.0    | 251 20.6                                          | 18.1                | 257 16.8                                          | 27.0          | 322 24.2                                         |         |                |         |                |       |
| 5   | 96                                     | 06.7 | 294 20.4                                                                                                                       | +8 36.0 | 266 21.6                                          | -3 18.7             | 272 18.8                                          | -0 27.2       | 337 26.6                                         |         |                |         |                |       |
| 6   | 111                                    | 09.1 | 309 20.1                                                                                                                       | +8 35.0 | 281 22.5                                          | -3 19.4             | 287 20.8                                          | -0 27.4       | 352 28.9                                         |         |                |         |                |       |
| 7   | 126                                    | 11.6 | 324 19.7                                                                                                                       | 34.0    | 296 23.5                                          | 20.1                | 302 22.8                                          | 27.6          | 7 31.2                                           |         |                |         |                |       |
| 8   | 141                                    | 14.0 | 339 19.4                                                                                                                       | 33.0    | 311 24.5                                          | 20.7                | 317 24.7                                          | 27.8          | 22 33.6                                          |         |                |         |                |       |
| 9   | 156                                    | 16.5 | 354 19.0                                                                                                                       | 32.0    | 326 25.5                                          | 21.4                | 332 26.7                                          | 28.0          | 37 35.9                                          |         |                |         |                |       |
| 10  | 171                                    | 19.0 | 9 18.7                                                                                                                         | 31.0    | 341 26.4                                          | 22.0                | 347 28.7                                          | 28.3          | 52 38.2                                          |         |                |         |                |       |
| 11  | 186                                    | 21.4 | 24 18.3                                                                                                                        | +8 30.0 | 356 27.4                                          | -3 22.7             | 2 30.7                                            | -0 28.5       | 67 40.6                                          |         |                |         |                |       |
| 12  | 201                                    | 23.9 | 39 18.0                                                                                                                        | +8 29.0 | 11 28.4                                           | -3 23.3             | 17 32.6                                           | -0 28.7       | 82 42.9                                          |         |                |         |                |       |
| 13  | 216                                    | 26.4 | 54 17.7                                                                                                                        | 28.0    | 26 29.3                                           | 24.0                | 32 34.6                                           | 28.9          | 97 45.2                                          |         |                |         |                |       |
| 14  | 231                                    | 28.8 | 69 17.3                                                                                                                        | 27.0    | 41 30.3                                           | 24.6                | 47 36.6                                           | 29.1          | 112 47.6                                         |         |                |         |                |       |
| 15  | 246                                    | 31.3 | 84 17.0                                                                                                                        | 26.0    | 56 31.3                                           | 25.3                | 62 38.6                                           | 29.3          | 127 49.9                                         |         |                |         |                |       |
| 16  | 261                                    | 33.8 | 99 16.6                                                                                                                        | 25.0    | 71 32.2                                           | 25.9                | 77 40.6                                           | 29.5          | 142 52.3                                         |         |                |         |                |       |
| 17  | 276                                    | 36.2 | 114 16.3                                                                                                                       | +8 24.0 | 86 33.2                                           | -3 26.6             | 92 42.5                                           | -0 29.7       | 157 54.6                                         |         |                |         |                |       |
| 18  | 291                                    | 38.7 | 129 15.9                                                                                                                       | +8 23.0 | 101 34.2                                          | -3 27.2             | 107 44.5                                          | -0 29.9       | 172 56.9                                         |         |                |         |                |       |
| 19  | 306                                    | 41.1 | 144 15.6                                                                                                                       | 22.0    | 116 35.1                                          | 27.9                | 122 46.5                                          | 30.1          | 187 59.3                                         |         |                |         |                |       |
| 20  | 321                                    | 43.6 | 159 15.3                                                                                                                       | 21.0    | 131 36.1                                          | 28.5                | 137 48.5                                          | 30.3          | 203 01.6                                         |         |                |         |                |       |
| 21  | 336                                    | 46.1 | 174 14.9                                                                                                                       | 20.0    | 146 37.1                                          | 29.2                | 152 50.4                                          | 30.5          | 218 03.9                                         |         |                |         |                |       |
| 22  | 351                                    | 48.5 | 189 14.6                                                                                                                       | 19.0    | 161 38.0                                          | 29.8                | 167 52.4                                          | 30.8          | 233 06.3                                         |         |                |         |                |       |
| 23  | 6                                      | 51.0 | 204 14.2                                                                                                                       | 18.0    | 176 39.0                                          | 30.5                | 182 54.4                                          | 31.0          | 248 08.6                                         |         |                |         |                |       |
| 24  | 21                                     | 53.5 | 219 13.9                                                                                                                       | +8 17.0 | 191 40.0                                          | -3 31.1             | 197 56.4                                          | -0 31.2       | 263 11.0                                         |         |                |         |                |       |
| Dif | —                                      | —    | -3                                                                                                                             | -10     | +10                                               | -7                  | +20                                               | -2            | +23                                              | 0       |                |         |                |       |

| UT  | SOL                                                |      |                                                  | ● LUNA                                                                                                                            |     |                                                   | Latitud | Principio del crepúsculo |                                                   | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |      |       |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------|---------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|------|-------|------|-----|------|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 2 |      |                                                  | Edad: 28 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 57'8<br>12 <sup>h</sup> : 58'0<br>20 <sup>h</sup> : 58'3<br>R°: 47 <sup>m</sup> |     |                                                   |         |                          |                                                   |               |                |                                                  |                |      |       |      |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                              | Dif | Dec                                               |         | Dif                      | Náutico                                           |               | Civil          | Hora                                             | R°             | Hora | R°    |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                 | °   | '                                                 | °       | h                        | m                                                 | h             | m              | h                                                | m              | h    | m     |      |     |      |
| 0   | 183                                                | 25.9 | -7                                               | 49.0                                                                                                                              | 195 | 35.7                                              | -0      | 10.6                     | 60 N                                              | 5 05          | 5 53           | 6 35                                             | 5 19           | 97   | 16 55 | 0    |     |      |
| 1   | 198                                                | 26.0 |                                                  | 50.0                                                                                                                              | 210 | 08.3 <sup>136</sup>                               |         | 26.5 <sup>159</sup>      | 58                                                | 06            | 52             | 31                                               | 19             | 92   | 16 58 | 3    |     |      |
| 2   | 213                                                | 26.2 |                                                  | 50.9                                                                                                                              | 224 | 40.9 <sup>136</sup>                               |         | 42.4 <sup>159</sup>      | 56                                                | 07            | 50             | 28                                               | 18             | 88   | 17 00 | 7    |     |      |
| 3   | 228                                                | 26.3 |                                                  | 51.8                                                                                                                              | 239 | 13.4 <sup>135</sup>                               | -0      | 58.3 <sup>159</sup>      | 54                                                | 08            | 49             | 25                                               | 17             | 86   | 02    | 10   |     |      |
| 4   | 243                                                | 26.5 |                                                  | 52.8                                                                                                                              | 253 | 46.0 <sup>136</sup>                               | -1      | 14.3 <sup>160</sup>      | 52                                                | 09            | 48             | 22                                               | 16             | 83   | 04    | 13   |     |      |
| 5   | 258                                                | 26.6 | -7                                               | 53.7                                                                                                                              | 268 | 18.4 <sup>134</sup>                               | -1      | 30.2 <sup>159</sup>      | 50                                                | 5 09          | 5 47           | 6 19                                             | 5 16           | 80   | 17 06 | 15   |     |      |
| 6   | 273                                                | 26.8 | -7                                               | 54.6                                                                                                                              | 282 | 50.9 <sup>135</sup>                               | -1      | 46.2 <sup>160</sup>      | 45                                                | 5 10          | 5 44           | 6 13                                             | 5 14           | 75   | 17 09 | 21   |     |      |
| 7   | 288                                                | 26.9 |                                                  | 55.6                                                                                                                              | 297 | 23.3 <sup>134</sup>                               | -2      | 02.1 <sup>159</sup>      | 40                                                | 10            | 41             | 09                                               | 13             | 70   | 13    | 24   |     |      |
| 8   | 303                                                | 27.1 |                                                  | 56.5                                                                                                                              | 311 | 55.6 <sup>133</sup>                               |         | 18.1 <sup>160</sup>      | 35                                                | 10            | 39             | 04                                               | 12             | 66   | 15    | 29   |     |      |
| 9   | 318                                                | 27.2 |                                                  | 57.4                                                                                                                              | 326 | 27.9 <sup>133</sup>                               |         | 34.1 <sup>160</sup>      | 30                                                | 09            | 37             | 6 01                                             | 11             | 63   | 18    | 32   |     |      |
| 10  | 333                                                | 27.4 |                                                  | 58.4                                                                                                                              | 341 | 00.2 <sup>133</sup>                               | -2      | 50.1 <sup>160</sup>      | 20                                                | 06            | 32             | 5 54                                             | 10             | 56   | 22    | 38   |     |      |
| 11  | 348                                                | 27.5 | -7                                               | 59.3                                                                                                                              | 355 | 32.5 <sup>133</sup>                               | -3      | 06.0 <sup>159</sup>      | 10 N                                              | 5 03          | 5 27           | 5 48                                             | 5 09           | 51   | 17 26 | 43   |     |      |
| 12  | 3                                                  | 27.7 | -8                                               | 00.2                                                                                                                              | 10  | 04.6 <sup>131</sup>                               | -3      | 22.0 <sup>160</sup>      | 0                                                 | 4 58          | 5 22           | 5 43                                             | 5 08           | 46   | 17 29 | 48   |     |      |
| 13  | 18                                                 | 27.8 |                                                  | 01.2                                                                                                                              | 24  | 36.8 <sup>132</sup>                               |         | 38.0 <sup>160</sup>      | 10 S                                              | 51            | 16             | 37                                               | 06             | 42   | 33    | 52   |     |      |
| 14  | 33                                                 | 28.0 |                                                  | 02.1                                                                                                                              | 39  | 08.9 <sup>131</sup>                               | -3      | 54.0 <sup>160</sup>      | 20                                                | 43            | 09             | 31                                               | 05             | 37   | 37    | 57   |     |      |
| 15  | 48                                                 | 28.1 |                                                  | 03.0                                                                                                                              | 53  | 40.9 <sup>130</sup>                               | -4      | 09.9 <sup>159</sup>      | 30                                                | 31            | 5 00           | 24                                               | 04             | 31   | 41    | 64   |     |      |
| 16  | 63                                                 | 28.3 |                                                  | 04.0                                                                                                                              | 68  | 12.9 <sup>130</sup>                               |         | 25.9 <sup>160</sup>      | 35                                                | 23            | 4 54           | 20                                               | 03             | 28   | 43    | 68   |     |      |
| 17  | 78                                                 | 28.4 | -8                                               | 04.9                                                                                                                              | 82  | 44.9 <sup>130</sup>                               | -4      | 41.9 <sup>160</sup>      | 40                                                | 4 14          | 4 47           | 5 15                                             | 5 02           | 24   | 17 46 | 71   |     |      |
| 18  | 93                                                 | 28.5 | -8                                               | 05.8                                                                                                                              | 97  | 16.8 <sup>129</sup>                               | -4      | 57.8 <sup>159</sup>      | 45                                                | 4 03          | 4 39           | 5 10                                             | 5 02           | 19   | 17 50 | 75   |     |      |
| 19  | 108                                                | 28.7 |                                                  | 06.7                                                                                                                              | 111 | 48.6 <sup>128</sup>                               | -5      | 13.8 <sup>160</sup>      | 50                                                | 3 49          | 29             | 03                                               | 00             | 15   | 53    | 82   |     |      |
| 20  | 123                                                | 28.8 |                                                  | 07.7                                                                                                                              | 126 | 20.4 <sup>128</sup>                               |         | 29.7 <sup>159</sup>      | 52                                                | 41            | 25             | 5 00                                             | 5 00           | 12   | 55    | 85   |     |      |
| 21  | 138                                                | 29.0 |                                                  | 08.6                                                                                                                              | 140 | 52.1 <sup>127</sup>                               | -5      | 45.7 <sup>160</sup>      | 54                                                | 33            | 19             | 4 56                                             | 4 59           | 10   | 57    | 87   |     |      |
| 22  | 153                                                | 29.1 |                                                  | 09.5                                                                                                                              | 155 | 23.8 <sup>127</sup>                               | -6      | 01.6 <sup>159</sup>      | 56                                                | 24            | 13             | 53                                               | 59             | 6    | 17 59 | 91   |     |      |
| 23  | 168                                                | 29.3 |                                                  | 10.5                                                                                                                              | 169 | 55.4 <sup>126</sup>                               |         | 17.5 <sup>159</sup>      | 58                                                | 14            | 4 07           | 48                                               | 58             | 4    | 18 02 | 94   |     |      |
| 24  | 183                                                | 29.4 | -8                                               | 11.4                                                                                                                              | 184 | 27.0 <sup>126</sup>                               | -6      | 33.4 <sup>159</sup>      | 60 S                                              | 3 01          | 3 59           | 4 44                                             | 4 57           | 0    | 18 05 | 98   |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                   |     | MARTE                                             |         |                          | JÚPITER                                           |               |                | SATURNO                                          |                |      |       |      |     |      |
|     | PMG<br>22 <sup>h</sup> 28 <sup>m</sup> 7           |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 23 <sup>m</sup> |                                                                                                                                   |     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 13 <sup>m</sup> |         |                          | Mag: -1.7<br>PMG: 10 <sup>h</sup> 47 <sup>m</sup> |               |                | Mag: +0.2<br>PMG: 6 <sup>h</sup> 26 <sup>m</sup> |                |      |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                               |     | hG ♂                                              | Dec     |                          | hG ♃                                              | Dec           |                | hG ♄                                             | Dec            |      |       |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                 | °   | '                                                 | °       | '                        | °                                                 | '             | °              | '                                                | °              | '    |       |      |     |      |
| 0   | 21                                                 | 53.5 | 219                                              | 13.9                                                                                                                              | +8  | 17.0                                              | 191     | 40.0                     | -3                                                | 31.1          | 197            | 56.4                                             | -0             | 31.2 | 263   | 11.0 | +20 | 40.7 |
| 1   | 36                                                 | 55.9 | 234                                              | 13.5                                                                                                                              |     | 16.0                                              | 206     | 40.9                     |                                                   | 31.8          | 212            | 58.3                                             |                | 31.4 | 278   | 13.3 |     | 40.7 |
| 2   | 51                                                 | 58.4 | 249                                              | 13.2                                                                                                                              |     | 15.0                                              | 221     | 41.9                     |                                                   | 32.4          | 228            | 00.3                                             |                | 31.6 | 293   | 15.6 |     | 40.7 |
| 3   | 67                                                 | 00.9 | 264                                              | 12.9                                                                                                                              |     | 14.0                                              | 236     | 42.9                     |                                                   | 33.1          | 243            | 02.3                                             |                | 31.8 | 308   | 18.0 |     | 40.6 |
| 4   | 82                                                 | 03.3 | 279                                              | 12.5                                                                                                                              |     | 13.0                                              | 251     | 43.8                     |                                                   | 33.7          | 258            | 04.3                                             |                | 32.0 | 323   | 20.3 |     | 40.6 |
| 5   | 97                                                 | 05.8 | 294                                              | 12.2                                                                                                                              | +8  | 12.0                                              | 266     | 44.8                     | -3                                                | 34.4          | 273            | 06.2                                             | -0             | 32.2 | 338   | 22.7 | +20 | 40.6 |
| 6   | 112                                                | 08.3 | 309                                              | 11.8                                                                                                                              | +8  | 11.0                                              | 281     | 45.8                     | -3                                                | 35.1          | 288            | 08.2                                             | -0             | 32.4 | 353   | 25.0 | +20 | 40.6 |
| 7   | 127                                                | 10.7 | 324                                              | 11.5                                                                                                                              |     | 10.0                                              | 296     | 46.7                     |                                                   | 35.7          | 303            | 10.2                                             |                | 32.6 | 8     | 27.3 |     | 40.6 |
| 8   | 142                                                | 13.2 | 339                                              | 11.1                                                                                                                              |     | 09.0                                              | 311     | 47.7                     |                                                   | 36.4          | 318            | 12.2                                             |                | 32.8 | 23    | 29.7 |     | 40.5 |
| 9   | 157                                                | 15.6 | 354                                              | 10.8                                                                                                                              |     | 08.0                                              | 326     | 48.7                     |                                                   | 37.0          | 333            | 14.2                                             |                | 33.0 | 38    | 32.0 |     | 40.5 |
| 10  | 172                                                | 18.1 | 9                                                | 10.5                                                                                                                              |     | 07.0                                              | 341     | 49.6                     |                                                   | 37.7          | 348            | 16.1                                             |                | 33.2 | 53    | 34.4 |     | 40.5 |
| 11  | 187                                                | 20.6 | 24                                               | 10.1                                                                                                                              | +8  | 06.0                                              | 356     | 50.6                     | -3                                                | 38.3          | 3              | 18.1                                             | -0             | 33.5 | 68    | 36.7 | +20 | 40.5 |
| 12  | 202                                                | 23.0 | 39                                               | 09.8                                                                                                                              | +8  | 05.0                                              | 11      | 51.6                     | -3                                                | 39.0          | 18             | 20.1                                             | -0             | 33.7 | 83    | 39.0 | +20 | 40.5 |
| 13  | 217                                                | 25.5 | 54                                               | 09.4                                                                                                                              |     | 04.0                                              | 26      | 52.5                     |                                                   | 39.6          | 33             | 22.1                                             |                | 33.9 | 98    | 41.4 |     | 40.5 |
| 14  | 232                                                | 28.0 | 69                                               | 09.1                                                                                                                              |     | 03.0                                              | 41      | 53.5                     |                                                   | 40.3          | 48             | 24.0                                             |                | 34.1 | 113   | 43.7 |     | 40.4 |
| 15  | 247                                                | 30.4 | 84                                               | 08.7                                                                                                                              |     | 02.0                                              | 56      | 54.5                     |                                                   | 40.9          | 63             | 26.0                                             |                | 34.3 | 128   | 46.1 |     | 40.4 |
| 16  | 262                                                | 32.9 | 99                                               | 08.4                                                                                                                              | +8  | 00.9                                              | 71      | 55.4                     |                                                   | 41.6          | 78             | 28.0                                             |                | 34.5 | 143   | 48.4 |     | 40.4 |
| 17  | 277                                                | 35.4 | 114                                              | 08.1                                                                                                                              | +7  | 59.9                                              | 86      | 56.4                     | -3                                                | 42.2          | 93             | 30.0                                             | -0             | 34.7 | 158   | 50.7 | +20 | 40.4 |
| 18  | 292                                                | 37.8 | 129                                              | 07.7                                                                                                                              | +7  | 58.9                                              | 101     | 57.4                     | -3                                                | 42.9          | 108            | 32.0                                             | -0             | 34.9 | 173   | 53.1 | +20 | 40.4 |
| 19  | 307                                                | 40.3 | 144                                              | 07.4                                                                                                                              |     | 57.9                                              | 116     | 58.3                     |                                                   | 43.5          | 123            | 33.9                                             |                | 35.1 | 188   | 55.4 |     | 40.3 |
| 20  | 322                                                | 42.7 | 159                                              | 07.0                                                                                                                              |     | 56.9                                              | 131     | 59.3                     |                                                   | 44.2          | 138            | 35.9                                             |                | 35.3 | 203   | 57.8 |     | 40.3 |
| 21  | 337                                                | 45.2 | 174                                              | 06.7                                                                                                                              |     | 55.9                                              | 147     | 00.3                     |                                                   | 44.8          | 153            | 37.9                                             |                | 35.5 | 219   | 00.1 |     | 40.3 |
| 22  | 352                                                | 47.7 | 189                                              | 06.3                                                                                                                              |     | 54.9                                              | 162     | 01.2                     |                                                   | 45.5          | 168            | 39.9                                             |                | 35.7 | 234   | 02.5 |     | 40.3 |
| 23  | 7                                                  | 50.1 | 204                                              | 06.0                                                                                                                              |     | 53.9                                              | 177     | 02.2                     |                                                   | 46.1          | 183            | 41.8                                             |                | 35.9 | 249   | 04.8 |     | 40.3 |
| 24  | 22                                                 | 52.6 | 219                                              | 05.7                                                                                                                              | +7  | 52.9                                              | 192     | 03.2                     | -3                                                | 46.8          | 198            | 43.8                                             | -0             | 36.2 | 264   | 07.1 | +20 | 40.2 |
| Dif | —                                                  |      | -3                                               | -10                                                                                                                               |     |                                                   | +10     | -7                       |                                                   |               | +20            | -2                                               |                | +23  | 0     |      |     |      |

| UT  | SOL                                                |      |     | ● LUNA                                                                                              |     |                     | Latitud                                           | Puesta de Sol       | Final del crepúsculo |                                                   |         | Salida de Luna |                                                  | Puesta de Luna |       |      |   |
|-----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|---------------------|----------------------|---------------------------------------------------|---------|----------------|--------------------------------------------------|----------------|-------|------|---|
|     | SD: 16:0<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 9 |      |     | Edad: 29 <sup>d</sup> 4 PHE<br>SD: 15:9<br>PMG: 12 <sup>h</sup> 05 <sup>m</sup> R°: 51 <sup>m</sup> |     |                     |                                                   |                     |                      |                                                   |         |                |                                                  |                |       |      |   |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                | Dif | Dec                 |                                                   |                     | Dif                  | Civil                                             | Náutico | Hora           | R°                                               | Hora           | R°    |      |   |
| h   | °                                                  | '    | °   | '                                                                                                   | °   | '                   | °                                                 | '                   | h m                  | h m                                               | h m     | h m            | m                                                | h m            | m     | h m  | m |
| 0   | 183                                                | 29.4 | -8  | 11.4                                                                                                | 184 | 27.0                | -6                                                | 33.4                | 60 N                 | 16 53                                             | 17 35   | 18 23          | 6 56                                             | 102            | 16 55 | 1    |   |
| 1   | 198                                                | 29.6 |     | 12.3                                                                                                | 198 | 58.5 <sup>125</sup> | -6                                                | 49.2 <sup>158</sup> | 58                   | 16 57                                             | 37      | 22             | 51                                               | 97             | 17 01 | 6    |   |
| 2   | 213                                                | 29.7 |     | 13.3                                                                                                | 213 | 29.9 <sup>124</sup> | -7                                                | 05.1 <sup>159</sup> | 56                   | 17 01                                             | 39      | 22             | 46                                               | 94             | 07    | 9    |   |
| 3   | 228                                                | 29.8 |     | 14.2                                                                                                | 228 | 01.3 <sup>124</sup> |                                                   | 20.9 <sup>158</sup> | 54                   | 05                                                | 40      | 21             | 43                                               | 89             | 12    | 13   |   |
| 4   | 243                                                | 30.0 |     | 15.1                                                                                                | 242 | 32.6 <sup>123</sup> |                                                   | 36.7 <sup>158</sup> | 52                   | 08                                                | 42      | 21             | 39                                               | 86             | 17    | 15   |   |
| 5   | 258                                                | 30.1 | -8  | 16.0                                                                                                | 257 | 03.9 <sup>123</sup> | -7                                                | 52.5 <sup>158</sup> | 50                   | 17 10                                             | 17 43   | 18 20          | 6 36                                             | 83             | 17 21 | 18   |   |
| 6   | 273                                                | 30.3 | -8  | 17.0                                                                                                | 271 | 35.0 <sup>121</sup> | -8                                                | 08.3 <sup>158</sup> | 45                   | 17 16                                             | 17 46   | 18 20          | 6 29                                             | 78             | 17 30 | 24   |   |
| 7   | 288                                                | 30.4 |     | 17.9                                                                                                | 286 | 06.2 <sup>122</sup> |                                                   | 24.0 <sup>157</sup> | 40                   | 22                                                | 49      | 20             | 23                                               | 73             | 37    | 29   |   |
| 8   | 303                                                | 30.6 |     | 18.8                                                                                                | 300 | 37.2 <sup>120</sup> |                                                   | 39.7 <sup>157</sup> | 35                   | 26                                                | 52      | 21             | 18                                               | 69             | 44    | 32   |   |
| 9   | 318                                                | 30.7 |     | 19.8                                                                                                | 315 | 08.2 <sup>120</sup> | -8                                                | 55.4 <sup>157</sup> | 30                   | 30                                                | 54      | 22             | 14                                               | 65             | 17 50 | 35   |   |
| 10  | 333                                                | 30.8 |     | 20.7                                                                                                | 329 | 39.1 <sup>119</sup> | -9                                                | 11.0 <sup>156</sup> | 20                   | 37                                                | 17 59   | 25             | 06                                               | 60             | 18 00 | 41   |   |
| 11  | 348                                                | 31.0 | -8  | 21.6                                                                                                | 344 | 09.9 <sup>118</sup> | -9                                                | 26.6 <sup>156</sup> | 10 N                 | 17 43                                             | 18 04   | 18 29          | 6 00                                             | 54             | 18 09 | 46   |   |
| 12  | 3                                                  | 31.1 | -8  | 22.5                                                                                                | 358 | 40.7 <sup>118</sup> | -9                                                | 42.2 <sup>156</sup> | 0                    | 17 49                                             | 18 10   | 18 34          | 5 54                                             | 49             | 18 17 | 51   |   |
| 13  | 18                                                 | 31.3 |     | 23.5                                                                                                | 13  | 11.4 <sup>117</sup> | -9                                                | 57.7 <sup>155</sup> | 10 S                 | 17 55                                             | 17      | 41             | 48                                               | 45             | 25    | 56   |   |
| 14  | 33                                                 | 31.4 |     | 24.4                                                                                                | 27  | 42.0 <sup>116</sup> | -10                                               | 13.2 <sup>155</sup> | 20                   | 18 02                                             | 24      | 18 50          | 42                                               | 39             | 34    | 61   |   |
| 15  | 48                                                 | 31.5 |     | 25.3                                                                                                | 42  | 12.6 <sup>116</sup> |                                                   | 28.6 <sup>154</sup> | 30                   | 10                                                | 34      | 19 03          | 35                                               | 33             | 45    | 66   |   |
| 16  | 63                                                 | 31.7 |     | 26.3                                                                                                | 56  | 43.0 <sup>114</sup> |                                                   | 44.1 <sup>155</sup> | 35                   | 14                                                | 40      | 11             | 31                                               | 30             | 51    | 70   |   |
| 17  | 78                                                 | 31.8 | -8  | 27.2                                                                                                | 71  | 13.4 <sup>114</sup> | -10                                               | 59.4 <sup>153</sup> | 40                   | 18 19                                             | 18 47   | 19 20          | 5 26                                             | 27             | 18 57 | 75   |   |
| 18  | 93                                                 | 32.0 | -8  | 28.1                                                                                                | 85  | 43.7 <sup>113</sup> | -11                                               | 14.8 <sup>154</sup> | 45                   | 18 25                                             | 18 55   | 19 32          | 5 21                                             | 22             | 19 05 | 80   |   |
| 19  | 108                                                | 32.1 |     | 29.0                                                                                                | 100 | 14.0 <sup>113</sup> |                                                   | 30.0 <sup>152</sup> | 50                   | 32                                                | 19 06   | 47             | 15                                               | 16             | 15    | 85   |   |
| 20  | 123                                                | 32.2 |     | 30.0                                                                                                | 114 | 44.1 <sup>111</sup> | -11                                               | 45.3 <sup>153</sup> | 52                   | 35                                                | 11      | 19 55          | 12                                               | 14             | 20    | 88   |   |
| 21  | 138                                                | 32.4 |     | 30.9                                                                                                | 129 | 14.2 <sup>111</sup> | -12                                               | 00.4 <sup>151</sup> | 54                   | 39                                                | 16      | 20 03          | 09                                               | 11             | 24    | 92   |   |
| 22  | 153                                                | 32.5 |     | 31.8                                                                                                | 143 | 44.2 <sup>110</sup> |                                                   | 15.6 <sup>152</sup> | 56                   | 43                                                | 23      | 13             | 05                                               | 9              | 30    | 95   |   |
| 23  | 168                                                | 32.7 |     | 32.7                                                                                                | 158 | 14.1 <sup>109</sup> |                                                   | 30.6 <sup>150</sup> | 58                   | 48                                                | 30      | 24             | 5 02                                             | 4              | 36    | 100  |   |
| 24  | 183                                                | 32.8 | -8  | 33.7                                                                                                | 172 | 43.9 <sup>108</sup> | -12                                               | 45.7 <sup>151</sup> | 60 S                 | 18 53                                             | 19 38   | 20 37          | 4 57                                             | 1              | 19 43 | 105  |   |
| UT  | ARIES                                              |      |     | VENUS                                                                                               |     |                     | MARTE                                             |                     |                      | JÚPITER                                           |         |                | SATURNO                                          |                |       |      |   |
|     | PMG: 22 <sup>h</sup> 24 <sup>m</sup> 8             |      |     | Mag: -4.1<br>PMG: 9 <sup>h</sup> 24 <sup>m</sup>                                                    |     |                     | Mag: +1.7<br>PMG: 11 <sup>h</sup> 11 <sup>m</sup> |                     |                      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 44 <sup>m</sup> |         |                | Mag: +0.2<br>PMG: 6 <sup>h</sup> 23 <sup>m</sup> |                |       |      |   |
|     | hG ♈                                               | hG ♀ | Dec | hG ♂                                                                                                | Dec | hG ♃                | Dec                                               | hG ♄                | Dec                  | hG ♅                                              | Dec     |                |                                                  |                |       |      |   |
| h   | °                                                  | '    | °   | '                                                                                                   | °   | '                   | °                                                 | '                   | °                    | '                                                 | °       | '              | °                                                | '              | °     | '    |   |
| 0   | 22                                                 | 52.6 | 219 | 05.7                                                                                                | +7  | 52.9                | 192                                               | 03.2                | -3                   | 46.8                                              | 198     | 43.8           | -0                                               | 36.2           | 264   | 07.1 |   |
| 1   | 37                                                 | 55.1 | 234 | 05.3                                                                                                |     | 51.8                | 207                                               | 04.1                |                      | 47.4                                              | 213     | 45.8           |                                                  | 36.4           | 279   | 09.5 |   |
| 2   | 52                                                 | 57.5 | 249 | 05.0                                                                                                |     | 50.8                | 222                                               | 05.1                |                      | 48.1                                              | 228     | 47.8           |                                                  | 36.6           | 294   | 11.8 |   |
| 3   | 68                                                 | 00.0 | 264 | 04.6                                                                                                |     | 49.8                | 237                                               | 06.1                |                      | 48.7                                              | 243     | 49.7           |                                                  | 36.8           | 309   | 14.2 |   |
| 4   | 83                                                 | 02.5 | 279 | 04.3                                                                                                |     | 48.8                | 252                                               | 07.0                |                      | 49.4                                              | 258     | 51.7           |                                                  | 37.0           | 324   | 16.5 |   |
| 5   | 98                                                 | 04.9 | 294 | 04.0                                                                                                | +7  | 47.8                | 267                                               | 08.0                | -3                   | 50.0                                              | 273     | 53.7           | -0                                               | 37.2           | 339   | 18.9 |   |
| 6   | 113                                                | 07.4 | 309 | 03.6                                                                                                | +7  | 46.8                | 282                                               | 09.0                | -3                   | 50.7                                              | 288     | 55.7           | -0                                               | 37.4           | 354   | 21.2 |   |
| 7   | 128                                                | 09.9 | 324 | 03.3                                                                                                |     | 45.8                | 297                                               | 09.9                |                      | 51.3                                              | 303     | 57.7           |                                                  | 37.6           | 9     | 23.5 |   |
| 8   | 143                                                | 12.3 | 339 | 02.9                                                                                                |     | 44.7                | 312                                               | 10.9                |                      | 52.0                                              | 318     | 59.6           |                                                  | 37.8           | 24    | 25.9 |   |
| 9   | 158                                                | 14.8 | 354 | 02.6                                                                                                |     | 43.7                | 327                                               | 11.9                |                      | 52.6                                              | 334     | 01.6           |                                                  | 38.0           | 39    | 28.2 |   |
| 10  | 173                                                | 17.2 | 9   | 02.3                                                                                                |     | 42.7                | 342                                               | 12.8                |                      | 53.3                                              | 349     | 03.6           |                                                  | 38.2           | 54    | 30.6 |   |
| 11  | 188                                                | 19.7 | 24  | 01.9                                                                                                | +7  | 41.7                | 357                                               | 13.8                | -3                   | 53.9                                              | 4       | 05.6           | -0                                               | 38.4           | 69    | 32.9 |   |
| 12  | 203                                                | 22.2 | 39  | 01.6                                                                                                | +7  | 40.7                | 12                                                | 14.8                | -3                   | 54.6                                              | 19      | 07.6           | -0                                               | 38.6           | 84    | 35.3 |   |
| 13  | 218                                                | 24.6 | 54  | 01.2                                                                                                |     | 39.7                | 27                                                | 15.7                |                      | 55.2                                              | 34      | 09.5           |                                                  | 38.8           | 99    | 37.6 |   |
| 14  | 233                                                | 27.1 | 69  | 00.9                                                                                                |     | 38.6                | 42                                                | 16.7                |                      | 55.9                                              | 49      | 11.5           |                                                  | 39.1           | 114   | 40.0 |   |
| 15  | 248                                                | 29.6 | 84  | 00.6                                                                                                |     | 37.6                | 57                                                | 17.6                |                      | 56.5                                              | 64      | 13.5           |                                                  | 39.3           | 129   | 42.3 |   |
| 16  | 263                                                | 32.0 | 99  | 00.2                                                                                                |     | 36.6                | 72                                                | 18.6                |                      | 57.2                                              | 79      | 15.5           |                                                  | 39.5           | 144   | 44.7 |   |
| 17  | 278                                                | 34.5 | 113 | 59.9                                                                                                | +7  | 35.6                | 87                                                | 19.6                | -3                   | 57.8                                              | 94      | 17.4           | -0                                               | 39.7           | 159   | 47.0 |   |
| 18  | 293                                                | 37.0 | 128 | 59.5                                                                                                | +7  | 34.6                | 102                                               | 20.5                | -3                   | 58.5                                              | 109     | 19.4           | -0                                               | 39.9           | 174   | 49.3 |   |
| 19  | 308                                                | 39.4 | 143 | 59.2                                                                                                |     | 33.5                | 117                                               | 21.5                |                      | 59.2                                              | 124     | 21.4           |                                                  | 40.1           | 189   | 51.7 |   |
| 20  | 323                                                | 41.9 | 158 | 58.9                                                                                                |     | 32.5                | 132                                               | 22.5                | -3                   | 59.8                                              | 139     | 23.4           |                                                  | 40.3           | 204   | 54.0 |   |
| 21  | 338                                                | 44.4 | 173 | 58.5                                                                                                |     | 31.5                | 147                                               | 23.4                | -4                   | 00.5                                              | 154     | 25.4           |                                                  | 40.5           | 219   | 56.4 |   |
| 22  | 353                                                | 46.8 | 188 | 58.2                                                                                                |     | 30.5                | 162                                               | 24.4                |                      | 01.1                                              | 169     | 27.3           |                                                  | 40.7           | 234   | 58.7 |   |
| 23  | 8                                                  | 49.3 | 203 | 57.8                                                                                                |     | 29.4                | 177                                               | 25.4                |                      | 01.8                                              | 184     | 29.3           |                                                  | 40.9           | 250   | 01.1 |   |
| 24  | 23                                                 | 51.7 | 218 | 57.5                                                                                                | +7  | 28.4                | 192                                               | 26.3                | -4                   | 02.4                                              | 199     | 31.3           | -0                                               | 41.1           | 265   | 03.4 |   |
| Dif | —                                                  |      |     | -3                                                                                                  | -10 |                     | +10                                               | -7                  |                      |                                                   | +20     | -2             |                                                  |                | +23   | 0    |   |

| UT  | SOL                                                |      |     | ● LUNA                                                                           |     |      | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                     | Salida de Luna |      | Puesta de Luna                                   |      |     |
|-----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------|-----|------|---------------------------------------------------|--------------------------|---------|---------------------------------------------------|----------------|------|--------------------------------------------------|------|-----|
|     | SD: 16'0<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 7 |      |     | Edad: 0 <sup>d</sup> 9 PHE {<br>SD: 16'0<br>PMG: 12 <sup>h</sup> 56 <sup>m</sup> |     |      |                                                   |                          |         |                                                   |                |      |                                                  |      |     |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                             | Dif | Dec  |                                                   | Dif                      | Náutico |                                                   | Civil          | Hora | Rº                                               | Hora | Rº  |
| h   | °                                                  | '    | °   | '                                                                                | °   | '    | °                                                 | h                        | m       | h                                                 | m              | h    | m                                                | h    | m   |
| 0   | 183                                                | 32.8 | -8  | 33.7                                                                             | 172 | 43.9 | -12                                               | 45.7                     | 60 N    | 5                                                 | 10             | 5    | 58                                               | 6    | 40  |
| 1   | 198                                                | 32.9 |     | 34.6                                                                             | 187 | 13.6 | 107                                               | 00.6                     | 58      | 10                                                | 56             | 36   | 28                                               | 103  | 17  |
| 2   | 213                                                | 33.1 |     | 35.5                                                                             | 201 | 43.2 | 106                                               | 15.5                     | 56      | 11                                                | 54             | 32   | 20                                               | 97   | 16  |
| 3   | 228                                                | 33.2 |     | 36.4                                                                             | 216 | 12.8 | 106                                               | 30.4                     | 54      | 12                                                | 53             | 28   | 12                                               | 94   | 25  |
| 4   | 243                                                | 33.3 |     | 37.4                                                                             | 230 | 42.3 | 105                                               | 45.2                     | 52      | 12                                                | 51             | 25   | 8                                                | 05   | 90  |
| 5   | 258                                                | 33.5 | -8  | 38.3                                                                             | 245 | 11.6 | 103                                               | 59.9                     | 50      | 5                                                 | 50             | 6    | 22                                               | 7    | 59  |
| 6   | 273                                                | 33.6 | -8  | 39.2                                                                             | 259 | 40.9 | 103                                               | 14.5                     | 45      | 5                                                 | 46             | 6    | 16                                               | 7    | 47  |
| 7   | 288                                                | 33.8 |     | 40.1                                                                             | 274 | 10.1 | 102                                               | 29.1                     | 40      | 12                                                | 43             | 11   | 36                                               | 76   | 18  |
| 8   | 303                                                | 33.9 |     | 41.0                                                                             | 288 | 39.2 | 101                                               | 43.6                     | 35      | 11                                                | 41             | 06   | 27                                               | 72   | 16  |
| 9   | 318                                                | 34.0 |     | 42.0                                                                             | 303 | 08.3 | 101                                               | 58.1                     | 30      | 10                                                | 38             | 6    | 02                                               | 19   | 69  |
| 10  | 333                                                | 34.2 |     | 42.9                                                                             | 317 | 37.2 | 99                                                | 12.4                     | 20      | 07                                                | 33             | 5    | 55                                               | 7    | 06  |
| 11  | 348                                                | 34.3 | -8  | 43.8                                                                             | 332 | 06.0 | 98                                                | 26.7                     | 10 N    | 5                                                 | 03             | 5    | 48                                               | 6    | 54  |
| 12  | 3                                                  | 34.4 | -8  | 44.7                                                                             | 346 | 34.7 | 97                                                | 40.9                     | 0       | 4                                                 | 57             | 5    | 42                                               | 6    | 43  |
| 13  | 18                                                 | 34.6 |     | 45.7                                                                             | 1   | 03.4 | 97                                                | 55.1                     | 10 S    | 50                                                | 15             | 36   | 33                                               | 48   | 21  |
| 14  | 33                                                 | 34.7 |     | 46.6                                                                             | 15  | 31.9 | 95                                                | 09.1                     | 20      | 41                                                | 5              | 07   | 29                                               | 21   | 44  |
| 15  | 48                                                 | 34.8 |     | 47.5                                                                             | 30  | 00.3 | 94                                                | 23.1                     | 30      | 29                                                | 4              | 57   | 22                                               | 08   | 39  |
| 16  | 63                                                 | 35.0 |     | 48.4                                                                             | 44  | 28.7 | 94                                                | 37.0                     | 35      | 21                                                | 51             | 17   | 6                                                | 01   | 35  |
| 17  | 78                                                 | 35.1 | -8  | 49.4                                                                             | 58  | 56.9 | 92                                                | 50.8                     | 40      | 4                                                 | 44             | 5    | 12                                               | 5    | 53  |
| 18  | 93                                                 | 35.2 | -8  | 50.3                                                                             | 73  | 25.1 | 92                                                | 04.5                     | 45      | 3                                                 | 59             | 4    | 36                                               | 5    | 06  |
| 19  | 108                                                | 35.4 |     | 51.2                                                                             | 87  | 53.1 | 90                                                | 18.1                     | 50      | 44                                                | 25             | 4    | 59                                               | 31   | 21  |
| 20  | 123                                                | 35.5 |     | 52.1                                                                             | 102 | 21.1 | 90                                                | 31.6                     | 52      | 36                                                | 20             | 55   | 26                                               | 18   | 48  |
| 21  | 138                                                | 35.6 |     | 53.0                                                                             | 116 | 48.9 | 88                                                | 45.1                     | 54      | 28                                                | 14             | 52   | 20                                               | 15   | 20  |
| 22  | 153                                                | 35.8 |     | 54.0                                                                             | 131 | 16.6 | 87                                                | 58.4                     | 56      | 18                                                | 08             | 48   | 14                                               | 11   | 21  |
| 23  | 168                                                | 35.9 |     | 54.9                                                                             | 145 | 44.3 | 87                                                | 11.7                     | 58      | 3                                                 | 07             | 4    | 01                                               | 5    | 06  |
| 24  | 183                                                | 36.0 | -8  | 55.8                                                                             | 160 | 11.8 | 85                                                | 24.8                     | 60 S    | 2                                                 | 54             | 3    | 53                                               | 4    | 58  |
| UT  | ARIES                                              |      |     | VENUS                                                                            |     |      | MARTE                                             |                          |         | JÚPITER                                           |                |      | SATURNO                                          |      |     |
|     | PMG: 22 <sup>h</sup> 20 <sup>m</sup> 9             |      |     | Mag: -4.1<br>PMG: 9 <sup>h</sup> 24 <sup>m</sup>                                 |     |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 10 <sup>m</sup> |                          |         | Mag: -1.7<br>PMG: 10 <sup>h</sup> 41 <sup>m</sup> |                |      | Mag: +0.2<br>PMG: 6 <sup>h</sup> 19 <sup>m</sup> |      |     |
|     | hG ♈                                               |      |     | hG ♀                                                                             | Dec |      | hG ♂                                              | Dec                      |         | hG ♃                                              | Dec            |      | hG ♄                                             | Dec  |     |
| h   | °                                                  | '    | °   | '                                                                                | °   | '    | °                                                 | '                        | °       | '                                                 | °              | '    | °                                                | '    | °   |
| 0   | 23                                                 | 51.7 | 218 | 57.5                                                                             | +7  | 28.4 | 192                                               | 26.3                     | -4      | 02.4                                              | 199            | 31.3 | -0                                               | 41.1 | 265 |
| 1   | 38                                                 | 54.2 | 233 | 57.2                                                                             |     | 27.4 | 207                                               | 27.3                     |         | 03.1                                              | 214            | 33.3 |                                                  | 41.3 | 280 |
| 2   | 53                                                 | 56.7 | 248 | 56.8                                                                             |     | 26.4 | 222                                               | 28.2                     |         | 03.7                                              | 229            | 35.2 |                                                  | 41.5 | 295 |
| 3   | 68                                                 | 59.1 | 263 | 56.5                                                                             |     | 25.3 | 237                                               | 29.2                     |         | 04.4                                              | 244            | 37.2 |                                                  | 41.7 | 310 |
| 4   | 84                                                 | 01.6 | 278 | 56.1                                                                             |     | 24.3 | 252                                               | 30.2                     |         | 05.0                                              | 259            | 39.2 |                                                  | 41.9 | 325 |
| 5   | 99                                                 | 04.1 | 293 | 55.8                                                                             | +7  | 23.3 | 267                                               | 31.1                     | -4      | 05.7                                              | 274            | 41.2 | -0                                               | 42.2 | 340 |
| 6   | 114                                                | 06.5 | 308 | 55.5                                                                             | +7  | 22.3 | 282                                               | 32.1                     | -4      | 06.3                                              | 289            | 43.2 | -0                                               | 42.4 | 355 |
| 7   | 129                                                | 09.0 | 323 | 55.1                                                                             |     | 21.2 | 297                                               | 33.1                     |         | 07.0                                              | 304            | 45.1 |                                                  | 42.6 | 10  |
| 8   | 144                                                | 11.5 | 338 | 54.8                                                                             |     | 20.2 | 312                                               | 34.0                     |         | 07.6                                              | 319            | 47.1 |                                                  | 42.8 | 25  |
| 9   | 159                                                | 13.9 | 353 | 54.4                                                                             |     | 19.2 | 327                                               | 35.0                     |         | 08.3                                              | 334            | 49.1 |                                                  | 43.0 | 40  |
| 10  | 174                                                | 16.4 | 8   | 54.1                                                                             |     | 18.2 | 342                                               | 36.0                     |         | 08.9                                              | 349            | 51.1 |                                                  | 43.2 | 55  |
| 11  | 189                                                | 18.8 | 23  | 53.8                                                                             | +7  | 17.1 | 357                                               | 36.9                     | -4      | 09.6                                              | 4              | 53.1 | -0                                               | 43.4 | 70  |
| 12  | 204                                                | 21.3 | 38  | 53.4                                                                             | +7  | 16.1 | 12                                                | 37.9                     | -4      | 10.2                                              | 19             | 55.0 | -0                                               | 43.6 | 85  |
| 13  | 219                                                | 23.8 | 53  | 53.1                                                                             |     | 15.1 | 27                                                | 38.8                     |         | 10.9                                              | 34             | 57.0 |                                                  | 43.8 | 100 |
| 14  | 234                                                | 26.2 | 68  | 52.8                                                                             |     | 14.0 | 42                                                | 39.8                     |         | 11.5                                              | 49             | 59.0 |                                                  | 44.0 | 115 |
| 15  | 249                                                | 28.7 | 83  | 52.4                                                                             |     | 13.0 | 57                                                | 40.8                     |         | 12.2                                              | 65             | 01.0 |                                                  | 44.2 | 130 |
| 16  | 264                                                | 31.2 | 98  | 52.1                                                                             |     | 12.0 | 72                                                | 41.7                     |         | 12.8                                              | 80             | 03.0 |                                                  | 44.4 | 145 |
| 17  | 279                                                | 33.6 | 113 | 51.7                                                                             | +7  | 10.9 | 87                                                | 42.7                     | -4      | 13.5                                              | 95             | 04.9 | -0                                               | 44.6 | 160 |
| 18  | 294                                                | 36.1 | 128 | 51.4                                                                             | +7  | 09.9 | 102                                               | 43.7                     | -4      | 14.1                                              | 110            | 06.9 | -0                                               | 44.8 | 175 |
| 19  | 309                                                | 38.6 | 143 | 51.1                                                                             |     | 08.9 | 117                                               | 44.6                     |         | 14.8                                              | 125            | 08.9 |                                                  | 45.0 | 190 |
| 20  | 324                                                | 41.0 | 158 | 50.7                                                                             |     | 07.8 | 132                                               | 45.6                     |         | 15.4                                              | 140            | 10.9 |                                                  | 45.2 | 205 |
| 21  | 339                                                | 43.5 | 173 | 50.4                                                                             |     | 06.8 | 147                                               | 46.5                     |         | 16.1                                              | 155            | 12.9 |                                                  | 45.5 | 220 |
| 22  | 354                                                | 46.0 | 188 | 50.0                                                                             |     | 05.8 | 162                                               | 47.5                     |         | 16.7                                              | 170            | 14.8 |                                                  | 45.7 | 235 |
| 23  | 9                                                  | 48.4 | 203 | 49.7                                                                             |     | 04.7 | 177                                               | 48.5                     |         | 17.4                                              | 185            | 16.8 |                                                  | 45.9 | 250 |
| 24  | 24                                                 | 50.9 | 218 | 49.4                                                                             | +7  | 03.7 | 192                                               | 49.4                     | -4      | 18.0                                              | 200            | 18.8 | -0                                               | 46.1 | 265 |
| Dif | —                                                  |      | -3  | -10                                                                              |     |      | +10                                               | -7                       |         |                                                   | +20            | -2   |                                                  |      | +23 |
|     |                                                    |      |     |                                                                                  |     |      |                                                   |                          |         |                                                   |                |      |                                                  |      | 0   |

| UT | SOL                                                |      | ● LUNA                                                                                                                        |      |     |      | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |       | Puesta de Luna |          |           |
|----|----------------------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------|---------------|----------------------|---------|----------------|-------|----------------|----------|-----------|
|    | SD: 16/0<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 5 |      | Edad: 1 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59/4<br>12 <sup>h</sup> : 59/5<br>20 <sup>h</sup> : 59/5<br>R°: 58 <sup>m</sup> |      |     |      |         |               |                      |         |                |       |                |          |           |
|    | hG ☉                                               | Dec  | hG ☾                                                                                                                          | Dif  | Dec | Dif  |         |               | Civil                | Náutico | Hora           | R°    | Hora           | R°       |           |
| h  | °                                                  | '    | °                                                                                                                             | '    | °   | '    | °       | h m           | h m                  | h m     | h m m          | h m m | h m m          | m        |           |
| 0  | 183                                                | 36.0 | -8                                                                                                                            | 55.8 | 160 | 11.8 | -18     | 24.8          | 60 N                 | 16 47   | 17 30          | 18 18 | 10 26 114      | 16 59 8  |           |
| 1  | 198                                                | 36.2 |                                                                                                                               | 56.7 | 174 | 39.3 | 85      | 37.8          | 58                   | 52      | 32             | 17    | 10 11 105      | 17 16 16 |           |
| 2  | 213                                                | 36.3 |                                                                                                                               | 57.6 | 189 | 06.6 | 83      | -18           | 50.8                 | 56      | 16 56          | 34    | 17             | 9 57 99  | 30 22     |
| 3  | 228                                                | 36.4 |                                                                                                                               | 58.6 | 203 | 33.8 | 82      | -19           | 03.6                 | 54      | 17 00          | 36    | 17             | 46 94    | 42 27     |
| 4  | 243                                                | 36.6 | -8                                                                                                                            | 59.5 | 218 | 00.9 | 81      |               | 16.3                 | 52      | 03             | 37    | 16             | 35 91    | 17 53 30  |
| 5  | 258                                                | 36.7 | -9                                                                                                                            | 00.4 | 232 | 28.0 | 81      | -19           | 29.0                 | 50      | 17 06          | 17 39 | 18 16          | 9 26 88  | 18 03 33  |
| 6  | 273                                                | 36.8 | -9                                                                                                                            | 01.3 | 246 | 54.9 | 79      | -19           | 41.5                 | 45      | 17 13          | 17 43 | 18 17          | 9 07 82  | 18 23 39  |
| 7  | 288                                                | 37.0 |                                                                                                                               | 02.2 | 261 | 21.7 | 78      | -19           | 53.9                 | 40      | 19             | 46    | 17             | 8 52 77  | 40 43     |
| 8  | 303                                                | 37.1 |                                                                                                                               | 03.1 | 275 | 48.4 | 77      | -20           | 06.1                 | 35      | 24             | 49    | 18             | 39 73    | 18 54 46  |
| 9  | 318                                                | 37.2 |                                                                                                                               | 04.1 | 290 | 15.0 | 76      |               | 18.3                 | 30      | 28             | 52    | 20             | 28 70    | 19 06 49  |
| 10 | 333                                                | 37.4 |                                                                                                                               | 05.0 | 304 | 41.5 | 75      |               | 30.4                 | 20      | 36             | 17 58 | 23             | 8 08 66  | 28 52     |
| 11 | 348                                                | 37.5 | -9                                                                                                                            | 05.9 | 319 | 07.9 | 74      | -20           | 42.3                 | 10 N    | 17 42          | 18 04 | 18 28          | 7 52 61  | 19 46 56  |
| 12 | 3                                                  | 37.6 | -9                                                                                                                            | 06.8 | 333 | 34.2 | 73      | -20           | 54.1                 | 0       | 17 49          | 18 10 | 18 34          | 7 37 57  | 20 03 60  |
| 13 | 18                                                 | 37.7 |                                                                                                                               | 07.7 | 348 | 00.4 | 72      | -21           | 05.8                 | 10 S    | 17 55          | 17    | 42             | 21 54    | 21 63     |
| 14 | 33                                                 | 37.9 |                                                                                                                               | 08.6 | 2   | 26.5 | 71      |               | 17.3                 | 20      | 18 03          | 25    | 18 51          | 7 05 50  | 20 39 67  |
| 15 | 48                                                 | 38.0 |                                                                                                                               | 09.6 | 16  | 52.5 | 70      |               | 28.7                 | 30      | 11             | 35    | 19 04          | 6 47 44  | 21 01 71  |
| 16 | 63                                                 | 38.1 |                                                                                                                               | 10.5 | 31  | 18.4 | 69      |               | 40.0                 | 35      | 16             | 42    | 13             | 36 42    | 14 73     |
| 17 | 78                                                 | 38.3 | -9                                                                                                                            | 11.4 | 45  | 44.1 | 67      | -21           | 51.2                 | 40      | 18 21          | 18 49 | 19 23          | 6 24 38  | 21 28 77  |
| 18 | 93                                                 | 38.4 | -9                                                                                                                            | 12.3 | 60  | 09.8 | 67      | -22           | 02.2                 | 45      | 18 28          | 18 58 | 19 35          | 6 10 33  | 21 46 80  |
| 19 | 108                                                | 38.5 |                                                                                                                               | 13.2 | 74  | 35.4 | 66      |               | 13.1                 | 50      | 35             | 19 09 | 51             | 5 52 28  | 22 08 85  |
| 20 | 123                                                | 38.6 |                                                                                                                               | 14.1 | 89  | 00.9 | 65      |               | 23.9                 | 52      | 39             | 15    | 19 59          | 44 25    | 18 88     |
| 21 | 138                                                | 38.8 |                                                                                                                               | 15.1 | 103 | 26.2 | 63      |               | 34.5                 | 54      | 43             | 21    | 20 08          | 35 22    | 30 92     |
| 22 | 153                                                | 38.9 |                                                                                                                               | 16.0 | 117 | 51.5 | 63      |               | 45.0                 | 56      | 47             | 27    | 18             | 25 18    | 44 96     |
| 23 | 168                                                | 39.0 |                                                                                                                               | 16.9 | 132 | 16.7 | 62      | -22           | 55.3                 | 58      | 52             | 35    | 30             | 14 12    | 22 59 103 |
| 24 | 183                                                | 39.1 | -9                                                                                                                            | 17.8 | 146 | 41.7 | 60      | -23           | 05.5                 | 60 S    | 18 58          | 19 44 | 20 44          | 5 01 5   | 23 19 111 |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 22 <sup>h</sup> 16 <sup>m</sup> 9 |      | Mag: -4.1<br>PMG: 9 <sup>h</sup> 25 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 08 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 37 <sup>m</sup> |      | Mag: +0.2<br>PMG: 6 <sup>h</sup> 15 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 24                                     | 50.9 | 218                                              | 49.4 | +7                                                | 03.7 | 192                                               | 49.4 | -4                                               | 18.0 | 200 | 18.8 | -0 | 46.1 | 265 | 59.8 | +20 | 39.4 |
| 1   | 39                                     | 53.3 | 233                                              | 49.0 |                                                   | 02.7 | 207                                               | 50.4 |                                                  | 18.7 | 215 | 20.8 |    | 46.3 | 281 | 02.2 |     | 39.4 |
| 2   | 54                                     | 55.8 | 248                                              | 48.7 |                                                   | 01.6 | 222                                               | 51.4 |                                                  | 19.3 | 230 | 22.7 |    | 46.5 | 296 | 04.5 |     | 39.4 |
| 3   | 69                                     | 58.3 | 263                                              | 48.4 | +7                                                | 00.6 | 237                                               | 52.3 |                                                  | 20.0 | 245 | 24.7 |    | 46.7 | 311 | 06.9 |     | 39.3 |
| 4   | 85                                     | 00.7 | 278                                              | 48.0 | +6                                                | 59.6 | 252                                               | 53.3 |                                                  | 20.6 | 260 | 26.7 |    | 46.9 | 326 | 09.2 |     | 39.3 |
| 5   | 100                                    | 03.2 | 293                                              | 47.7 | +6                                                | 58.5 | 267                                               | 54.2 | -4                                               | 21.3 | 275 | 28.7 | -0 | 47.1 | 341 | 11.6 | +20 | 39.3 |
| 6   | 115                                    | 05.7 | 308                                              | 47.3 | +6                                                | 57.5 | 282                                               | 55.2 | -4                                               | 21.9 | 290 | 30.7 | -0 | 47.3 | 356 | 13.9 | +20 | 39.3 |
| 7   | 130                                    | 08.1 | 323                                              | 47.0 |                                                   | 56.5 | 297                                               | 56.2 |                                                  | 22.6 | 305 | 32.6 |    | 47.5 | 11  | 16.3 |     | 39.3 |
| 8   | 145                                    | 10.6 | 338                                              | 46.7 |                                                   | 55.4 | 312                                               | 57.1 |                                                  | 23.2 | 320 | 34.6 |    | 47.7 | 26  | 18.6 |     | 39.2 |
| 9   | 160                                    | 13.1 | 353                                              | 46.3 |                                                   | 54.4 | 327                                               | 58.1 |                                                  | 23.8 | 335 | 36.6 |    | 47.9 | 41  | 21.0 |     | 39.2 |
| 10  | 175                                    | 15.5 | 8                                                | 46.0 |                                                   | 53.3 | 342                                               | 59.0 |                                                  | 24.5 | 350 | 38.6 |    | 48.1 | 56  | 23.3 |     | 39.2 |
| 11  | 190                                    | 18.0 | 23                                               | 45.7 | +6                                                | 52.3 | 358                                               | 00.0 | -4                                               | 25.1 | 5   | 40.6 | -0 | 48.3 | 71  | 25.7 | +20 | 39.2 |
| 12  | 205                                    | 20.5 | 38                                               | 45.3 | +6                                                | 51.3 | 13                                                | 01.0 | -4                                               | 25.8 | 20  | 42.5 | -0 | 48.5 | 86  | 28.1 | +20 | 39.2 |
| 13  | 220                                    | 22.9 | 53                                               | 45.0 |                                                   | 50.2 | 28                                                | 01.9 |                                                  | 26.4 | 35  | 44.5 |    | 48.8 | 101 | 30.4 |     | 39.2 |
| 14  | 235                                    | 25.4 | 68                                               | 44.7 |                                                   | 49.2 | 43                                                | 02.9 |                                                  | 27.1 | 50  | 46.5 |    | 49.0 | 116 | 32.8 |     | 39.1 |
| 15  | 250                                    | 27.8 | 83                                               | 44.3 |                                                   | 48.1 | 58                                                | 03.8 |                                                  | 27.7 | 65  | 48.5 |    | 49.2 | 131 | 35.1 |     | 39.1 |
| 16  | 265                                    | 30.3 | 98                                               | 44.0 |                                                   | 47.1 | 73                                                | 04.8 |                                                  | 28.4 | 80  | 50.5 |    | 49.4 | 146 | 37.5 |     | 39.1 |
| 17  | 280                                    | 32.8 | 113                                              | 43.6 | +6                                                | 46.1 | 88                                                | 05.8 | -4                                               | 29.0 | 95  | 52.5 | -0 | 49.6 | 161 | 39.8 | +20 | 39.1 |
| 18  | 295                                    | 35.2 | 128                                              | 43.3 | +6                                                | 45.0 | 103                                               | 06.7 | -4                                               | 29.7 | 110 | 54.4 | -0 | 49.8 | 176 | 42.2 | +20 | 39.1 |
| 19  | 310                                    | 37.7 | 143                                              | 43.0 |                                                   | 44.0 | 118                                               | 07.7 |                                                  | 30.3 | 125 | 56.4 |    | 50.0 | 191 | 44.5 |     | 39.1 |
| 20  | 325                                    | 40.2 | 158                                              | 42.6 |                                                   | 42.9 | 133                                               | 08.6 |                                                  | 31.0 | 140 | 58.4 |    | 50.2 | 206 | 46.9 |     | 39.0 |
| 21  | 340                                    | 42.6 | 173                                              | 42.3 |                                                   | 41.9 | 148                                               | 09.6 |                                                  | 31.6 | 156 | 00.4 |    | 50.4 | 221 | 49.3 |     | 39.0 |
| 22  | 355                                    | 45.1 | 188                                              | 42.0 |                                                   | 40.8 | 163                                               | 10.6 |                                                  | 32.3 | 171 | 02.4 |    | 50.6 | 236 | 51.6 |     | 39.0 |
| 23  | 10                                     | 47.6 | 203                                              | 41.6 |                                                   | 39.8 | 178                                               | 11.5 |                                                  | 32.9 | 186 | 04.3 |    | 50.8 | 251 | 54.0 |     | 39.0 |
| 24  | 25                                     | 50.0 | 218                                              | 41.3 | +6                                                | 38.8 | 193                                               | 12.5 | -4                                               | 33.6 | 201 | 06.3 | -0 | 51.0 | 266 | 56.3 | +20 | 39.0 |
| Dif | —                                      |      | -3 -10                                           |      | +10 -6                                            |      | +20 -2                                            |      | +24 0                                            |      |     |      |    |      |     |      |     |      |

| UT | SOL                                    |      |    | ● LUNA                                                                                                                        |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |         |    |
|----|----------------------------------------|------|----|-------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|---------|----|
|    | SD: 16/0                               |      |    | Edad: 2 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59/6<br>12 <sup>h</sup> : 59/6<br>20 <sup>h</sup> : 59/6<br>R°: 63 <sup>m</sup> |     |      |         |                          |         |               |                |      |                |      |         |    |
|    | PMG: 11 <sup>h</sup> 45 <sup>m</sup> 3 |      |    | PMG: 14 <sup>h</sup> 48 <sup>m</sup>                                                                                          |     |      |         |                          |         |               |                |      |                |      |         |    |
|    | hG ☉                                   | Dec  |    | hG ☾                                                                                                                          | Dif | Dec  | Dif     |                          | Náutico | Civil         |                | Hora | R°             | Hora | R°      |    |
| h  | °                                      | '    | °  | °                                                                                                                             | '   | °    | '       | °                        | h       | m             | h              | m    | h              | m    | h       | m  |
| 0  | 183                                    | 39.1 | -9 | 17.8                                                                                                                          | 146 | 41.7 | -23     | 05.5                     | 60 N    | 5 14          | 6 02           | 6 45 | 12 20          | 107  | 17 07   | 23 |
| 1  | 198                                    | 39.3 |    | 18.7                                                                                                                          | 161 | 06.7 | 60      | 15.5                     | 58      | 15            | 6 00           | 40   | 11 56          | 97   | 32      | 33 |
| 2  | 213                                    | 39.4 |    | 19.6                                                                                                                          | 175 | 31.6 | 59      | 25.4                     | 56      | 15            | 5 58           | 36   | 36             | 91   | 17 52   | 38 |
| 3  | 228                                    | 39.5 |    | 20.5                                                                                                                          | 189 | 56.3 | 57      | 35.2                     | 54      | 15            | 56             | 32   | 20             | 87   | 18 09   | 42 |
| 4  | 243                                    | 39.6 |    | 21.5                                                                                                                          | 204 | 21.0 | 57      | 44.8                     | 52      | 15            | 54             | 29   | 11 06          | 84   | 23      | 45 |
| 5  | 258                                    | 39.8 | -9 | 22.4                                                                                                                          | 218 | 45.6 | 56      | -23                      | 50      | 5 15          | 5 53           | 6 25 | 10 54          | 82   | 18 36   | 46 |
| 6  | 273                                    | 39.9 | -9 | 23.3                                                                                                                          | 233 | 10.1 | 55      | -24                      | 45      | 5 15          | 5 49           | 6 19 | 10 29          | 77   | 19 02   | 50 |
| 7  | 288                                    | 40.0 |    | 24.2                                                                                                                          | 247 | 34.4 | 53      | 12.7                     | 40      | 14            | 45             | 13   | 10 09          | 74   | 23      | 53 |
| 8  | 303                                    | 40.1 |    | 25.1                                                                                                                          | 261 | 58.7 | 53      | 21.7                     | 35      | 13            | 42             | 08   | 9 52           | 72   | 40      | 55 |
| 9  | 318                                    | 40.3 |    | 26.0                                                                                                                          | 276 | 22.9 | 52      | 30.5                     | 30      | 11            | 39             | 6 03 | 38             | 70   | 19 55   | 56 |
| 10 | 333                                    | 40.4 |    | 26.9                                                                                                                          | 290 | 47.1 | 52      | 39.1                     | 20      | 08            | 33             | 5 56 | 9 14           | 67   | 20 20   | 59 |
| 11 | 348                                    | 40.5 | -9 | 27.8                                                                                                                          | 305 | 11.1 | 50      | -24                      | 10 N    | 5 03          | 5 27           | 5 49 | 8 53           | 64   | 20 42   | 61 |
| 12 | 3                                      | 40.6 | -9 | 28.8                                                                                                                          | 319 | 35.0 | 49      | -24                      | 0       | 4 57          | 5 21           | 5 42 | 8 34           | 62   | 21 03   | 63 |
| 13 | 18                                     | 40.8 |    | 29.7                                                                                                                          | 333 | 58.9 | 49      | -25                      | 10 S    | 49            | 14             | 35   | 8 15           | 59   | 24      | 64 |
| 14 | 33                                     | 40.9 |    | 30.6                                                                                                                          | 348 | 22.6 | 47      | 12.1                     | 20      | 39            | 5 06           | 28   | 7 55           | 56   | 21 46   | 66 |
| 15 | 48                                     | 41.0 |    | 31.5                                                                                                                          | 2   | 46.3 | 47      | 20.0                     | 30      | 26            | 4 55           | 20   | 31             | 53   | 22 12   | 68 |
| 16 | 63                                     | 41.1 |    | 32.4                                                                                                                          | 17  | 09.9 | 46      | 27.6                     | 35      | 18            | 49             | 15   | 18             | 50   | 27      | 69 |
| 17 | 78                                     | 41.3 | -9 | 33.3                                                                                                                          | 31  | 33.4 | 45      | -25                      | 40      | 4 08          | 4 41           | 5 09 | 7 02           | 48   | 22 45   | 71 |
| 18 | 93                                     | 41.4 | -9 | 34.2                                                                                                                          | 45  | 56.8 | 44      | -25                      | 45      | 3 55          | 4 32           | 5 02 | 6 43           | 45   | 23 06   | 73 |
| 19 | 108                                    | 41.5 |    | 35.1                                                                                                                          | 60  | 20.2 | 44      | 49.6                     | 50      | 39            | 21             | 4 55 | 20             | 40   | 33      | 76 |
| 20 | 123                                    | 41.6 |    | 36.0                                                                                                                          | 74  | 43.4 | 42      | -25                      | 52      | 31            | 15             | 51   | 6 09           | 37   | 23 46   | 78 |
| 21 | 138                                    | 41.7 |    | 36.9                                                                                                                          | 89  | 06.7 | 43      | -26                      | 54      | 22            | 09             | 47   | 5 57           | 34   | ** ** * | ** |
| 22 | 153                                    | 41.9 |    | 37.9                                                                                                                          | 103 | 29.8 | 41      | 10.0                     | 56      | 12            | 4 03           | 42   | 43             | 29   | ** ** * | ** |
| 23 | 168                                    | 42.0 |    | 38.8                                                                                                                          | 117 | 52.8 | 40      | 16.4                     | 58      | 3 00          | 3 55           | 37   | 26             | 24   | ** ** * | ** |
| 24 | 183                                    | 42.1 | -9 | 39.7                                                                                                                          | 132 | 15.8 | 40      | -26                      | 60 S    | 2 46          | 3 46           | 4 32 | 5 06           | 15   | ** ** * | ** |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 22 <sup>h</sup> 13 <sup>m</sup> 0 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 25 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 06 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 34 <sup>m</sup> |      | Mag: +0.2<br>PMG: 6 <sup>h</sup> 11 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 25                                     | 50.0 | 218                                              | 41.3 | +6                                                | 38.8 | 193                                               | 12.5 | -4                                               | 33.6 | 201 | 06.3 | -0 | 51.0 | 266 | 56.3 | +20 | 39.0 |
| 1   | 40                                     | 52.5 | 233                                              | 41.0 |                                                   | 37.7 | 208                                               | 13.4 |                                                  | 34.2 | 216 | 08.3 |    | 51.2 | 281 | 58.7 |     | 39.0 |
| 2   | 55                                     | 54.9 | 248                                              | 40.6 |                                                   | 36.7 | 223                                               | 14.4 |                                                  | 34.9 | 231 | 10.3 |    | 51.4 | 297 | 01.0 |     | 39.0 |
| 3   | 70                                     | 57.4 | 263                                              | 40.3 |                                                   | 35.6 | 238                                               | 15.4 |                                                  | 35.5 | 246 | 12.3 |    | 51.6 | 312 | 03.4 |     | 38.9 |
| 4   | 85                                     | 59.9 | 278                                              | 39.9 |                                                   | 34.6 | 253                                               | 16.3 |                                                  | 36.2 | 261 | 14.2 |    | 51.8 | 327 | 05.7 |     | 38.9 |
| 5   | 101                                    | 02.3 | 293                                              | 39.6 | +6                                                | 33.5 | 268                                               | 17.3 | -4                                               | 36.8 | 276 | 16.2 | -0 | 52.0 | 342 | 08.1 | +20 | 38.9 |
| 6   | 116                                    | 04.8 | 308                                              | 39.3 | +6                                                | 32.5 | 283                                               | 18.2 | -4                                               | 37.5 | 291 | 18.2 | -0 | 52.2 | 357 | 10.5 | +20 | 38.9 |
| 7   | 131                                    | 07.3 | 323                                              | 38.9 |                                                   | 31.4 | 298                                               | 19.2 |                                                  | 38.1 | 306 | 20.2 |    | 52.5 | 12  | 12.8 |     | 38.9 |
| 8   | 146                                    | 09.7 | 338                                              | 38.6 |                                                   | 30.4 | 313                                               | 20.2 |                                                  | 38.8 | 321 | 22.2 |    | 52.7 | 27  | 15.2 |     | 38.9 |
| 9   | 161                                    | 12.2 | 353                                              | 38.3 |                                                   | 29.3 | 328                                               | 21.1 |                                                  | 39.4 | 336 | 24.1 |    | 52.9 | 42  | 17.5 |     | 38.8 |
| 10  | 176                                    | 14.7 | 8                                                | 37.9 |                                                   | 28.3 | 343                                               | 22.1 |                                                  | 40.1 | 351 | 26.1 |    | 53.1 | 57  | 19.9 |     | 38.8 |
| 11  | 191                                    | 17.1 | 23                                               | 37.6 | +6                                                | 27.2 | 358                                               | 23.0 | -4                                               | 40.7 | 6   | 28.1 | -0 | 53.3 | 72  | 22.3 | +20 | 38.8 |
| 12  | 206                                    | 19.6 | 38                                               | 37.3 | +6                                                | 26.2 | 13                                                | 24.0 | -4                                               | 41.4 | 21  | 30.1 | -0 | 53.5 | 87  | 24.6 | +20 | 38.8 |
| 13  | 221                                    | 22.1 | 53                                               | 36.9 |                                                   | 25.1 | 28                                                | 25.0 |                                                  | 42.0 | 36  | 32.1 |    | 53.7 | 102 | 27.0 |     | 38.8 |
| 14  | 236                                    | 24.5 | 68                                               | 36.6 |                                                   | 24.1 | 43                                                | 25.9 |                                                  | 42.7 | 51  | 34.1 |    | 53.9 | 117 | 29.3 |     | 38.8 |
| 15  | 251                                    | 27.0 | 83                                               | 36.3 |                                                   | 23.0 | 58                                                | 26.9 |                                                  | 43.3 | 66  | 36.0 |    | 54.1 | 132 | 31.7 |     | 38.7 |
| 16  | 266                                    | 29.4 | 98                                               | 35.9 |                                                   | 22.0 | 73                                                | 27.8 |                                                  | 44.0 | 81  | 38.0 |    | 54.3 | 147 | 34.1 |     | 38.7 |
| 17  | 281                                    | 31.9 | 113                                              | 35.6 | +6                                                | 20.9 | 88                                                | 28.8 | -4                                               | 44.6 | 96  | 40.0 | -0 | 54.5 | 162 | 36.4 | +20 | 38.7 |
| 18  | 296                                    | 34.4 | 128                                              | 35.2 | +6                                                | 19.9 | 103                                               | 29.7 | -4                                               | 45.3 | 111 | 42.0 | -0 | 54.7 | 177 | 38.8 | +20 | 38.7 |
| 19  | 311                                    | 36.8 | 143                                              | 34.9 |                                                   | 18.8 | 118                                               | 30.7 |                                                  | 45.9 | 126 | 44.0 |    | 54.9 | 192 | 41.1 |     | 38.7 |
| 20  | 326                                    | 39.3 | 158                                              | 34.6 |                                                   | 17.8 | 133                                               | 31.7 |                                                  | 46.5 | 141 | 45.9 |    | 55.1 | 207 | 43.5 |     | 38.7 |
| 21  | 341                                    | 41.8 | 173                                              | 34.2 |                                                   | 16.7 | 148                                               | 32.6 |                                                  | 47.2 | 156 | 47.9 |    | 55.3 | 222 | 45.9 |     | 38.6 |
| 22  | 356                                    | 44.2 | 188                                              | 33.9 |                                                   | 15.7 | 163                                               | 33.6 |                                                  | 47.8 | 171 | 49.9 |    | 55.5 | 237 | 48.2 |     | 38.6 |
| 23  | 11                                     | 46.7 | 203                                              | 33.6 |                                                   | 14.6 | 178                                               | 34.5 |                                                  | 48.5 | 186 | 51.9 |    | 55.7 | 252 | 50.6 |     | 38.6 |
| 24  | 26                                     | 49.2 | 218                                              | 33.2 | +6                                                | 13.6 | 193                                               | 35.5 | -4                                               | 49.1 | 201 | 53.9 | -0 | 55.9 | 267 | 52.9 | +20 | 38.6 |
| Dif | —                                      |      | -3                                               | -10  |                                                   |      | +10                                               | -6   |                                                  |      | +20 | -2   |    |      | +24 | 0    |     |      |

| UT | SOL                                                |      |          | ● LUNA                                                                                                                        |      |          | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------------------|------|----------|-------------------------------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|-------|----------------|----------|----------------|-------|
|    | SD: 16'1<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 1 |      |          | Edad: 3 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59'6<br>12 <sup>h</sup> : 59'6<br>20 <sup>h</sup> : 59'6<br>R°: 63 <sup>m</sup> |      |          |         |               |                      |       |                |          |                |       |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                          | Dif  | Dec      |         |               | Dif                  | Civil | Náutico        | Hora     | R°             | Hora  |
| h  | °                                                  | '    | °        | °                                                                                                                             | '    | °        | '       | °             | h m                  | h m   | h m            | h m m    | h m m          | h m m |
| 0  | 183                                                | 42.1 | -9 39.7  | 132                                                                                                                           | 15.8 | -26 22.7 | 61      | 60 N          | 16 42                | 17 24 | 18 12          | 14 07 74 | 17 30 59       |       |
| 1  | 198                                                | 42.2 |          | 146                                                                                                                           | 38.7 | 28.8     | 39      | 58            | 47                   | 27    | 12             | 13 33 71 | 18 05 61       |       |
| 2  | 213                                                | 42.3 | 41.5     | 161                                                                                                                           | 01.6 | 34.7     | 59      | 56            | 51                   | 29    | 12             | 13 07 70 | 30 63          |       |
| 3  | 228                                                | 42.5 | 42.4     | 175                                                                                                                           | 24.4 | 40.4     | 57      | 54            | 55                   | 31    | 12             | 12 47 69 | 18 51 63       |       |
| 4  | 243                                                | 42.6 | 43.3     | 189                                                                                                                           | 47.1 | 45.9     | 55      | 52            | 16 59                | 33    | 12             | 30 69    | 19 08 63       |       |
| 5  | 258                                                | 42.7 | -9 44.2  | 204                                                                                                                           | 09.8 | -26 51.3 | 54      | 50            | 17 02                | 17 35 | 18 13          | 12 16 68 | 19 22 64       |       |
| 6  | 273                                                | 42.8 | -9 45.1  | 218                                                                                                                           | 32.4 | -26 56.4 | 51      | 45            | 17 10                | 17 39 | 18 13          | 11 46 68 | 19 52 64       |       |
| 7  | 288                                                | 42.9 | 46.0     | 232                                                                                                                           | 55.0 | -27 01.4 | 50      | 40            | 16                   | 43    | 15             | 23 67    | 20 16 63       |       |
| 8  | 303                                                | 43.0 | 46.9     | 247                                                                                                                           | 17.5 | 06.2     | 48      | 35            | 21                   | 47    | 16             | 11 04 66 | 35 64          |       |
| 9  | 318                                                | 43.2 | 47.8     | 261                                                                                                                           | 39.9 | 10.8     | 46      | 30            | 26                   | 50    | 18             | 10 48 66 | 20 51 64       |       |
| 10 | 333                                                | 43.3 | 48.7     | 276                                                                                                                           | 02.3 | 15.2     | 44      | 20            | 34                   | 17 56 | 22             | 10 21 65 | 21 19 64       |       |
| 11 | 348                                                | 43.4 | -9 49.7  | 290                                                                                                                           | 24.7 | -27 19.4 | 42      | 10 N          | 17 41                | 18 03 | 18 27          | 9 57 64  | 21 43 64       |       |
| 12 | 3                                                  | 43.5 | -9 50.6  | 304                                                                                                                           | 47.0 | -27 23.4 | 40      | 0             | 17 48                | 18 09 | 18 34          | 9 36 63  | 22 06 63       |       |
| 13 | 18                                                 | 43.6 | 51.5     | 319                                                                                                                           | 09.3 | 27.2     | 38      | 10 S          | 17 56                | 17    | 42             | 9 14 62  | 28 63          |       |
| 14 | 33                                                 | 43.8 | 52.4     | 333                                                                                                                           | 31.5 | 30.9     | 37      | 20            | 18 03                | 26    | 18 52          | 8 51 61  | 22 52 63       |       |
| 15 | 48                                                 | 43.9 | 53.3     | 347                                                                                                                           | 53.7 | 34.3     | 34      | 30            | 12                   | 37    | 19 06          | 24 60    | 23 20 62       |       |
| 16 | 63                                                 | 44.0 | 54.2     | 2                                                                                                                             | 15.9 | 37.6     | 33      | 35            | 17                   | 44    | 15             | 8 08 60  | 36 62          |       |
| 17 | 78                                                 | 44.1 | -9 55.1  | 16                                                                                                                            | 38.0 | -27 40.6 | 30      | 40            | 18 23                | 18 51 | 19 25          | 7 50 58  | 23 56 61       |       |
| 18 | 93                                                 | 44.2 | -9 56.0  | 31                                                                                                                            | 00.2 | -27 43.5 | 29      | 45            | 18 30                | 19 01 | 19 38          | 7 28 57  | *** ** *       |       |
| 19 | 108                                                | 44.3 | 56.9     | 45                                                                                                                            | 22.2 | 46.1     | 26      | 50            | 39                   | 13    | 19 55          | 7 00 55  | *** ** *       |       |
| 20 | 123                                                | 44.4 | 57.8     | 59                                                                                                                            | 44.3 | 48.6     | 25      | 52            | 43                   | 19    | 20 03          | 6 46 54  | *** ** *       |       |
| 21 | 138                                                | 44.6 | 58.7     | 74                                                                                                                            | 06.3 | 50.9     | 23      | 54            | 47                   | 25    | 13             | 31 52    | 0 02 79        |       |
| 22 | 153                                                | 44.7 | -9 59.6  | 88                                                                                                                            | 28.4 | 52.9     | 20      | 56            | 52                   | 32    | 24             | 6 12 50  | 20 81          |       |
| 23 | 168                                                | 44.8 | -10 00.5 | 102                                                                                                                           | 50.4 | 54.8     | 19      | 58            | 18 57                | 40    | 36             | 5 50 47  | 0 42 85        |       |
| 24 | 183                                                | 44.9 | -10 01.4 | 117                                                                                                                           | 12.4 | -27 56.5 | 17      | 60 S          | 19 03                | 19 49 | 20 52          | 5 21 40  | 1 10 93        |       |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 22 <sup>h</sup> 09 <sup>m</sup> 1 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 26 <sup>m</sup> |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 05 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +0.2<br>PMG: 6 <sup>h</sup> 08 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 26                                     | 49.2 | 218                                              | 33.2 | 193                                               | 35.5 | 201                                               | 53.9 | 267                                              | 52.9 |
| 1   | 41                                     | 51.6 | 233                                              | 32.9 | 208                                               | 36.5 | 216                                               | 55.9 | 282                                              | 55.3 |
| 2   | 56                                     | 54.1 | 248                                              | 32.6 | 223                                               | 37.4 | 231                                               | 57.8 | 297                                              | 57.7 |
| 3   | 71                                     | 56.6 | 263                                              | 32.2 | 238                                               | 38.4 | 246                                               | 59.8 | 313                                              | 00.0 |
| 4   | 86                                     | 59.0 | 278                                              | 31.9 | 253                                               | 39.3 | 262                                               | 01.8 | 328                                              | 02.4 |
| 5   | 102                                    | 01.5 | 293                                              | 31.6 | 268                                               | 40.3 | 277                                               | 03.8 | 343                                              | 04.7 |
| 6   | 117                                    | 03.9 | 308                                              | 31.2 | 283                                               | 41.2 | 292                                               | 05.8 | 358                                              | 07.1 |
| 7   | 132                                    | 06.4 | 323                                              | 30.9 | 298                                               | 42.2 | 307                                               | 07.7 | 13                                               | 09.5 |
| 8   | 147                                    | 08.9 | 338                                              | 30.6 | 313                                               | 43.2 | 322                                               | 09.7 | 28                                               | 11.8 |
| 9   | 162                                    | 11.3 | 353                                              | 30.2 | 328                                               | 44.1 | 337                                               | 11.7 | 43                                               | 14.2 |
| 10  | 177                                    | 13.8 | 8                                                | 29.9 | 343                                               | 45.1 | 352                                               | 13.7 | 58                                               | 16.6 |
| 11  | 192                                    | 16.3 | 23                                               | 29.6 | 358                                               | 46.0 | 7                                                 | 15.7 | 73                                               | 18.9 |
| 12  | 207                                    | 18.7 | 38                                               | 29.2 | 13                                                | 47.0 | 22                                                | 17.7 | 88                                               | 21.3 |
| 13  | 222                                    | 21.2 | 53                                               | 28.9 | 28                                                | 47.9 | 37                                                | 19.6 | 103                                              | 23.6 |
| 14  | 237                                    | 23.7 | 68                                               | 28.6 | 43                                                | 48.9 | 52                                                | 21.6 | 118                                              | 26.0 |
| 15  | 252                                    | 26.1 | 83                                               | 28.2 | 58                                                | 49.9 | 67                                                | 23.6 | 133                                              | 28.4 |
| 16  | 267                                    | 28.6 | 98                                               | 27.9 | 73                                                | 50.8 | 82                                                | 25.6 | 148                                              | 30.7 |
| 17  | 282                                    | 31.1 | 113                                              | 27.6 | 88                                                | 51.8 | 97                                                | 27.6 | 163                                              | 33.1 |
| 18  | 297                                    | 33.5 | 128                                              | 27.2 | 103                                               | 52.7 | 112                                               | 29.6 | 178                                              | 35.5 |
| 19  | 312                                    | 36.0 | 143                                              | 26.9 | 118                                               | 53.7 | 127                                               | 31.5 | 193                                              | 37.8 |
| 20  | 327                                    | 38.4 | 158                                              | 26.6 | 133                                               | 54.6 | 142                                               | 33.5 | 208                                              | 40.2 |
| 21  | 342                                    | 40.9 | 173                                              | 26.2 | 148                                               | 55.6 | 157                                               | 35.5 | 223                                              | 42.6 |
| 22  | 357                                    | 43.4 | 188                                              | 25.9 | 163                                               | 56.5 | 172                                               | 37.5 | 238                                              | 44.9 |
| 23  | 12                                     | 45.8 | 203                                              | 25.6 | 178                                               | 57.5 | 187                                               | 39.5 | 253                                              | 47.3 |
| 24  | 27                                     | 48.3 | 218                                              | 25.2 | 193                                               | 58.5 | 202                                               | 41.5 | 268                                              | 49.7 |
| Dif | —                                      |      | -3                                               | -11  | +10                                               | -6   | +20                                               | -2   | +24                                              | 0    |

| UT | SOL                                                |      |     |  LUNA                                           |     |      |     |      |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    |      | Puesta de Luna |    |    |    |     |     |     |     |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|------|---------|--------------------------|-------|---------------|----------------|----|------|----------------|----|----|----|-----|-----|-----|-----|
|    | SD: 16'1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 9 |      |     | Edad: 4 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 59'5<br>12 <sup>h</sup> : 59'5<br>20 <sup>h</sup> : 59'4<br>R°: 62 <sup>m</sup> |     |      |     |      |      |         |                          |       |               |                |    |      |                |    |    |    |     |     |     |     |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                             | Dif | Dec  | Dif |      |      |         | Náutico                  | Civil |               | Hora           | R° | Hora | R°             |    |    |    |     |     |     |     |
| h  | °                                                  | '    | °   | '                                                                                                                                | °   | '    | °   | '    | °    | '       | h                        | m     | h             | m              | h  | m    | h              | m  | m  |    |     |     |     |     |
| 0  | 183                                                | 44.9 | -10 | 01.4                                                                                                                             | 117 | 12.4 | -27 | 56.5 | 15   | 60 N    | 5                        | 19    | 6             | 07             | 6  | 50   | 15             | 21 | 30 |    |     |     |     |     |
| 1  | 198                                                | 45.0 |     | 02.3                                                                                                                             | 131 | 34.4 |     | 58.0 | 15   | 58      |                          | 19    |               | 04             | 45 |      | 14             | 44 | 39 |    |     |     |     |     |
| 2  | 213                                                | 45.1 |     | 03.2                                                                                                                             | 145 | 56.3 | 29  | -27  | 59.2 | 12      | 56                       |       | 19            |                | 02 | 40   |                | 14 | 17 | 44 |     |     |     |     |
| 3  | 228                                                | 45.2 |     | 04.1                                                                                                                             | 160 | 18.3 | 30  | -28  | 00.3 | 11      | 54                       |       | 19            |                | 6  | 00   | 36             | 13 | 56 | 47 |     |     |     |     |
| 4  | 243                                                | 45.4 |     | 05.0                                                                                                                             | 174 | 40.3 | 30  |      | 01.2 | 9       | 52                       |       | 19            |                | 5  | 58   | 32             |    | 39 | 49 |     |     |     |     |
| 5  | 258                                                | 45.5 | -10 | 05.9                                                                                                                             | 189 | 02.2 | 29  | -28  | 01.9 | 7       | 50                       |       | 5             | 18             | 5  | 56   | 6              | 29 | 13 | 24 | 51  |     |     |     |
| 6  | 273                                                | 45.6 | -10 | 06.8                                                                                                                             | 203 | 24.2 | 30  | -28  | 02.4 | 5       | 45                       |       | 5             | 17             | 5  | 51   | 6              | 21 | 12 | 54 | 53  |     |     |     |
| 7  | 288                                                | 45.7 |     | 07.7                                                                                                                             | 217 | 46.2 | 30  |      | 02.7 | 3       | 40                       |       | 16            |                | 47 | 15   |                | 30 | 56 | 21 | 19  | 72  |     |     |
| 8  | 303                                                | 45.8 |     | 08.6                                                                                                                             | 232 | 08.2 | 30  |      | 02.8 | 1       | 35                       |       | 14            |                | 44 | 10   |                | 12 | 10 | 58 |     | 39  | 69  |     |
| 9  | 318                                                | 45.9 |     | 09.5                                                                                                                             | 246 | 30.2 | 30  |      | 02.7 | 1       | 30                       |       | 13            |                | 40 | 6    | 05             | 11 | 54 | 58 | 21  | 55  | 68  |     |
| 10 | 333                                                | 46.0 |     | 10.4                                                                                                                             | 260 | 52.2 | 30  |      | 02.4 | 3       | 20                       |       | 08            |                | 34 | 5    | 56             |    | 26 | 60 | 22  | 23  | 65  |     |
| 11 | 348                                                | 46.1 | -10 | 11.3                                                                                                                             | 275 | 14.2 | 30  | -28  | 01.9 | 5       | 10 N                     |       | 5             | 03             | 5  | 27   | 5              | 49 | 11 | 01 | 62  | 22  | 47  | 63  |
| 12 | 3                                                  | 46.2 | -10 | 12.2                                                                                                                             | 289 | 36.3 | 31  | -28  | 01.2 | 7       | 0                        |       | 4             | 56             | 5  | 21   | 5              | 42 | 10 | 39 | 62  | 23  | 09  | 61  |
| 13 | 18                                                 | 46.4 |     | 13.1                                                                                                                             | 303 | 58.4 | 31  | -28  | 00.3 | 9       | 10 S                     |       | 48            |                | 13 | 34   |                | 10 | 16 | 64 |     | 31  | 59  |     |
| 14 | 33                                                 | 46.5 |     | 14.0                                                                                                                             | 318 | 20.5 | 31  | -27  | 59.2 | 11      | 20                       |       | 38            |                | 5  | 04   | 26             | 9  | 52 | 65 | 23  | 55  | 57  |     |
| 15 | 48                                                 | 46.6 |     | 14.9                                                                                                                             | 332 | 42.6 | 31  |      | 57.9 | 13      | 30                       |       | 24            |                | 4  | 53   | 17             |    | 24 | 66 | *** | *** | *** |     |
| 16 | 63                                                 | 46.7 |     | 15.8                                                                                                                             | 347 | 04.8 | 32  |      | 56.4 | 15      | 35                       |       | 15            |                | 46 | 12   |                | 9  | 08 | 67 | *** | *** | *** |     |
| 17 | 78                                                 | 46.8 | -10 | 16.7                                                                                                                             | 1   | 26.9 | 31  | -27  | 54.8 | 16      | 40                       |       | 4             | 04             | 4  | 38   | 5              | 06 | 8  | 48 | 68  | *** | *** | *** |
| 18 | 93                                                 | 46.9 | -10 | 17.6                                                                                                                             | 15  | 49.2 | 33  | -27  | 52.9 | 19      | 45                       |       | 3             | 51             | 4  | 28   | 4              | 59 | 8  | 25 | 69  | 0   | 19  | 61  |
| 19 | 108                                                | 47.0 |     | 18.5                                                                                                                             | 30  | 11.4 | 32  |      | 50.8 | 21      | 50                       |       | 34            |                | 16 | 51   |                | 7  | 55 | 71 | 0   | 49  | 60  |     |
| 20 | 123                                                | 47.1 |     | 19.4                                                                                                                             | 44  | 33.7 | 33  |      | 48.6 | 22      | 52                       |       | 26            |                | 11 | 47   |                |    | 40 | 72 | 1   | 04  | 59  |     |
| 21 | 138                                                | 47.2 |     | 20.3                                                                                                                             | 58  | 56.1 | 34  |      | 46.1 | 25      | 54                       |       | 16            |                | 4  | 04   | 42             |    | 23 | 73 |     | 21  | 58  |     |
| 22 | 153                                                | 47.3 |     | 21.2                                                                                                                             | 73  | 18.5 | 34  |      | 43.5 | 26      | 56                       |       | 3             | 06             | 3  | 57   | 37             |    | 7  | 02 | 75  | 1   | 41  | 57  |
| 23 | 168                                                | 47.4 |     | 22.1                                                                                                                             | 87  | 40.9 | 34  |      | 40.7 | 28      | 58                       |       | 2             | 53             |    | 49   | 32             |    | 6  | 37 | 76  | 2   | 07  | 55  |
| 24 | 183                                                | 47.6 | -10 | 23.0                                                                                                                             | 102 | 03.4 | 35  | -27  | 37.6 | 31      | 60 S                     |       | 2             | 38             | 3  | 40   | 4              | 26 | 6  | 01 | 81  | 2   | 43  | 50  |

| UT | ARIES                                  |      | VENUS                                            |      |    | MARTE                                             |     |      | JÚPITER                                           |      |     | SATURNO                                          |     |      |
|----|----------------------------------------|------|--------------------------------------------------|------|----|---------------------------------------------------|-----|------|---------------------------------------------------|------|-----|--------------------------------------------------|-----|------|
|    | PMG: 22 <sup>h</sup> 05 <sup>m</sup> 2 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 27 <sup>m</sup> |      |    | Mag: +1.7<br>PMG: 11 <sup>h</sup> 03 <sup>m</sup> |     |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 28 <sup>m</sup> |      |     | Mag: +0.2<br>PMG: 6 <sup>h</sup> 04 <sup>m</sup> |     |      |
|    | hG ♈                                   |      | hG ♀                                             | Dec  |    | hG ♂                                              | Dec |      | hG ♃                                              | Dec  |     | hG ♄                                             | Dec |      |
| h  | °                                      | '    | °                                                | '    | °  | '                                                 | °   | '    | °                                                 | '    | °   | '                                                | °   | '    |
| 0  | 27                                     | 48.3 | 218                                              | 25.2 | +5 | 48.1                                              | 193 | 58.5 | -5                                                | 04.7 | 202 | 41.5                                             | -1  | 00.8 |
| 1  | 42                                     | 50.8 | 233                                              | 24.9 |    | 47.1                                              | 208 | 59.4 |                                                   | 05.3 | 217 | 43.4                                             |     | 01.1 |
| 2  | 57                                     | 53.2 | 248                                              | 24.6 |    | 46.0                                              | 224 | 00.4 |                                                   | 06.0 | 232 | 45.4                                             |     | 01.3 |
| 3  | 72                                     | 55.7 | 263                                              | 24.2 |    | 44.9                                              | 239 | 01.3 |                                                   | 06.6 | 247 | 47.4                                             |     | 01.5 |
| 4  | 87                                     | 58.2 | 278                                              | 23.9 |    | 43.9                                              | 254 | 02.3 |                                                   | 07.3 | 262 | 49.4                                             |     | 01.7 |
| 5  | 103                                    | 00.6 | 293                                              | 23.6 | +5 | 42.8                                              | 269 | 03.2 | -5                                                | 07.9 | 277 | 51.4                                             | -1  | 01.9 |
| 6  | 118                                    | 03.1 | 308                                              | 23.2 | +5 | 41.7                                              | 284 | 04.2 | -5                                                | 08.5 | 292 | 53.4                                             | -1  | 02.1 |
| 7  | 133                                    | 05.6 | 323                                              | 22.9 |    | 40.7                                              | 299 | 05.1 |                                                   | 09.2 | 307 | 55.3                                             |     | 02.3 |
| 8  | 148                                    | 08.0 | 338                                              | 22.6 |    | 39.6                                              | 314 | 06.1 |                                                   | 09.8 | 322 | 57.3                                             |     | 02.5 |
| 9  | 163                                    | 10.5 | 353                                              | 22.2 |    | 38.5                                              | 329 | 07.1 |                                                   | 10.5 | 337 | 59.3                                             |     | 02.7 |
| 10 | 178                                    | 12.9 | 8                                                | 21.9 |    | 37.5                                              | 344 | 08.0 |                                                   | 11.1 | 353 | 01.3                                             |     | 02.9 |
| 11 | 193                                    | 15.4 | 23                                               | 21.6 | +5 | 36.4                                              | 359 | 09.0 | -5                                                | 11.8 | 8   | 03.3                                             | -1  | 03.1 |
| 12 | 208                                    | 17.9 | 38                                               | 21.2 | +5 | 35.3                                              | 14  | 09.9 | -5                                                | 12.4 | 23  | 05.3                                             | -1  | 03.3 |
| 13 | 223                                    | 20.3 | 53                                               | 20.9 |    | 34.3                                              | 29  | 10.9 |                                                   | 13.1 | 38  | 07.2                                             |     | 03.5 |
| 14 | 238                                    | 22.8 | 68                                               | 20.6 |    | 33.2                                              | 44  | 11.8 |                                                   | 13.7 | 53  | 09.2                                             |     | 03.7 |
| 15 | 253                                    | 25.3 | 83                                               | 20.2 |    | 32.1                                              | 59  | 12.8 |                                                   | 14.4 | 68  | 11.2                                             |     | 03.9 |
| 16 | 268                                    | 27.7 | 98                                               | 19.9 |    | 31.1                                              | 74  | 13.7 |                                                   | 15.0 | 83  | 13.2                                             |     | 04.1 |
| 17 | 283                                    | 30.2 | 113                                              | 19.6 | +5 | 30.0                                              | 89  | 14.7 | -5                                                | 15.7 | 98  | 15.2                                             | -1  | 04.3 |
| 18 | 298                                    | 32.7 | 128                                              | 19.2 | +5 | 28.9                                              | 104 | 15.6 | -5                                                | 16.3 | 113 | 17.2                                             | -1  | 04.5 |
| 19 | 313                                    | 35.1 | 143                                              | 18.9 |    | 27.8                                              | 119 | 16.6 |                                                   | 16.9 | 128 | 19.1                                             |     | 04.7 |
| 20 | 328                                    | 37.6 | 158                                              | 18.6 |    | 26.8                                              | 134 | 17.6 |                                                   | 17.6 | 143 | 21.1                                             |     | 04.9 |
| 21 | 343                                    | 40.1 | 173                                              | 18.2 |    | 25.7                                              | 149 | 18.5 |                                                   | 18.2 | 158 | 23.1                                             |     | 05.1 |
| 22 | 358                                    | 42.5 | 188                                              | 17.9 |    | 24.6                                              | 164 | 19.5 |                                                   | 18.9 | 173 | 25.1                                             |     | 05.3 |
| 23 | 13                                     | 45.0 | 203                                              | 17.6 |    | 23.6                                              | 179 | 20.4 |                                                   | 19.5 | 188 | 27.1                                             |     | 05.5 |
| 24 | 28                                     | 47.4 | 218                                              | 17.2 | +5 | 22.5                                              | 194 | 21.4 | -5                                                | 20.2 | 203 | 29.1                                             | -1  | 05.7 |

| Dif | — | -3 | -11 | +10 | -6 | +20 | -2 | +24 | 0 |
|-----|---|----|-----|-----|----|-----|----|-----|---|
|-----|---|----|-----|-----|----|-----|----|-----|---|



| UT  | SOL                                                |      |                                                  |  LUNA                                        |                                                   |      | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |       |         | Salida de Luna |       |      | Puesta de Luna |       |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|------|---------------------------------------------------|---------------|--------------------------------------------------|-------|---------|----------------|-------|------|----------------|-------|-----|------|
|     | SD: 16'1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 7 |      |                                                  | Edad: 5 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59'3<br>12 <sup>h</sup> : 59'2<br>20 <sup>h</sup> : 59'2<br>R°: 58 <sup>m</sup> |                                                   |      |                                                   |               |                                                  |       |         |                |       |      |                |       |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                          | Dif                                               | Dec  |                                                   |               | Dif                                              | Civil | Náutico | Hora           | R°    | Hora | R°             |       |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                             | °                                                 | '    | °                                                 | h             | m                                                | h     | m       | h              | m     | h    | m              | m     |     |      |
| 0   | 183                                                | 47.6 | -10                                              | 23.0                                                                                                                          | 102                                               | 03.4 | -27 37.6                                          | 60 N          | 16 36                                            | 17 19 | 18 07   | 15 51          | 11    | 20   | 09             | 110   |     |      |
| 1   | 198                                                | 47.7 |                                                  | 23.9                                                                                                                          | 116                                               | 25.9 | 35 34.4                                           | 58            | 41                                               | 22    | 07      | 23             | 20    |      | 36             | 102   |     |      |
| 2   | 213                                                | 47.8 |                                                  | 24.8                                                                                                                          | 130                                               | 48.5 | 36 31.0                                           | 56            | 46                                               | 24    | 08      | 15             | 01    | 26   | 20             | 58 95 |     |      |
| 3   | 228                                                | 47.9 |                                                  | 25.7                                                                                                                          | 145                                               | 11.2 | 37 27.4                                           | 54            | 51                                               | 27    | 08      | 14             | 43    | 30   | 21             | 15 97 |     |      |
| 4   | 243                                                | 48.0 |                                                  | 26.6                                                                                                                          | 159                                               | 33.9 | 37 23.7                                           | 52            | 55                                               | 29    | 08      | 28             | 33    |      | 30             | 87    |     |      |
| 5   | 258                                                | 48.1 | -10                                              | 27.5                                                                                                                          | 173                                               | 56.7 | 38 -27 19.7                                       | 50            | 16 58                                            | 17 31 | 18 09   | 14 15          | 35    | 21   | 43             | 84    |     |      |
| 6   | 273                                                | 48.2 | -10                                              | 28.4                                                                                                                          | 188                                               | 19.5 | 38 -27 15.6                                       | 45            | 17 06                                            | 17 36 | 18 10   | 13 47          | 41    | 22   | 10             | 78    |     |      |
| 7   | 288                                                | 48.3 |                                                  | 29.3                                                                                                                          | 202                                               | 42.4 | 39 11.2                                           | 40            | 13                                               | 40    | 12      |                | 26 44 |      | 31             | 74    |     |      |
| 8   | 303                                                | 48.4 |                                                  | 30.2                                                                                                                          | 217                                               | 05.4 | 40 06.7                                           | 35            | 19                                               | 44    | 14      | 13             | 08    | 47   | 22             | 48 62 |     |      |
| 9   | 318                                                | 48.5 |                                                  | 31.0                                                                                                                          | 231                                               | 28.4 | 40 -27 02.0                                       | 30            | 24                                               | 48    | 16      | 12             | 52    | 50   | 23             | 03 79 |     |      |
| 10  | 333                                                | 48.6 |                                                  | 31.9                                                                                                                          | 245                                               | 51.5 | 41 -26 57.1                                       | 20            | 33                                               | 17 55 | 21      |                | 26 53 |      | 28             | 65    |     |      |
| 11  | 348                                                | 48.7 | -10                                              | 32.8                                                                                                                          | 260                                               | 14.7 | 42 -26 52.1                                       | 10 N          | 17 41                                            | 18 02 | 18 27   | 12             | 03    | 56   | 23             | 50 61 |     |      |
| 12  | 3                                                  | 48.8 | -10                                              | 33.7                                                                                                                          | 274                                               | 37.9 | 42 -26 46.8                                       | 0             | 17 48                                            | 18 09 | 18 34   | 11             | 41    | 60   | ***            | ***   |     |      |
| 13  | 18                                                 | 48.9 |                                                  | 34.6                                                                                                                          | 289                                               | 01.3 | 44 41.4                                           | 10 S          | 17 56                                            | 17    | 42      | 11             | 20    | 62   | ***            | ***   |     |      |
| 14  | 33                                                 | 49.0 |                                                  | 35.5                                                                                                                          | 303                                               | 24.7 | 44 35.8                                           | 20            | 18 04                                            | 27    | 18 53   | 10             | 57    | 65   | ***            | ***   |     |      |
| 15  | 48                                                 | 49.1 |                                                  | 36.4                                                                                                                          | 317                                               | 48.2 | 45 30.1                                           | 30            | 14                                               | 38    | 19 07   |                | 30 69 |      | 0              | 22 54 |     |      |
| 16  | 63                                                 | 49.2 |                                                  | 37.3                                                                                                                          | 332                                               | 11.7 | 45 24.1                                           | 35            | 19                                               | 45    | 17      | 10             | 15    | 71   |                | 38 53 |     |      |
| 17  | 78                                                 | 49.3 | -10                                              | 38.2                                                                                                                          | 346                                               | 35.4 | 47 -26 18.0                                       | 40            | 18 26                                            | 18 54 | 19 28   | 9              | 56    | 74   | 0              | 57 50 |     |      |
| 18  | 93                                                 | 49.4 | -10                                              | 39.1                                                                                                                          | 0                                                 | 59.1 | 47 -26 11.8                                       | 45            | 18 33                                            | 19 04 | 19 41   | 9              | 34    | 77   | 1              | 20 47 |     |      |
| 19  | 108                                                | 49.5 |                                                  | 40.0                                                                                                                          | 15                                                | 23.0 | 49 -26 05.3                                       | 50            | 42                                               | 17    | 19 59   | 9              | 06    | 81   | 1              | 49 43 |     |      |
| 20  | 123                                                | 49.6 |                                                  | 40.9                                                                                                                          | 29                                                | 46.9 | 49 -25 58.7                                       | 52            | 46                                               | 23    | 20 08   | 8              | 52    | 84   | 2              | 03 40 |     |      |
| 21  | 138                                                | 49.7 |                                                  | 41.8                                                                                                                          | 44                                                | 10.9 | 50 51.9                                           | 54            | 51                                               | 29    | 18      |                | 36 87 |      | 19             | 38    |     |      |
| 22  | 153                                                | 49.9 |                                                  | 42.6                                                                                                                          | 58                                                | 35.0 | 51 44.9                                           | 56            | 18 56                                            | 37    | 29      | 8              | 17    | 91   | 2              | 38 34 |     |      |
| 23  | 168                                                | 50.0 |                                                  | 43.5                                                                                                                          | 72                                                | 59.2 | 52 37.8                                           | 58            | 19 02                                            | 45    | 43      | 7              | 53    | 97   | 3              | 02 29 |     |      |
| 24  | 183                                                | 50.1 | -10                                              | 44.4                                                                                                                          | 87                                                | 23.4 | 52 -25 30.6                                       | 60 S          | 19 08                                            | 19 55 | 20 59   | 7              | 22    | 107  | 3              | 33 20 |     |      |
|     |                                                    |      |                                                  |                                                                                                                               |                                                   |      |                                                   |               |                                                  |       |         |                |       |      |                |       |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                               | MARTE                                             |      | JÚPITER                                           |               | SATURNO                                          |       |         |                |       |      |                |       |     |      |
|     | PMG: 22 <sup>h</sup> 01 <sup>m</sup> 2             |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 27 <sup>m</sup> |                                                                                                                               | Mag: +1.7<br>PMG: 11 <sup>h</sup> 02 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 25 <sup>m</sup> |               | Mag: +0.2<br>PMG: 6 <sup>h</sup> 00 <sup>m</sup> |       |         |                |       |      |                |       |     |      |
|     | hG ♈                                               |      | hG ♀ Dec                                         |                                                                                                                               | hG ♂ Dec                                          |      | hG ♃ Dec                                          |               | hG ♄ Dec                                         |       |         |                |       |      |                |       |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                             | °                                                 | '    | °                                                 | '             | °                                                | '     |         |                |       |      |                |       |     |      |
| 0   | 28                                                 | 47.4 | 218                                              | 17.2                                                                                                                          | +5                                                | 22.5 | 194                                               | 21.4          | -5                                               | 20.2  | 203     | 29.1           | -1    | 05.7 | 269            | 46.5  | +20 | 37.9 |
| 1   | 43                                                 | 49.9 | 233                                              | 16.9                                                                                                                          |                                                   | 21.4 | 209                                               | 22.3          |                                                  | 20.8  | 218     | 31.0           |       | 05.9 | 284            | 48.9  |     | 37.9 |
| 2   | 58                                                 | 52.4 | 248                                              | 16.6                                                                                                                          |                                                   | 20.3 | 224                                               | 23.3          |                                                  | 21.5  | 233     | 33.0           |       | 06.1 | 299            | 51.2  |     | 37.9 |
| 3   | 73                                                 | 54.8 | 263                                              | 16.2                                                                                                                          |                                                   | 19.3 | 239                                               | 24.2          |                                                  | 22.1  | 248     | 35.0           |       | 06.3 | 314            | 53.6  |     | 37.9 |
| 4   | 88                                                 | 57.3 | 278                                              | 15.9                                                                                                                          |                                                   | 18.2 | 254                                               | 25.2          |                                                  | 22.7  | 263     | 37.0           |       | 06.6 | 329            | 56.0  |     | 37.8 |
| 5   | 103                                                | 59.8 | 293                                              | 15.6                                                                                                                          | +5                                                | 17.1 | 269                                               | 26.1          | -5                                               | 23.4  | 278     | 39.0           | -1    | 06.8 | 344            | 58.3  | +20 | 37.8 |
| 6   | 119                                                | 02.2 | 308                                              | 15.2                                                                                                                          | +5                                                | 16.0 | 284                                               | 27.1          | -5                                               | 24.0  | 293     | 41.0           | -1    | 07.0 | 0              | 00.7  | +20 | 37.8 |
| 7   | 134                                                | 04.7 | 323                                              | 14.9                                                                                                                          |                                                   | 15.0 | 299                                               | 28.0          |                                                  | 24.7  | 308     | 43.0           |       | 07.2 | 15             | 03.1  |     | 37.8 |
| 8   | 149                                                | 07.2 | 338                                              | 14.6                                                                                                                          |                                                   | 13.9 | 314                                               | 29.0          |                                                  | 25.3  | 323     | 44.9           |       | 07.4 | 30             | 05.5  |     | 37.8 |
| 9   | 164                                                | 09.6 | 353                                              | 14.2                                                                                                                          |                                                   | 12.8 | 329                                               | 29.9          |                                                  | 26.0  | 338     | 46.9           |       | 07.6 | 45             | 07.8  |     | 37.8 |
| 10  | 179                                                | 12.1 | 8                                                | 13.9                                                                                                                          |                                                   | 11.7 | 344                                               | 30.9          |                                                  | 26.6  | 353     | 48.9           |       | 07.8 | 60             | 10.2  |     | 37.8 |
| 11  | 194                                                | 14.5 | 23                                               | 13.6                                                                                                                          | +5                                                | 10.7 | 359                                               | 31.9          | -5                                               | 27.3  | 8       | 50.9           | -1    | 08.0 | 75             | 12.6  | +20 | 37.8 |
| 12  | 209                                                | 17.0 | 38                                               | 13.2                                                                                                                          | +5                                                | 09.6 | 14                                                | 32.8          | -5                                               | 27.9  | 23      | 52.9           | -1    | 08.2 | 90             | 14.9  | +20 | 37.7 |
| 13  | 224                                                | 19.5 | 53                                               | 12.9                                                                                                                          |                                                   | 08.5 | 29                                                | 33.8          |                                                  | 28.6  | 38      | 54.9           |       | 08.4 | 105            | 17.3  |     | 37.7 |
| 14  | 239                                                | 21.9 | 68                                               | 12.6                                                                                                                          |                                                   | 07.4 | 44                                                | 34.7          |                                                  | 29.2  | 53      | 56.9           |       | 08.6 | 120            | 19.7  |     | 37.7 |
| 15  | 254                                                | 24.4 | 83                                               | 12.2                                                                                                                          |                                                   | 06.3 | 59                                                | 35.7          |                                                  | 29.8  | 68      | 58.8           |       | 08.8 | 135            | 22.1  |     | 37.7 |
| 16  | 269                                                | 26.9 | 98                                               | 11.9                                                                                                                          |                                                   | 05.3 | 74                                                | 36.6          |                                                  | 30.5  | 84      | 00.8           |       | 09.0 | 150            | 24.4  |     | 37.7 |
| 17  | 284                                                | 29.3 | 113                                              | 11.6                                                                                                                          | +5                                                | 04.2 | 89                                                | 37.6          | -5                                               | 31.1  | 99      | 02.8           | -1    | 09.2 | 165            | 26.8  | +20 | 37.7 |
| 18  | 299                                                | 31.8 | 128                                              | 11.2                                                                                                                          | +5                                                | 03.1 | 104                                               | 38.5          | -5                                               | 31.8  | 114     | 04.8           | -1    | 09.4 | 180            | 29.2  | +20 | 37.7 |
| 19  | 314                                                | 34.3 | 143                                              | 10.9                                                                                                                          |                                                   | 02.0 | 119                                               | 39.5          |                                                  | 32.4  | 129     | 06.8           |       | 09.6 | 195            | 31.6  |     | 37.6 |
| 20  | 329                                                | 36.7 | 158                                              | 10.6                                                                                                                          | +5                                                | 00.9 | 134                                               | 40.4          |                                                  | 33.1  | 144     | 08.8           |       | 09.8 | 210            | 33.9  |     | 37.6 |
| 21  | 344                                                | 39.2 | 173                                              | 10.3                                                                                                                          | +4                                                | 59.9 | 149                                               | 41.4          |                                                  | 33.7  | 159     | 10.7           |       | 10.0 | 225            | 36.3  |     | 37.6 |
| 22  | 359                                                | 41.7 | 188                                              | 09.9                                                                                                                          |                                                   | 58.8 | 164                                               | 42.3          |                                                  | 34.4  | 174     | 12.7           |       | 10.2 | 240            | 38.7  |     | 37.6 |
| 23  | 14                                                 | 44.1 | 203                                              | 09.6                                                                                                                          |                                                   | 57.7 | 179                                               | 43.3          |                                                  | 35.0  | 189     | 14.7           |       | 10.4 | 255            | 41.1  |     | 37.6 |
| 24  | 29                                                 | 46.6 | 218                                              | 09.3                                                                                                                          | +4                                                | 56.6 | 194                                               | 44.2          | -5                                               | 35.6  | 204     | 16.7           | -1    | 10.6 | 270            | 43.4  | +20 | 37.6 |
| Dif | —                                                  |      | -3                                               |                                                                                                                               | -11                                               |      | +10                                               |               | -6                                               |       | +20     |                | -2    |      | +24            |       | 0   |      |

| UT  | SOL                                                |      |     |  LUNA                                                                                               |     |      | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                     | Salida de Luna |      | Puesta de Luna                                   |      |     |      |    |     |
|-----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|--------------------------|---------|---------------------------------------------------|----------------|------|--------------------------------------------------|------|-----|------|----|-----|
|     | SD: 16'1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 6 |      |     | Edad: 6 <sup>d</sup> 9 PHE {<br>SD: 16'1<br>PMG: 18 <sup>h</sup> 54 <sup>m</sup><br>4 <sup>h</sup> : 59'1<br>12 <sup>h</sup> : 58'9<br>20 <sup>h</sup> : 58'8<br>R°: 54 <sup>m</sup> |     |      |                                                   |                          |         |                                                   |                |      |                                                  |      |     |      |    |     |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                                 | Dif | Dec  |                                                   | Dif                      | Náutico |                                                   | Civil          | Hora | R°                                               | Hora | R°  |      |    |     |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                    | °   | '    | °                                                 | '                        | h       | m                                                 | h              | m    | h                                                | m    | h   | m    |    |     |
| 0   | 183                                                | 50.1 | -10 | 44.4                                                                                                                                                                                 | 87  | 23.4 | -25                                               | 30.6                     | 60 N    | 5                                                 | 23             | 6    | 12                                               | 6    | 55  | 16   | 02 |     |
| 1   | 198                                                | 50.2 |     | 45.3                                                                                                                                                                                 | 101 | 47.8 | 54                                                | 23.1                     | 58      |                                                   | 23             |      | 09                                               |      | 49  | 15   | 43 |     |
| 2   | 213                                                | 50.3 |     | 46.2                                                                                                                                                                                 | 116 | 12.3 | 55                                                | 15.5                     | 56      |                                                   | 23             |      | 06                                               |      | 44  | 27   | 15 |     |
| 3   | 228                                                | 50.4 |     | 47.1                                                                                                                                                                                 | 130 | 36.8 | 55                                                | -25                      | 07.8    | 54                                                |                | 22   |                                                  | 03   |     | 40   | 13 | 19  |
| 4   | 243                                                | 50.5 |     | 48.0                                                                                                                                                                                 | 145 | 01.5 | 57                                                | -24                      | 59.8    | 52                                                |                | 22   |                                                  | 6    | 01  | 36   | 15 | 01  |
| 5   | 258                                                | 50.6 | -10 | 48.9                                                                                                                                                                                 | 159 | 26.3 | 58                                                | -24                      | 51.8    | 50                                                | 5              | 21   | 5                                                | 59   | 6   | 32   | 14 | 50  |
| 6   | 273                                                | 50.7 | -10 | 49.8                                                                                                                                                                                 | 173 | 51.1 | 58                                                | -24                      | 43.5    | 45                                                | 5              | 20   | 5                                                | 54   | 6   | 24   | 14 | 28  |
| 7   | 288                                                | 50.8 |     | 50.6                                                                                                                                                                                 | 188 | 16.1 | 60                                                |                          | 35.2    | 40                                                |                | 18   |                                                  | 50   |     | 17   | 14 | 10  |
| 8   | 303                                                | 50.8 |     | 51.5                                                                                                                                                                                 | 202 | 41.1 | 60                                                |                          | 26.6    | 35                                                |                | 16   |                                                  | 46   |     | 11   | 13 | 55  |
| 9   | 318                                                | 50.9 |     | 52.4                                                                                                                                                                                 | 217 | 06.3 | 62                                                |                          | 18.0    | 30                                                |                | 14   |                                                  | 42   |     | 6    | 06 | 42  |
| 10  | 333                                                | 51.0 |     | 53.3                                                                                                                                                                                 | 231 | 31.6 | 63                                                |                          | 09.1    | 20                                                |                | 09   |                                                  | 35   |     | 5    | 57 | 13  |
| 11  | 348                                                | 51.1 | -10 | 54.2                                                                                                                                                                                 | 245 | 56.9 | 63                                                | -24                      | 00.2    | 10 N                                              | 5              | 03   | 5                                                | 28   | 5   | 49   | 12 | 59  |
| 12  | 3                                                  | 51.2 | -10 | 55.1                                                                                                                                                                                 | 260 | 22.4 | 65                                                | -23                      | 51.1    | 0                                                 | 4              | 56   | 5                                                | 20   | 5   | 41   | 12 | 41  |
| 13  | 18                                                 | 51.3 |     | 56.0                                                                                                                                                                                 | 274 | 48.0 | 66                                                |                          | 41.8    | 10 S                                              |                | 47   |                                                  | 12   |     | 33   | 22 | 59  |
| 14  | 33                                                 | 51.4 |     | 56.8                                                                                                                                                                                 | 289 | 13.7 | 67                                                |                          | 32.4    | 20                                                |                | 36   |                                                  | 5    | 03  | 25   | 12 | 02  |
| 15  | 48                                                 | 51.5 |     | 57.7                                                                                                                                                                                 | 303 | 39.4 | 67                                                |                          | 22.9    | 30                                                |                | 22   | 4                                                | 51   |     | 15   | 11 | 39  |
| 16  | 63                                                 | 51.6 |     | 58.6                                                                                                                                                                                 | 318 | 05.3 | 69                                                |                          | 13.2    | 35                                                |                | 12   |                                                  | 43   |     | 10   | 26 | 71  |
| 17  | 78                                                 | 51.7 | -10 | 59.5                                                                                                                                                                                 | 332 | 31.3 | 70                                                | -23                      | 03.4    | 40                                                | 4              | 01   | 4                                                | 35   | 5   | 03   | 11 | 10  |
| 18  | 93                                                 | 51.8 | -11 | 00.4                                                                                                                                                                                 | 346 | 57.4 | 71                                                | -22                      | 53.4    | 45                                                | 3              | 47   | 4                                                | 25   | 4   | 56   | 10 | 51  |
| 19  | 108                                                | 51.9 |     | 01.3                                                                                                                                                                                 | 1   | 23.6 | 72                                                |                          | 43.4    | 50                                                |                | 29   |                                                  | 12   |     | 47   | 27 | 85  |
| 20  | 123                                                | 52.0 |     | 02.2                                                                                                                                                                                 | 15  | 49.9 | 73                                                |                          | 33.1    | 52                                                |                | 21   |                                                  | 4    | 06  | 42   | 16 | 88  |
| 21  | 138                                                | 52.1 |     | 03.0                                                                                                                                                                                 | 30  | 16.4 | 75                                                |                          | 22.8    | 54                                                | 3              | 11   | 3                                                | 59   | 38  |      | 10 | 03  |
| 22  | 153                                                | 52.2 |     | 03.9                                                                                                                                                                                 | 44  | 42.9 | 75                                                |                          | 12.3    | 56                                                | 2              | 59   |                                                  | 52   | 33  |      | 9  | 48  |
| 23  | 168                                                | 52.3 |     | 04.8                                                                                                                                                                                 | 59  | 09.5 | 76                                                | -22                      | 01.7    | 58                                                |                | 46   |                                                  | 43   | 27  |      | 30 | 101 |
| 24  | 183                                                | 52.4 | -11 | 05.7                                                                                                                                                                                 | 73  | 36.2 | 77                                                | -21                      | 51.0    | 60 S                                              | 2              | 29   | 3                                                | 33   | 4   | 20   | 9  | 09  |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                                                                                |     |      | MARTE                                             |                          |         | JÚPITER                                           |                |      | SATURNO                                          |      |     |      |    |     |
|     | PMG: 21 <sup>h</sup> 57 <sup>m</sup> 3             |      |     | Mag: -4.0<br>PMG: 9 <sup>h</sup> 28 <sup>m</sup>                                                                                                                                     |     |      | Mag: +1.7<br>PMG: 11 <sup>h</sup> 00 <sup>m</sup> |                          |         | Mag: -1.7<br>PMG: 10 <sup>h</sup> 22 <sup>m</sup> |                |      | Mag: +0.2<br>PMG: 5 <sup>h</sup> 56 <sup>m</sup> |      |     |      |    |     |
|     | hG ♈                                               | Dec  |     | hG ♀                                                                                                                                                                                 | Dec |      | hG ♂                                              | Dec                      |         | hG ♃                                              | Dec            |      | hG ♄                                             | Dec  |     |      |    |     |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                    | °   | '    | °                                                 | '                        | °       | '                                                 | °              | '    | °                                                | '    | °   | '    |    |     |
| 0   | 29                                                 | 46.6 | 218 | 09.3                                                                                                                                                                                 | +4  | 56.6 | 194                                               | 44.2                     | -5      | 35.6                                              | 204            | 16.7 | -1                                               | 10.6 | 270 | 43.4 |    |     |
| 1   | 44                                                 | 49.0 | 233 | 08.9                                                                                                                                                                                 |     | 55.5 | 209                                               | 45.2                     |         | 36.3                                              | 219            | 18.7 |                                                  | 10.8 | 285 | 45.8 |    |     |
| 2   | 59                                                 | 51.5 | 248 | 08.6                                                                                                                                                                                 |     | 54.5 | 224                                               | 46.1                     |         | 36.9                                              | 234            | 20.7 |                                                  | 11.0 | 300 | 48.2 |    |     |
| 3   | 74                                                 | 54.0 | 263 | 08.3                                                                                                                                                                                 |     | 53.4 | 239                                               | 47.1                     |         | 37.6                                              | 249            | 22.7 |                                                  | 11.2 | 315 | 50.6 |    |     |
| 4   | 89                                                 | 56.4 | 278 | 07.9                                                                                                                                                                                 |     | 52.3 | 254                                               | 48.0                     |         | 38.2                                              | 264            | 24.7 |                                                  | 11.4 | 330 | 52.9 |    |     |
| 5   | 104                                                | 58.9 | 293 | 07.6                                                                                                                                                                                 | +4  | 51.2 | 269                                               | 49.0                     | -5      | 38.9                                              | 279            | 26.6 | -1                                               | 11.6 | 345 | 55.3 |    |     |
| 6   | 120                                                | 01.4 | 308 | 07.3                                                                                                                                                                                 | +4  | 50.1 | 284                                               | 49.9                     | -5      | 39.5                                              | 294            | 28.6 | -1                                               | 11.8 | 0   | 57.7 |    |     |
| 7   | 135                                                | 03.8 | 323 | 06.9                                                                                                                                                                                 |     | 49.0 | 299                                               | 50.9                     |         | 40.1                                              | 309            | 30.6 |                                                  | 12.0 | 16  | 00.1 |    |     |
| 8   | 150                                                | 06.3 | 338 | 06.6                                                                                                                                                                                 |     | 48.0 | 314                                               | 51.8                     |         | 40.8                                              | 324            | 32.6 |                                                  | 12.2 | 31  | 02.4 |    |     |
| 9   | 165                                                | 08.8 | 353 | 06.3                                                                                                                                                                                 |     | 46.9 | 329                                               | 52.8                     |         | 41.4                                              | 339            | 34.6 |                                                  | 12.4 | 46  | 04.8 |    |     |
| 10  | 180                                                | 11.2 | 8   | 05.9                                                                                                                                                                                 |     | 45.8 | 344                                               | 53.7                     |         | 42.1                                              | 354            | 36.6 |                                                  | 12.6 | 61  | 07.2 |    |     |
| 11  | 195                                                | 13.7 | 23  | 05.6                                                                                                                                                                                 | +4  | 44.7 | 359                                               | 54.7                     | -5      | 42.7                                              | 9              | 38.6 | -1                                               | 12.8 | 76  | 09.6 |    |     |
| 12  | 210                                                | 16.2 | 38  | 05.3                                                                                                                                                                                 | +4  | 43.6 | 14                                                | 55.6                     | -5      | 43.4                                              | 24             | 40.5 | -1                                               | 13.0 | 91  | 11.9 |    |     |
| 13  | 225                                                | 18.6 | 53  | 05.0                                                                                                                                                                                 |     | 42.5 | 29                                                | 56.6                     |         | 44.0                                              | 39             | 42.5 |                                                  | 13.2 | 106 | 14.3 |    |     |
| 14  | 240                                                | 21.1 | 68  | 04.6                                                                                                                                                                                 |     | 41.4 | 44                                                | 57.5                     |         | 44.7                                              | 54             | 44.5 |                                                  | 13.4 | 121 | 16.7 |    |     |
| 15  | 255                                                | 23.5 | 83  | 04.3                                                                                                                                                                                 |     | 40.4 | 59                                                | 58.5                     |         | 45.3                                              | 69             | 46.5 |                                                  | 13.6 | 136 | 19.1 |    |     |
| 16  | 270                                                | 26.0 | 98  | 04.0                                                                                                                                                                                 |     | 39.3 | 74                                                | 59.4                     |         | 45.9                                              | 84             | 48.5 |                                                  | 13.8 | 151 | 21.5 |    |     |
| 17  | 285                                                | 28.5 | 113 | 03.6                                                                                                                                                                                 | +4  | 38.2 | 90                                                | 00.4                     | -5      | 46.6                                              | 99             | 50.5 | -1                                               | 14.1 | 166 | 23.8 |    |     |
| 18  | 300                                                | 30.9 | 128 | 03.3                                                                                                                                                                                 | +4  | 37.1 | 105                                               | 01.3                     | -5      | 47.2                                              | 114            | 52.5 | -1                                               | 14.3 | 181 | 26.2 |    |     |
| 19  | 315                                                | 33.4 | 143 | 03.0                                                                                                                                                                                 |     | 36.0 | 120                                               | 02.3                     |         | 47.9                                              | 129            | 54.4 |                                                  | 14.5 | 196 | 28.6 |    |     |
| 20  | 330                                                | 35.9 | 158 | 02.6                                                                                                                                                                                 |     | 34.9 | 135                                               | 03.2                     |         | 48.5                                              | 144            | 56.4 |                                                  | 14.7 | 211 | 31.0 |    |     |
| 21  | 345                                                | 38.3 | 173 | 02.3                                                                                                                                                                                 |     | 33.8 | 150                                               | 04.2                     |         | 49.2                                              | 159            | 58.4 |                                                  | 14.9 | 226 | 33.4 |    |     |
| 22  | 0                                                  | 40.8 | 188 | 02.0                                                                                                                                                                                 |     | 32.7 | 165                                               | 05.1                     |         | 49.8                                              | 175            | 00.4 |                                                  | 15.1 | 241 | 35.7 |    |     |
| 23  | 15                                                 | 43.3 | 203 | 01.6                                                                                                                                                                                 |     | 31.7 | 180                                               | 06.1                     |         | 50.4                                              | 190            | 02.4 |                                                  | 15.3 | 256 | 38.1 |    |     |
| 24  | 30                                                 | 45.7 | 218 | 01.3                                                                                                                                                                                 | +4  | 30.6 | 195                                               | 07.0                     | -5      | 51.1                                              | 205            | 04.4 | -1                                               | 15.5 | 271 | 40.5 |    |     |
| Dif | —                                                  |      |     | -3                                                                                                                                                                                   |     |      | -11                                               |                          |         | +10                                               |                |      | -6                                               |      |     | +20  |    |     |

| UT | SOL                                                |      |     | ☾ LUNA                                                                                                                        |     |      | Latitud      | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |       | Puesta de Luna |     |
|----|----------------------------------------------------|------|-----|-------------------------------------------------------------------------------------------------------------------------------|-----|------|--------------|---------------|----------------------|-------|---------|----------------|-------|----------------|-----|
|    | SD: 16'1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 4 |      |     | Edad: 7 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 58'7<br>12 <sup>h</sup> : 58'6<br>20 <sup>h</sup> : 58'5<br>R°: 50 <sup>m</sup> |     |      |              |               |                      |       |         |                |       |                |     |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                          | Dif | Dec  |              |               | Dif                  | Civil | Náutico | Hora           | R°    | Hora           | R°  |
| h  | °                                                  | '    | °   | '                                                                                                                             | °   | '    | °            | h m           | h m                  | h m   | h m m   | h m m          | h m m |                |     |
| 0  | 183                                                | 52.4 | -11 | 05.7                                                                                                                          | 73  | 36.2 | -21 51.0     | 60 N          | 16 30                | 17 14 | 18 02   | 16 06          | 1     | 23 46          | 101 |
| 1  | 198                                                | 52.5 |     | 06.6                                                                                                                          | 88  | 03.1 | 79 40.2      | 58            | 36                   | 17    | 02      | 15 53          | 6     | 23 58          | 96  |
| 2  | 213                                                | 52.6 |     | 07.5                                                                                                                          | 102 | 30.0 | 79 29.2      | 56            | 42                   | 20    | 03      | 42             | 10    | ** ** *        | **  |
| 3  | 228                                                | 52.7 |     | 08.3                                                                                                                          | 116 | 57.1 | 81 18.1      | 54            | 46                   | 23    | 04      | 32             | 14    | ** ** *        | **  |
| 4  | 243                                                | 52.8 |     | 09.2                                                                                                                          | 131 | 24.3 | 82 -21 06.9  | 52            | 51                   | 25    | 04      | 24             | 16    | ** ** *        | **  |
| 5  | 258                                                | 52.9 | -11 | 10.1                                                                                                                          | 145 | 51.5 | 82 -20 55.6  | 50            | 16 55                | 17 28 | 18 05   | 15 16          | 19    | ** ** *        | **  |
| 6  | 273                                                | 52.9 | -11 | 11.0                                                                                                                          | 160 | 18.9 | 84 -20 44.2  | 45            | 17 03                | 17 33 | 18 07   | 14 59          | 25    | ** ** *        | **  |
| 7  | 288                                                | 53.0 |     | 11.9                                                                                                                          | 174 | 46.4 | 85 32.7      | 40            | 10                   | 38    | 09      | 45             | 30    | ** ** *        | **  |
| 8  | 303                                                | 53.1 |     | 12.7                                                                                                                          | 189 | 14.0 | 86 21.0      | 35            | 16                   | 42    | 12      | 34             | 33    | 0 00           | 70  |
| 9  | 318                                                | 53.2 |     | 13.6                                                                                                                          | 203 | 41.7 | 87 -20 09.2  | 30            | 22                   | 46    | 14      | 23             | 36    | 12             | 67  |
| 10 | 333                                                | 53.3 |     | 14.5                                                                                                                          | 218 | 09.4 | 87 -19 57.4  | 20            | 31                   | 17 54 | 19      | 14 06          | 41    | 33             | 61  |
| 11 | 348                                                | 53.4 | -11 | 15.4                                                                                                                          | 232 | 37.3 | 89 -19 45.4  | 10 N          | 17 40                | 18 01 | 18 26   | 13 50          | 46    | 0 51           | 57  |
| 12 | 3                                                  | 53.5 | -11 | 16.3                                                                                                                          | 247 | 05.3 | 90 -19 33.3  | 0             | 17 48                | 18 09 | 18 33   | 13 36          | 50    | 1 07           | 53  |
| 13 | 18                                                 | 53.6 |     | 17.1                                                                                                                          | 261 | 33.4 | 91 21.1      | 10 S          | 17 56                | 17    | 42      | 21             | 55    | 24             | 49  |
| 14 | 33                                                 | 53.7 |     | 18.0                                                                                                                          | 276 | 01.7 | 93 -19 08.9  | 20            | 18 05                | 27    | 18 54   | 13 05          | 60    | 1 42           | 44  |
| 15 | 48                                                 | 53.8 |     | 18.9                                                                                                                          | 290 | 30.0 | 93 -18 56.5  | 30            | 15                   | 40    | 19 09   | 12 47          | 66    | 2 02           | 39  |
| 16 | 63                                                 | 53.9 |     | 19.8                                                                                                                          | 304 | 58.4 | 94 44.0      | 35            | 21                   | 47    | 19      | 37             | 68    | 14             | 35  |
| 17 | 78                                                 | 53.9 | -11 | 20.6                                                                                                                          | 319 | 26.9 | 95 -18 31.4  | 40            | 18 28                | 18 56 | 19 30   | 12 24          | 73    | 2 27           | 32  |
| 18 | 93                                                 | 54.0 | -11 | 21.5                                                                                                                          | 333 | 55.5 | 96 -18 18.7  | 45            | 18 36                | 19 07 | 19 45   | 12 10          | 77    | 2 43           | 27  |
| 19 | 108                                                | 54.1 |     | 22.4                                                                                                                          | 348 | 24.2 | 97 -18 06.0  | 50            | 45                   | 20    | 20 03   | 11 52          | 83    | 3 02           | 22  |
| 20 | 123                                                | 54.2 |     | 23.3                                                                                                                          | 2   | 53.0 | 98 -17 53.1  | 52            | 50                   | 26    | 13      | 44             | 86    | 11             | 19  |
| 21 | 138                                                | 54.3 |     | 24.2                                                                                                                          | 17  | 21.9 | 99 40.2      | 54            | 18 55                | 34    | 23      | 34             | 90    | 21             | 16  |
| 22 | 153                                                | 54.4 |     | 25.0                                                                                                                          | 31  | 50.9 | 100 27.1     | 56            | 19 00                | 42    | 35      | 24             | 93    | 32             | 13  |
| 23 | 168                                                | 54.5 |     | 25.9                                                                                                                          | 46  | 20.0 | 101 14.0     | 58            | 06                   | 19 51 | 20 50   | 11 11          | 98    | 3 45           | 9   |
| 24 | 183                                                | 54.6 | -11 | 26.8                                                                                                                          | 60  | 49.2 | 102 -17 00.8 | 60 S          | 19 13                | 20 01 | 21 07   | 10 57          | 103   | 4 01           | 3   |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 21 <sup>h</sup> 53 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 28 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 59 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 18 <sup>m</sup> |      | Mag: +0.1<br>PMG: 5 <sup>h</sup> 52 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |
| 0   | 30                                     | 45.7 | 218                                              | 01.3 | +4                                                | 30.6 | 205                                               | 04.4 | -1                                               | 15.5 |
| 1   | 45                                     | 48.2 | 233                                              | 01.0 |                                                   | 29.5 | 220                                               | 06.4 |                                                  | 15.7 |
| 2   | 60                                     | 50.7 | 248                                              | 00.6 |                                                   | 28.4 | 235                                               | 08.4 |                                                  | 15.9 |
| 3   | 75                                     | 53.1 | 263                                              | 00.3 |                                                   | 27.3 | 250                                               | 10.3 |                                                  | 16.1 |
| 4   | 90                                     | 55.6 | 278                                              | 00.0 |                                                   | 26.2 | 265                                               | 12.3 |                                                  | 16.3 |
| 5   | 105                                    | 58.0 | 292                                              | 59.7 | +4                                                | 25.1 | 280                                               | 14.3 | -1                                               | 16.5 |
| 6   | 121                                    | 00.5 | 307                                              | 59.3 | +4                                                | 24.0 | 295                                               | 16.3 | -1                                               | 16.7 |
| 7   | 136                                    | 03.0 | 322                                              | 59.0 |                                                   | 22.9 | 310                                               | 18.3 |                                                  | 16.9 |
| 8   | 151                                    | 05.4 | 337                                              | 58.7 |                                                   | 21.8 | 325                                               | 20.3 |                                                  | 17.1 |
| 9   | 166                                    | 07.9 | 352                                              | 58.3 |                                                   | 20.8 | 340                                               | 22.3 |                                                  | 17.3 |
| 10  | 181                                    | 10.4 | 7                                                | 58.0 |                                                   | 19.7 | 355                                               | 24.3 |                                                  | 17.5 |
| 11  | 196                                    | 12.8 | 22                                               | 57.7 | +4                                                | 18.6 | 10                                                | 26.2 | -1                                               | 17.7 |
| 12  | 211                                    | 15.3 | 37                                               | 57.3 | +4                                                | 17.5 | 25                                                | 28.2 | -1                                               | 17.9 |
| 13  | 226                                    | 17.8 | 52                                               | 57.0 |                                                   | 16.4 | 40                                                | 30.2 |                                                  | 18.1 |
| 14  | 241                                    | 20.2 | 67                                               | 56.7 |                                                   | 15.3 | 55                                                | 32.2 |                                                  | 18.3 |
| 15  | 256                                    | 22.7 | 82                                               | 56.3 |                                                   | 14.2 | 70                                                | 34.2 |                                                  | 18.5 |
| 16  | 271                                    | 25.1 | 97                                               | 56.0 |                                                   | 13.1 | 85                                                | 36.2 |                                                  | 18.7 |
| 17  | 286                                    | 27.6 | 112                                              | 55.7 | +4                                                | 12.0 | 100                                               | 38.2 | -1                                               | 18.9 |
| 18  | 301                                    | 30.1 | 127                                              | 55.4 | +4                                                | 10.9 | 115                                               | 40.2 | -1                                               | 19.1 |
| 19  | 316                                    | 32.5 | 142                                              | 55.0 |                                                   | 9.8  | 130                                               | 42.2 |                                                  | 19.3 |
| 20  | 331                                    | 35.0 | 157                                              | 54.7 |                                                   | 8.7  | 145                                               | 44.1 |                                                  | 19.5 |
| 21  | 346                                    | 37.5 | 172                                              | 54.4 |                                                   | 7.6  | 160                                               | 46.1 |                                                  | 19.7 |
| 22  | 1                                      | 39.9 | 187                                              | 54.0 |                                                   | 6.5  | 175                                               | 48.1 |                                                  | 19.9 |
| 23  | 16                                     | 42.4 | 202                                              | 53.7 |                                                   | 5.4  | 190                                               | 50.1 |                                                  | 20.1 |
| 24  | 31                                     | 44.9 | 217                                              | 53.4 | +4                                                | 4.3  | 205                                               | 52.1 | -1                                               | 20.3 |
| Dif | —                                      |      | -3                                               |      | -11                                               |      | +9                                                |      | -6                                               |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                   |      |                                                  |      |

| UT | SOL                                                |      |      | LUNA                                                                       |                                                                                                                                                     |                     | Latitud                 | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |     |      |     |     |
|----|----------------------------------------------------|------|------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|--------------------------|------|---------------|----------------|-------|----------------|-----|------|-----|-----|
|    | SD: 16:1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 3 |      |      | Edad: 8 <sup>d</sup> 9<br>SD: 15:9<br>PMG: 20 <sup>h</sup> 38 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 58 <sup>m</sup> /3<br>12 <sup>h</sup> : 58 <sup>m</sup> /2<br>20 <sup>h</sup> : 58 <sup>m</sup> /0<br>R°: 46 <sup>m</sup> |                     |                         |                          |      |               |                |       |                |     |      |     |     |
|    | hG ☉                                               | Dec  | hG ☾ |                                                                            |                                                                                                                                                     | Dif                 |                         | Dec                      | Dif  |               | Náutico        | Civil | Hora           | R°  | Hora | R°  |     |
| h  | °                                                  | '    | °    | '                                                                          | °                                                                                                                                                   | '                   | °                       | h                        | m    | h             | m              | h     | m              | h   | m    | h   | m   |
| 0  | 183                                                | 54.6 | -11  | 26.8                                                                       | 60                                                                                                                                                  | 49.2                | -17 00.8                | 60 N                     | 5 28 | 6 17          | 7 00           | 16 07 | 0              | *** | ***  | *** | *** |
| 1  | 198                                                | 54.6 |      | 27.7                                                                       | 75                                                                                                                                                  | 18.5 <sup>103</sup> | -16 47.5 <sup>133</sup> | 58                       | 27   | 13            | 6 54           | 15 59 | 4              | *** | ***  | *** | *** |
| 2  | 213                                                | 54.7 |      | 28.5                                                                       | 89                                                                                                                                                  | 47.9 <sup>104</sup> | 34.2 <sup>133</sup>     | 56                       | 27   | 10            | 48             | 52    | 7              | 0   | 08   | 92  |     |
| 3  | 228                                                | 54.8 |      | 29.4                                                                       | 104                                                                                                                                                 | 17.4 <sup>105</sup> | 20.7 <sup>135</sup>     | 54                       | 26   | 07            | 44             | 46    | 10             |     | 17   | 88  |     |
| 4  | 243                                                | 54.9 |      | 30.3                                                                       | 118                                                                                                                                                 | 47.0 <sup>106</sup> | -16 07.2 <sup>135</sup> | 52                       | 25   | 05            | 39             | 40    | 13             |     | 25   | 85  |     |
| 5  | 258                                                | 55.0 | -11  | 31.2                                                                       | 133                                                                                                                                                 | 16.6 <sup>106</sup> | -15 53.6 <sup>136</sup> | 50                       | 5 24 | 6 02          | 6 35           | 15 35 | 15             | 0   | 32   | 82  |     |
| 6  | 273                                                | 55.1 | -11  | 32.0                                                                       | 147                                                                                                                                                 | 46.4 <sup>108</sup> | -15 39.9 <sup>137</sup> | 45                       | 5 22 | 5 57          | 6 27           | 15 24 | 21             | 0   | 47   | 76  |     |
| 7  | 288                                                | 55.2 |      | 32.9                                                                       | 162                                                                                                                                                 | 16.2 <sup>108</sup> | 26.1 <sup>138</sup>     | 40                       | 20   | 52            | 19             | 15    | 25             | 0   | 59   | 72  |     |
| 8  | 303                                                | 55.2 |      | 33.8                                                                       | 176                                                                                                                                                 | 46.2 <sup>110</sup> | -15 12.3 <sup>138</sup> | 35                       | 18   | 47            | 13             | 15 07 | 28             | 1   | 10   | 67  |     |
| 9  | 318                                                | 55.3 |      | 34.7                                                                       | 191                                                                                                                                                 | 16.2 <sup>110</sup> | -14 58.4 <sup>139</sup> | 30                       | 15   | 43            | 6 07           | 14 59 | 32             | 19  | 64   |     |     |
| 10 | 333                                                | 55.4 |      | 35.5                                                                       | 205                                                                                                                                                 | 46.3 <sup>111</sup> | 44.5 <sup>139</sup>     | 20                       | 09   | 35            | 5 58           | 47    | 38             | 34  | 59   |     |     |
| 11 | 348                                                | 55.5 | -11  | 36.4                                                                       | 220                                                                                                                                                 | 16.5 <sup>112</sup> | -14 30.4 <sup>141</sup> | 10 N                     | 5 03 | 5 28          | 5 49           | 14 36 | 43             | 1   | 48   | 53  |     |
| 12 | 3                                                  | 55.6 | -11  | 37.3                                                                       | 234                                                                                                                                                 | 46.8 <sup>113</sup> | -14 16.3 <sup>141</sup> | 0                        | 4 55 | 5 20          | 5 41           | 14 26 | 47             | 2   | 00   | 49  |     |
| 13 | 18                                                 | 55.7 |      | 38.1                                                                       | 249                                                                                                                                                 | 17.1 <sup>113</sup> | -14 02.2 <sup>141</sup> | 10 S                     | 46   | 11            | 33             | 16    | 52             | 13  | 44   |     |     |
| 14 | 33                                                 | 55.7 |      | 39.0                                                                       | 263                                                                                                                                                 | 47.6 <sup>115</sup> | -13 47.9 <sup>143</sup> | 20                       | 35   | 5 01          | 24             | 14 05 | 57             | 26  | 39   |     |     |
| 15 | 48                                                 | 55.8 |      | 39.9                                                                       | 278                                                                                                                                                 | 18.1 <sup>115</sup> | 33.6 <sup>143</sup>     | 30                       | 19   | 4 49          | 13             | 13 53 | 62             | 41  | 34   |     |     |
| 16 | 63                                                 | 55.9 |      | 40.8                                                                       | 292                                                                                                                                                 | 48.7 <sup>116</sup> | 19.3 <sup>143</sup>     | 35                       | 4 10 | 41            | 07             | 45    | 66             | 49  | 31   |     |     |
| 17 | 78                                                 | 56.0 | -11  | 41.6                                                                       | 307                                                                                                                                                 | 19.4 <sup>117</sup> | -13 04.9 <sup>144</sup> | 40                       | 3 58 | 4 32          | 5 00           | 13 37 | 70             | 2   | 59   | 27  |     |
| 18 | 93                                                 | 56.1 | -11  | 42.5                                                                       | 321                                                                                                                                                 | 50.2 <sup>118</sup> | -12 50.4 <sup>145</sup> | 45                       | 3 43 | 4 21          | 4 52           | 13 27 | 75             | 3   | 10   | 23  |     |
| 19 | 108                                                | 56.2 |      | 43.4                                                                       | 336                                                                                                                                                 | 21.0 <sup>118</sup> | 35.9 <sup>145</sup>     | 50                       | 25   | 08            | 43             | 15    | 80             | 24  | 17   |     |     |
| 20 | 123                                                | 56.2 |      | 44.2                                                                       | 350                                                                                                                                                 | 52.0 <sup>120</sup> | 21.3 <sup>146</sup>     | 52                       | 15   | 4 02          | 38             | 10    | 83             | 30  | 15   |     |     |
| 21 | 138                                                | 56.3 |      | 45.1                                                                       | 5                                                                                                                                                   | 23.0 <sup>120</sup> | -12 06.7 <sup>146</sup> | 54                       | 3 05 | 3 54          | 33             | 13 04 | 85             | 37  | 12   |     |     |
| 22 | 153                                                | 56.4 |      | 46.0                                                                       | 19                                                                                                                                                  | 54.0 <sup>120</sup> | -11 52.0 <sup>147</sup> | 56                       | 2 53 | 46            | 28             | 12 57 | 89             | 45  | 9    |     |     |
| 23 | 168                                                | 56.5 |      | 46.8                                                                       | 34                                                                                                                                                  | 25.2 <sup>122</sup> | 37.3 <sup>147</sup>     | 58                       | 38   | 37            | 21             | 49    | 93             | 3   | 54   | 5   |     |
| 24 | 183                                                | 56.6 | -11  | 47.7                                                                       | 48                                                                                                                                                  | 56.4 <sup>122</sup> | -11 22.5 <sup>148</sup> | 60 S                     | 2 21 | 3 27          | 4 14           | 12 40 | 98             | 4   | 04   | 1   |     |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 21 <sup>h</sup> 49 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 29 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 57 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 15 <sup>m</sup> |      | Mag: +0.1<br>PMG: 5 <sup>h</sup> 49 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 31                                     | 44.9 | 217                                              | 53.4 | +4                                                | 04.3 | 195                                               | 29.8 | -6                                               | 06.5 | 205 | 52.1 | -1 | 20.3 | 272 | 37.7 | +20 | 37.0 |
| 1   | 46                                     | 47.3 | 232                                              | 53.0 |                                                   | 03.2 | 210                                               | 30.7 |                                                  | 07.1 | 220 | 54.1 |    | 20.5 | 287 | 40.0 |     | 37.0 |
| 2   | 61                                     | 49.8 | 247                                              | 52.7 |                                                   | 02.1 | 225                                               | 31.7 |                                                  | 07.8 | 235 | 56.1 |    | 20.7 | 302 | 42.4 |     | 37.0 |
| 3   | 76                                     | 52.3 | 262                                              | 52.4 | +4                                                | 01.0 | 240                                               | 32.6 |                                                  | 08.4 | 250 | 58.1 |    | 20.9 | 317 | 44.8 |     | 37.0 |
| 4   | 91                                     | 54.7 | 277                                              | 52.0 | +3                                                | 59.9 | 255                                               | 33.6 |                                                  | 09.0 | 266 | 00.0 |    | 21.1 | 332 | 47.2 |     | 37.0 |
| 5   | 106                                    | 57.2 | 292                                              | 51.7 | +3                                                | 58.8 | 270                                               | 34.5 | -6                                               | 09.7 | 281 | 02.0 | -1 | 21.3 | 347 | 49.6 | +20 | 37.0 |
| 6   | 121                                    | 59.6 | 307                                              | 51.4 | +3                                                | 57.7 | 285                                               | 35.5 | -6                                               | 10.3 | 296 | 04.0 | -1 | 21.5 | 2   | 52.0 | +20 | 36.9 |
| 7   | 137                                    | 02.1 | 322                                              | 51.1 |                                                   | 56.6 | 300                                               | 36.4 |                                                  | 11.0 | 311 | 06.0 |    | 21.7 | 17  | 54.4 |     | 36.9 |
| 8   | 152                                    | 04.6 | 337                                              | 50.7 |                                                   | 55.5 | 315                                               | 37.3 |                                                  | 11.6 | 326 | 08.0 |    | 21.9 | 32  | 56.7 |     | 36.9 |
| 9   | 167                                    | 07.0 | 352                                              | 50.4 |                                                   | 54.4 | 330                                               | 38.3 |                                                  | 12.3 | 341 | 10.0 |    | 22.1 | 47  | 59.1 |     | 36.9 |
| 10  | 182                                    | 09.5 | 7                                                | 50.1 |                                                   | 53.3 | 345                                               | 39.2 |                                                  | 12.9 | 356 | 12.0 |    | 22.3 | 63  | 01.5 |     | 36.9 |
| 11  | 197                                    | 12.0 | 22                                               | 49.7 | +3                                                | 52.2 | 0                                                 | 40.2 | -6                                               | 13.5 | 11  | 14.0 | -1 | 22.5 | 78  | 03.9 | +20 | 36.9 |
| 12  | 212                                    | 14.4 | 37                                               | 49.4 | +3                                                | 51.1 | 15                                                | 41.1 | -6                                               | 14.2 | 26  | 16.0 | -1 | 22.7 | 93  | 06.3 | +20 | 36.9 |
| 13  | 227                                    | 16.9 | 52                                               | 49.1 |                                                   | 50.0 | 30                                                | 42.1 |                                                  | 14.8 | 41  | 18.0 |    | 22.9 | 108 | 08.7 |     | 36.9 |
| 14  | 242                                    | 19.4 | 67                                               | 48.7 |                                                   | 48.9 | 45                                                | 43.0 |                                                  | 15.5 | 56  | 19.9 |    | 23.1 | 123 | 11.1 |     | 36.9 |
| 15  | 257                                    | 21.8 | 82                                               | 48.4 |                                                   | 47.8 | 60                                                | 44.0 |                                                  | 16.1 | 71  | 21.9 |    | 23.3 | 138 | 13.5 |     | 36.8 |
| 16  | 272                                    | 24.3 | 97                                               | 48.1 |                                                   | 46.7 | 75                                                | 44.9 |                                                  | 16.7 | 86  | 23.9 |    | 23.5 | 153 | 15.8 |     | 36.8 |
| 17  | 287                                    | 26.8 | 112                                              | 47.7 | +3                                                | 45.6 | 90                                                | 45.8 | -6                                               | 17.4 | 101 | 25.9 | -1 | 23.7 | 168 | 18.2 | +20 | 36.8 |
| 18  | 302                                    | 29.2 | 127                                              | 47.4 | +3                                                | 44.5 | 105                                               | 46.8 | -6                                               | 18.0 | 116 | 27.9 | -1 | 23.9 | 183 | 20.6 | +20 | 36.8 |
| 19  | 317                                    | 31.7 | 142                                              | 47.1 |                                                   | 43.4 | 120                                               | 47.7 |                                                  | 18.7 | 131 | 29.9 |    | 24.1 | 198 | 23.0 |     | 36.8 |
| 20  | 332                                    | 34.1 | 157                                              | 46.8 |                                                   | 42.3 | 135                                               | 48.7 |                                                  | 19.3 | 146 | 31.9 |    | 24.3 | 213 | 25.4 |     | 36.8 |
| 21  | 347                                    | 36.6 | 172                                              | 46.4 |                                                   | 41.2 | 150                                               | 49.6 |                                                  | 19.9 | 161 | 33.9 |    | 24.5 | 228 | 27.8 |     | 36.8 |
| 22  | 2                                      | 39.1 | 187                                              | 46.1 |                                                   | 40.1 | 165                                               | 50.6 |                                                  | 20.6 | 176 | 35.9 |    | 24.7 | 243 | 30.2 |     | 36.8 |
| 23  | 17                                     | 41.5 | 202                                              | 45.8 |                                                   | 39.0 | 180                                               | 51.5 |                                                  | 21.2 | 191 | 37.8 |    | 24.9 | 258 | 32.6 |     | 36.8 |
| 24  | 32                                     | 44.0 | 217                                              | 45.4 | +3                                                | 37.9 | 195                                               | 52.5 | -6                                               | 21.9 | 206 | 39.8 | -1 | 25.1 | 273 | 34.9 | +20 | 36.7 |
| Dif | —                                      |      | -3                                               | -11  |                                                   |      | +9                                                | -6   |                                                  |      | +20 | -2   |    |      | +24 |      |     |      |

| UT | SOL                                                |      |          | LUNA                                                                             |                        |                         | Latitud | Puesta de Sol | Final del crepúsculo |       | Salida de Luna |       | Puesta de Luna |         |
|----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------------|------------------------|-------------------------|---------|---------------|----------------------|-------|----------------|-------|----------------|---------|
|    | SD: 16'1<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 2 |      |          | Edad: 9 <sup>d</sup> 9 PHE {<br>SD: 15'8<br>PMG: 21 <sup>h</sup> 24 <sup>m</sup> |                        |                         |         |               |                      |       |                |       |                |         |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                             | Dif                    | Dec                     |         |               | Dif                  | Civil | Náutico        | Hora  | R°             | Hora    |
| h  | °                                                  | '    | °        | °                                                                                | '                      | °                       | '       | °             | h m                  | h m   | h m            | h m   | h m            | m       |
| 0  | 183                                                | 56.6 | -11 47.7 | 48                                                                               | 56.4                   | -11 22.5                |         | 60 N          | 16 25                | 17 08 | 17 57          | 16 07 | 0              | 1 27 95 |
| 1  | 198                                                | 56.6 |          | 63                                                                               | 27.7 <sup>123</sup>    | -11 07.7 <sup>148</sup> |         | 58            | 31                   | 12    | 58             | 16 03 | 3              | 34 91   |
| 2  | 213                                                | 56.7 |          | 77                                                                               | 59.1 <sup>124</sup>    | -10 52.9 <sup>148</sup> |         | 56            | 37                   | 15    | 17 59          | 15 59 | 7              | 40 87   |
| 3  | 228                                                | 56.8 |          | 92                                                                               | 30.5 <sup>124</sup>    | 37.9 <sup>150</sup>     |         | 54            | 42                   | 18    | 18 00          | 56 9  |                | 45 8    |
| 4  | 243                                                | 56.9 |          | 107                                                                              | 02.0 <sup>125</sup>    | 23.0 <sup>149</sup>     |         | 52            | 47                   | 21    | 01             | 53 12 |                | 50 81   |
| 5  | 258                                                | 57.0 | -11 52.0 | 121                                                                              | 33.5 <sup>125</sup>    | -10 08.0 <sup>150</sup> |         | 50            | 16 51                | 17 24 | 18 02          | 15 50 | 14             | 1 54 79 |
| 6  | 273                                                | 57.0 | -11 52.9 | 136                                                                              | 05.2 <sup>127</sup>    | -9 53.0 <sup>150</sup>  |         | 45            | 17 00                | 17 30 | 18 04          | 15 45 | 18             | 2 03 73 |
| 7  | 288                                                | 57.1 |          | 150                                                                              | 36.9 <sup>127</sup>    | 37.9 <sup>151</sup>     |         | 40            | 07                   | 35    | 07             | 40 22 |                | 11 69   |
| 8  | 303                                                | 57.2 |          | 165                                                                              | 08.6 <sup>127</sup>    | 22.8 <sup>151</sup>     |         | 35            | 14                   | 40    | 09             | 35 27 |                | 17 65   |
| 9  | 318                                                | 57.3 |          | 179                                                                              | 40.4 <sup>128</sup>    | -9 07.7 <sup>151</sup>  |         | 30            | 20                   | 44    | 12             | 31 30 |                | 23 61   |
| 10 | 333                                                | 57.3 |          | 194                                                                              | 12.3 <sup>129</sup>    | -8 52.5 <sup>152</sup>  |         | 20            | 30                   | 17 52 | 18             | 25 35 |                | 33 55   |
| 11 | 348                                                | 57.4 | -11 57.2 | 208                                                                              | 44.3 <sup>130</sup>    | -8 37.3 <sup>152</sup>  |         | 10 N          | 17 39                | 18 00 | 18 25          | 15 19 | 40             | 2 41 51 |
| 12 | 3                                                  | 57.5 | -11 58.1 | 223                                                                              | 16.3 <sup>130</sup>    | -8 22.0 <sup>153</sup>  |         | 0             | 17 48                | 18 09 | 18 33          | 15 13 | 45             | 2 49 46 |
| 13 | 18                                                 | 57.6 |          | 237                                                                              | 48.3 <sup>130</sup>    | -8 06.8 <sup>152</sup>  |         | 10 S          | 17 56                | 18    | 43             | 08 50 |                | 2 57 41 |
| 14 | 33                                                 | 57.7 | -11 59.8 | 252                                                                              | 20.4 <sup>131</sup>    | -7 51.5 <sup>153</sup>  |         | 20            | 18 06                | 28    | 18 55          | 15 02 | 55             | 3 05 37 |
| 15 | 48                                                 | 57.7 | -12 00.7 | 266                                                                              | 52.6 <sup>132</sup>    | 36.1 <sup>154</sup>     |         | 30            | 16                   | 41    | 19 11          | 14 55 | 61             | 15 30   |
| 16 | 63                                                 | 57.8 |          | 281                                                                              | 24.8 <sup>132</sup>    | 20.8 <sup>153</sup>     |         | 35            | 23                   | 49    | 21             | 51 64 |                | 20 27   |
| 17 | 78                                                 | 57.9 | -12 02.4 | 295                                                                              | 57.1 <sup>133</sup>    | -7 05.4 <sup>154</sup>  |         | 40            | 18 30                | 18 59 | 19 33          | 14 47 | 68             | 3 26 24 |
| 18 | 93                                                 | 58.0 | -12 03.3 | 310                                                                              | 29.4 <sup>133</sup>    | -6 50.0 <sup>154</sup>  |         | 45            | 18 38                | 19 10 | 19 48          | 14 42 | 72             | 3 33 20 |
| 19 | 108                                                | 58.0 |          | 325                                                                              | 01.8 <sup>134</sup>    | 34.6 <sup>154</sup>     |         | 50            | 49                   | 24    | 20 08          | 35 78 |                | 41 15   |
| 20 | 123                                                | 58.1 |          | 339                                                                              | 34.2 <sup>134</sup>    | 19.1 <sup>155</sup>     |         | 52            | 53                   | 30    | 17             | 33 80 |                | 45 12   |
| 21 | 138                                                | 58.2 |          | 354                                                                              | 06.6 <sup>134</sup>    | -6 03.7 <sup>154</sup>  |         | 54            | 18 59                | 38    | 28             | 29 83 |                | 49 10   |
| 22 | 153                                                | 58.2 |          | 8                                                                                | 39.2 <sup>136</sup>    | -5 48.2 <sup>155</sup>  |         | 56            | 19 05                | 46    | 41             | 26 86 |                | 54 7    |
| 23 | 168                                                | 58.3 |          | 07.6                                                                             | 23 11.7 <sup>135</sup> | 32.7 <sup>155</sup>     |         | 58            | 11                   | 19 56 | 20 57          | 22 89 |                | 3 59 4  |
| 24 | 183                                                | 58.4 | -12 08.4 | 37                                                                               | 44.3 <sup>136</sup>    | -5 17.2 <sup>155</sup>  |         | 60 S          | 19 19                | 20 07 | 21 15          | 14 18 | 93             | 4 05 0  |

| UT  | ARIES                                  |      | VENUS                                            |         | MARTE                                             |         | JÚPITER                                           |         | SATURNO                                          |          |
|-----|----------------------------------------|------|--------------------------------------------------|---------|---------------------------------------------------|---------|---------------------------------------------------|---------|--------------------------------------------------|----------|
|     | PMG: 21 <sup>h</sup> 45 <sup>m</sup> 5 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 29 <sup>m</sup> |         | Mag: +1.7<br>PMG: 10 <sup>h</sup> 56 <sup>m</sup> |         | Mag: -1.7<br>PMG: 10 <sup>h</sup> 12 <sup>m</sup> |         | Mag: +0.1<br>PMG: 5 <sup>h</sup> 45 <sup>m</sup> |          |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec     | hG ♂                                              | Dec     | hG ♃                                              | Dec     | hG ♄                                             | Dec      |
| h   | °                                      | '    | °                                                | '       | °                                                 | '       | °                                                 | '       | °                                                | '        |
| 0   | 32                                     | 44.0 | 217 45.4                                         | +3 37.9 | 195 52.5                                          | -6 21.9 | 206 39.8                                          | -1 25.1 | 273 34.9                                         | +20 36.7 |
| 1   | 47                                     | 46.5 | 232 45.1                                         | 36.8    | 210 53.4                                          | 22.5    | 221 41.8                                          | 25.3    | 288 37.3                                         | 36.7     |
| 2   | 62                                     | 48.9 | 247 44.8                                         | 35.7    | 225 54.3                                          | 23.1    | 236 43.8                                          | 25.5    | 303 39.7                                         | 36.7     |
| 3   | 77                                     | 51.4 | 262 44.4                                         | 34.6    | 240 55.3                                          | 23.8    | 251 45.8                                          | 25.7    | 318 42.1                                         | 36.7     |
| 4   | 92                                     | 53.9 | 277 44.1                                         | 33.5    | 255 56.2                                          | 24.4    | 266 47.8                                          | 25.9    | 333 44.5                                         | 36.7     |
| 5   | 107                                    | 56.3 | 292 43.8                                         | +3 32.4 | 270 57.2                                          | -6 25.1 | 281 49.8                                          | -1 26.1 | 348 46.9                                         | +20 36.7 |
| 6   | 122                                    | 58.8 | 307 43.4                                         | +3 31.3 | 285 58.1                                          | -6 25.7 | 296 51.8                                          | -1 26.3 | 3 49.3                                           | +20 36.7 |
| 7   | 138                                    | 01.2 | 322 43.1                                         | 30.2    | 300 59.1                                          | 26.3    | 311 53.8                                          | 26.5    | 18 51.7                                          | 36.7     |
| 8   | 153                                    | 03.7 | 337 42.8                                         | 29.1    | 316 00.0                                          | 27.0    | 326 55.8                                          | 26.7    | 33 54.1                                          | 36.7     |
| 9   | 168                                    | 06.2 | 352 42.5                                         | 28.0    | 331 01.0                                          | 27.6    | 341 57.8                                          | 26.9    | 48 56.5                                          | 36.7     |
| 10  | 183                                    | 08.6 | 7 42.1                                           | 26.9    | 346 01.9                                          | 28.2    | 356 59.7                                          | 27.1    | 63 58.8                                          | 36.6     |
| 11  | 198                                    | 11.1 | 22 41.8                                          | +3 25.7 | 1 02.8                                            | -6 28.9 | 12 01.7                                           | -1 27.3 | 79 01.2                                          | +20 36.6 |
| 12  | 213                                    | 13.6 | 37 41.5                                          | +3 24.6 | 16 03.8                                           | -6 29.5 | 27 03.7                                           | -1 27.5 | 94 03.6                                          | +20 36.6 |
| 13  | 228                                    | 16.0 | 52 41.1                                          | 23.5    | 31 04.7                                           | 30.2    | 42 05.7                                           | 27.7    | 109 06.0                                         | 36.6     |
| 14  | 243                                    | 18.5 | 67 40.8                                          | 22.4    | 46 05.7                                           | 30.8    | 57 07.7                                           | 27.9    | 124 08.4                                         | 36.6     |
| 15  | 258                                    | 21.0 | 82 40.5                                          | 21.3    | 61 06.6                                           | 31.4    | 72 09.7                                           | 28.1    | 139 10.8                                         | 36.6     |
| 16  | 273                                    | 23.4 | 97 40.1                                          | 20.2    | 76 07.6                                           | 32.1    | 87 11.7                                           | 28.3    | 154 13.2                                         | 36.6     |
| 17  | 288                                    | 25.9 | 112 39.8                                         | +3 19.1 | 91 08.5                                           | -6 32.7 | 102 13.7                                          | -1 28.5 | 169 15.6                                         | +20 36.6 |
| 18  | 303                                    | 28.4 | 127 39.5                                         | +3 18.0 | 106 09.4                                          | -6 33.4 | 117 15.7                                          | -1 28.7 | 184 18.0                                         | +20 36.6 |
| 19  | 318                                    | 30.8 | 142 39.1                                         | 16.9    | 121 10.4                                          | 34.0    | 132 17.7                                          | 28.9    | 199 20.4                                         | 36.6     |
| 20  | 333                                    | 33.3 | 157 38.8                                         | 15.8    | 136 11.3                                          | 34.6    | 147 19.7                                          | 29.1    | 214 22.8                                         | 36.6     |
| 21  | 348                                    | 35.7 | 172 38.5                                         | 14.7    | 151 12.3                                          | 35.3    | 162 21.6                                          | 29.3    | 229 25.2                                         | 36.5     |
| 22  | 3                                      | 38.2 | 187 38.2                                         | 13.6    | 166 13.2                                          | 35.9    | 177 23.6                                          | 29.5    | 244 27.6                                         | 36.5     |
| 23  | 18                                     | 40.7 | 202 37.8                                         | 12.4    | 181 14.1                                          | 36.6    | 192 25.6                                          | 29.7    | 259 29.9                                         | 36.5     |
| 24  | 33                                     | 43.1 | 217 37.5                                         | +3 11.3 | 196 15.1                                          | -6 37.2 | 207 27.6                                          | -1 29.9 | 274 32.3                                         | +20 36.5 |
| Dif | —                                      |      | -3                                               | -11     | +9                                                | -6      | +20                                               | -2      | +24                                              |          |

| UT | SOL                                    |      |          | O LUNA                  |                                                                                    |                        | Latitud | Principio del crepúsculo             |       | Salida de Sol | Salida de Luna                   |                | Puesta de Luna |                |
|----|----------------------------------------|------|----------|-------------------------|------------------------------------------------------------------------------------|------------------------|---------|--------------------------------------|-------|---------------|----------------------------------|----------------|----------------|----------------|
|    | SD: 16 <sup>h</sup> 1                  |      |          | Edad: 10 <sup>d</sup> 9 | PHE {<br>4 <sup>h</sup> : 57/4<br>12 <sup>h</sup> : 57/3<br>20 <sup>h</sup> : 57/1 |                        |         |                                      |       |               |                                  |                |                |                |
|    | PMG: 11 <sup>h</sup> 44 <sup>m</sup> 1 |      |          |                         |                                                                                    | SD: 15 <sup>h</sup> 7  |         | PMG: 22 <sup>h</sup> 09 <sup>m</sup> |       |               | R <sup>o</sup> : 44 <sup>m</sup> |                |                |                |
|    | hG ☉                                   | Dec  |          | hG ☾                    | Dif                                                                                | Dec                    | Dif     | Náutico                              | Civil |               | Hora                             | R <sup>o</sup> | Hora           | R <sup>o</sup> |
| h  | °                                      | '    | °        | °                       | '                                                                                  | °                      | '       | h                                    | m     | h             | m                                |                | h              | m              |
| 0  | 183                                    | 58.4 | -12 08.4 | 37                      | 44.3                                                                               | -5 17.2                |         | 60 N                                 | 5 33  | 6 21          | 7 05                             | 16 07 **       | 3 02           | 92             |
| 1  | 198                                    | 58.5 | 09.3     | 52                      | 17.0 <sup>137</sup>                                                                | -5 01.6 <sup>156</sup> |         | 58                                   | 32    | 17            | 6 59                             | 06 3           | 05             | 88             |
| 2  | 213                                    | 58.5 | 10.2     | 66                      | 49.6 <sup>136</sup>                                                                | -4 46.1 <sup>155</sup> |         | 56                                   | 30    | 14            | 53                               | 06 5           | 07             | 85             |
| 3  | 228                                    | 58.6 | 11.0     | 81                      | 22.4 <sup>138</sup>                                                                | 30.5 <sup>156</sup>    |         | 54                                   | 29    | 11            | 47                               | 05 9           | 09             | 82             |
| 4  | 243                                    | 58.7 | 11.9     | 95                      | 55.1 <sup>137</sup>                                                                | -4 15.0 <sup>155</sup> |         | 52                                   | 28    | 08            | 43                               | 05 11          | 11             | 79             |
| 5  | 258                                    | 58.8 | -12 12.7 | 110                     | 27.9 <sup>138</sup>                                                                | -3 59.4 <sup>156</sup> |         | 50                                   | 5 27  | 6 05          | 6 39                             | 16 04 13       | 3 13           | 76             |
| 6  | 273                                    | 58.8 | -12 13.6 | 125                     | 00.8 <sup>139</sup>                                                                | -3 43.8 <sup>156</sup> |         | 45                                   | 5 25  | 5 59          | 6 29                             | 16 03 18       | 3 16           | 72             |
| 7  | 288                                    | 58.9 | 14.5     | 139                     | 33.7 <sup>139</sup>                                                                | 28.2 <sup>156</sup>    |         | 40                                   | 22    | 54            | 21                               | 02 23          | 20             | 66             |
| 8  | 303                                    | 59.0 | 15.3     | 154                     | 06.6 <sup>139</sup>                                                                | -3 12.6 <sup>156</sup> |         | 35                                   | 19    | 49            | 15                               | 02 26          | 22             | 63             |
| 9  | 318                                    | 59.0 | 16.2     | 168                     | 39.5 <sup>139</sup>                                                                | -2 57.0 <sup>156</sup> |         | 30                                   | 16    | 44            | 6 09                             | 01 29          | 24             | 60             |
| 10 | 333                                    | 59.1 | 17.0     | 183                     | 12.5 <sup>140</sup>                                                                | 41.4 <sup>156</sup>    |         | 20                                   | 10    | 36            | 5 59                             | 16 00 35       | 28             | 54             |
| 11 | 348                                    | 59.2 | -12 17.9 | 197                     | 45.5 <sup>140</sup>                                                                | -2 25.8 <sup>156</sup> |         | 10 N                                 | 5 03  | 5 28          | 5 49                             | 15 59 40       | 3 32           | 49             |
| 12 | 3                                      | 59.2 | -12 18.7 | 212                     | 18.5 <sup>140</sup>                                                                | -2 10.2 <sup>156</sup> |         | 0                                    | 4 55  | 5 20          | 5 41                             | 15 58 44       | 3 35           | 44             |
| 13 | 18                                     | 59.3 | 19.6     | 226                     | 51.6 <sup>141</sup>                                                                | -1 54.6 <sup>156</sup> |         | 10 S                                 | 45    | 10            | 32                               | 58 48          | 38             | 40             |
| 14 | 33                                     | 59.4 | 20.5     | 241                     | 24.7 <sup>141</sup>                                                                | 39.0 <sup>156</sup>    |         | 20                                   | 33    | 5 00          | 22                               | 57 53          | 42             | 34             |
| 15 | 48                                     | 59.4 | 21.3     | 255                     | 57.8 <sup>141</sup>                                                                | 23.4 <sup>156</sup>    |         | 30                                   | 17    | 4 47          | 11                               | 56 59          | 45             | 29             |
| 16 | 63                                     | 59.5 | 22.2     | 270                     | 30.9 <sup>141</sup>                                                                | -1 07.8 <sup>156</sup> |         | 35                                   | 4 07  | 39            | 5 05                             | 55 63          | 47             | 26             |
| 17 | 78                                     | 59.6 | -12 23.0 | 285                     | 04.1 <sup>142</sup>                                                                | -0 52.2 <sup>156</sup> |         | 40                                   | 3 55  | 4 29          | 4 58                             | 15 55 66       | 3 50           | 22             |
| 18 | 93                                     | 59.7 | -12 23.9 | 299                     | 37.3 <sup>142</sup>                                                                | -0 36.6 <sup>156</sup> |         | 45                                   | 3 40  | 4 18          | 4 49                             | 15 54 71       | 3 53           | 18             |
| 19 | 108                                    | 59.7 | 24.7     | 314                     | 10.5 <sup>142</sup>                                                                | 21.0 <sup>156</sup>    |         | 50                                   | 20    | 4 04          | 39                               | 53 76          | 56             | 13             |
| 20 | 123                                    | 59.8 | 25.6     | 328                     | 43.7 <sup>142</sup>                                                                | -0 05.4 <sup>156</sup> |         | 52                                   | 3 10  | 3 57          | 34                               | 53 78          | 57             | 11             |
| 21 | 138                                    | 59.9 | 26.4     | 343                     | 17.0 <sup>143</sup>                                                                | +0 10.1 <sup>155</sup> |         | 54                                   | 2 59  | 50            | 29                               | 52 81          | 3 59           | 9              |
| 22 | 153                                    | 59.9 | 27.3     | 357                     | 50.3 <sup>143</sup>                                                                | 25.7 <sup>156</sup>    |         | 56                                   | 46    | 41            | 23                               | 52 84          | 4 01           | 6              |
| 23 | 169                                    | 00.0 | 28.2     | 12                      | 23.5 <sup>142</sup>                                                                | 41.2 <sup>155</sup>    |         | 58                                   | 31    | 31            | 16                               | 51 87          | 03             | 3              |
| 24 | 184                                    | 00.0 | -12 29.0 | 26                      | 56.8 <sup>143</sup>                                                                | +0 56.8 <sup>156</sup> |         | 60 S                                 | 2 12  | 3 20          | 4 09                             | 15 51 91       | 4 05           | 0              |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                           |         | SATURNO                                          |      |         |     |      |          |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 21 <sup>h</sup> 41 <sup>m</sup> 6 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 30 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 54 <sup>m</sup> |     | Mag: -1.7<br>PMG: 10 <sup>h</sup> 09 <sup>m</sup> |         | Mag: +0.1<br>PMG: 5 <sup>h</sup> 41 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                              | Dec     | hG ♄                                             | Dec  |         |     |      |          |
| h   | °                                      | '    | °                                                | '    | °                                                 | '   | °                                                 | '       | °                                                | '    |         |     |      |          |
| 0   | 33                                     | 43.1 | 217                                              | 37.5 | +3 11.3                                           | 196 | 15.1                                              | -6 37.2 | 207                                              | 27.6 | -1 29.9 | 274 | 32.3 | +20 36.5 |
| 1   | 48                                     | 45.6 | 232                                              | 37.2 | 10.2                                              | 211 | 16.0                                              | 37.8    | 222                                              | 29.6 | 30.1    | 289 | 34.7 | 36.5     |
| 2   | 63                                     | 48.1 | 247                                              | 36.8 | 09.1                                              | 226 | 17.0                                              | 38.5    | 237                                              | 31.6 | 30.3    | 304 | 37.1 | 36.5     |
| 3   | 78                                     | 50.5 | 262                                              | 36.5 | 08.0                                              | 241 | 17.9                                              | 39.1    | 252                                              | 33.6 | 30.5    | 319 | 39.5 | 36.5     |
| 4   | 93                                     | 53.0 | 277                                              | 36.2 | 06.9                                              | 256 | 18.9                                              | 39.7    | 267                                              | 35.6 | 30.7    | 334 | 41.9 | 36.5     |
| 5   | 108                                    | 55.5 | 292                                              | 35.8 | +3 05.8                                           | 271 | 19.8                                              | -6 40.4 | 282                                              | 37.6 | -1 30.9 | 349 | 44.3 | +20 36.5 |
| 6   | 123                                    | 57.9 | 307                                              | 35.5 | +3 04.7                                           | 286 | 20.7                                              | -6 41.0 | 297                                              | 39.6 | -1 31.1 | 4   | 46.7 | +20 36.5 |
| 7   | 139                                    | 00.4 | 322                                              | 35.2 | 03.5                                              | 301 | 21.7                                              | 41.7    | 312                                              | 41.6 | 31.3    | 19  | 49.1 | 36.4     |
| 8   | 154                                    | 02.8 | 337                                              | 34.8 | 02.4                                              | 316 | 22.6                                              | 42.3    | 327                                              | 43.6 | 31.5    | 34  | 51.5 | 36.4     |
| 9   | 169                                    | 05.3 | 352                                              | 34.5 | 01.3                                              | 331 | 23.6                                              | 42.9    | 342                                              | 45.5 | 31.7    | 49  | 53.9 | 36.4     |
| 10  | 184                                    | 07.8 | 7                                                | 34.2 | +3 00.2                                           | 346 | 24.5                                              | 43.6    | 357                                              | 47.5 | 31.9    | 64  | 56.3 | 36.4     |
| 11  | 199                                    | 10.2 | 22                                               | 33.9 | +2 59.1                                           | 1   | 25.4                                              | -6 44.2 | 12                                               | 49.5 | -1 32.1 | 79  | 58.7 | +20 36.4 |
| 12  | 214                                    | 12.7 | 37                                               | 33.5 | +2 58.0                                           | 16  | 26.4                                              | -6 44.8 | 27                                               | 51.5 | -1 32.3 | 95  | 01.1 | +20 36.4 |
| 13  | 229                                    | 15.2 | 52                                               | 33.2 | 56.9                                              | 31  | 27.3                                              | 45.5    | 42                                               | 53.5 | 32.5    | 110 | 03.5 | 36.4     |
| 14  | 244                                    | 17.6 | 67                                               | 32.9 | 55.8                                              | 46  | 28.3                                              | 46.1    | 57                                               | 55.5 | 32.7    | 125 | 05.9 | 36.4     |
| 15  | 259                                    | 20.1 | 82                                               | 32.5 | 54.6                                              | 61  | 29.2                                              | 46.8    | 72                                               | 57.5 | 32.9    | 140 | 08.3 | 36.4     |
| 16  | 274                                    | 22.6 | 97                                               | 32.2 | 53.5                                              | 76  | 30.1                                              | 47.4    | 87                                               | 59.5 | 33.1    | 155 | 10.7 | 36.4     |
| 17  | 289                                    | 25.0 | 112                                              | 31.9 | +2 52.4                                           | 91  | 31.1                                              | -6 48.0 | 103                                              | 01.5 | -1 33.3 | 170 | 13.1 | +20 36.4 |
| 18  | 304                                    | 27.5 | 127                                              | 31.5 | +2 51.3                                           | 106 | 32.0                                              | -6 48.7 | 118                                              | 03.5 | -1 33.5 | 185 | 15.5 | +20 36.3 |
| 19  | 319                                    | 30.0 | 142                                              | 31.2 | 50.2                                              | 121 | 33.0                                              | 49.3    | 133                                              | 05.5 | 33.7    | 200 | 17.9 | 36.3     |
| 20  | 334                                    | 32.4 | 157                                              | 30.9 | 49.1                                              | 136 | 33.9                                              | 49.9    | 148                                              | 07.5 | 33.9    | 215 | 20.3 | 36.3     |
| 21  | 349                                    | 34.9 | 172                                              | 30.5 | 47.9                                              | 151 | 34.8                                              | 50.6    | 163                                              | 09.5 | 34.1    | 230 | 22.7 | 36.3     |
| 22  | 4                                      | 37.3 | 187                                              | 30.2 | 46.8                                              | 166 | 35.8                                              | 51.2    | 178                                              | 11.4 | 34.3    | 245 | 25.1 | 36.3     |
| 23  | 19                                     | 39.8 | 202                                              | 29.9 | 45.7                                              | 181 | 36.7                                              | 51.8    | 193                                              | 13.4 | 34.5    | 260 | 27.5 | 36.3     |
| 24  | 34                                     | 42.3 | 217                                              | 29.5 | +2 44.6                                           | 196 | 37.7                                              | -6 52.5 | 208                                              | 15.4 | -1 34.7 | 275 | 29.9 | +20 36.3 |
| Dif | —                                      |      | -3                                               | -11  |                                                   | +9  | -6                                                |         | +20                                              | -2   |         | +24 |      | 0        |

| UT  | SOL                                    |      | LUNA                                             |          |                                                   |                     | Latitud                                           | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |       | Puesta de Luna |          |      |
|-----|----------------------------------------|------|--------------------------------------------------|----------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------|--------------------------------------------------|-------|----------------|-------|----------------|----------|------|
|     | SD: 16'1                               |      | Edad: 11 <sup>d</sup> 9 PHE                      | SD: 15'5 | PMG: 22 <sup>h</sup> 53 <sup>m</sup>              | R°: 44 <sup>m</sup> |                                                   |               |                                                  |       |                |       |                |          |      |
|     | hG ☉                                   | Dec  |                                                  |          |                                                   |                     |                                                   |               | hG ☾                                             | Dif   | Dec            | Dif   | Civil          | Náutico  | Hora |
| h   | °                                      | '    | °                                                | '        | °                                                 | '                   | °                                                 | h             | m                                                | h     | m              | h     | m              | h        | m    |
| 0   | 184                                    | 00.0 | -12                                              | 29.0     | 26                                                | 56.8                | +0 56.8                                           | 60 N          | 16 19                                            | 17 03 | 17 52          | 16 06 | 0              | 4 34     | 91   |
| 1   | 199                                    | 00.1 |                                                  | 29.9     | 41                                                | 30.2 <sup>144</sup> | +1 12.3 <sup>155</sup>                            | 58            | 26                                               | 07    | 53             | 09    | 3              | 33       | 87   |
| 2   | 214                                    | 00.2 |                                                  | 30.7     | 56                                                | 03.5 <sup>143</sup> | 27.8 <sup>155</sup>                               | 56            | 32                                               | 11    | 54             | 11    | 7              | 32       | 84   |
| 3   | 229                                    | 00.2 |                                                  | 31.6     | 70                                                | 36.8 <sup>143</sup> | 43.3 <sup>155</sup>                               | 54            | 38                                               | 14    | 56             | 14    | 9              | 31       | 81   |
| 4   | 244                                    | 00.3 |                                                  | 32.4     | 85                                                | 10.2 <sup>144</sup> | +1 58.7 <sup>154</sup>                            | 52            | 43                                               | 18    | 57             | 16    | 11             | 30       | 78   |
| 5   | 259                                    | 00.4 | -12                                              | 33.3     | 99                                                | 43.6 <sup>144</sup> | +2 14.2 <sup>155</sup>                            | 50            | 16 47                                            | 17 20 | 17 58          | 16 17 | 14             | 4 29     | 76   |
| 6   | 274                                    | 00.4 | -12                                              | 34.1     | 114                                               | 16.9 <sup>143</sup> | +2 29.6 <sup>154</sup>                            | 45            | 16 57                                            | 17 27 | 18 01          | 16 21 | 19             | 4 28     | 70   |
| 7   | 289                                    | 00.5 |                                                  | 35.0     | 128                                               | 50.3 <sup>144</sup> | +2 45.0 <sup>154</sup>                            | 40            | 17 05                                            | 33    | 04             | 25    | 23             | 26       | 67   |
| 8   | 304                                    | 00.6 |                                                  | 35.8     | 143                                               | 23.7 <sup>144</sup> | +3 00.4 <sup>154</sup>                            | 35            | 12                                               | 38    | 07             | 28    | 26             | 25       | 63   |
| 9   | 319                                    | 00.6 |                                                  | 36.7     | 157                                               | 57.1 <sup>144</sup> | 15.7 <sup>153</sup>                               | 30            | 18                                               | 42    | 10             | 30    | 30             | 24       | 59   |
| 10  | 334                                    | 00.7 |                                                  | 37.5     | 172                                               | 30.5 <sup>144</sup> | 31.1 <sup>154</sup>                               | 20            | 29                                               | 17 51 | 17             | 35    | 34             | 22       | 54   |
| 11  | 349                                    | 00.7 | -12                                              | 38.4     | 187                                               | 03.9 <sup>144</sup> | +3 46.4 <sup>153</sup>                            | 10 N          | 17 38                                            | 18 00 | 18 25          | 16 39 | 39             | 4 21     | 48   |
| 12  | 4                                      | 00.8 | -12                                              | 39.2     | 201                                               | 37.3 <sup>144</sup> | +4 01.7 <sup>153</sup>                            | 0             | 17 47                                            | 18 09 | 18 33          | 16 42 | 44             | 4 19     | 44   |
| 13  | 19                                     | 00.9 |                                                  | 40.1     | 216                                               | 10.7 <sup>144</sup> | 16.9 <sup>152</sup>                               | 10 S          | 17 57                                            | 18    | 43             | 46    | 49             | 18       | 39   |
| 14  | 34                                     | 00.9 |                                                  | 40.9     | 230                                               | 44.1 <sup>144</sup> | 32.1 <sup>152</sup>                               | 20            | 18 06                                            | 29    | 18 56          | 50    | 54             | 16       | 35   |
| 15  | 49                                     | 01.0 |                                                  | 41.8     | 245                                               | 17.5 <sup>144</sup> | +4 47.3 <sup>152</sup>                            | 30            | 18                                               | 43    | 19 12          | 55    | 59             | 14       | 30   |
| 16  | 64                                     | 01.0 |                                                  | 42.6     | 259                                               | 50.9 <sup>144</sup> | +5 02.5 <sup>152</sup>                            | 35            | 25                                               | 18 51 | 23             | 16 58 | 62             | 13       | 26   |
| 17  | 79                                     | 01.1 | -12                                              | 43.4     | 274                                               | 24.3 <sup>144</sup> | +5 17.6 <sup>151</sup>                            | 40            | 18 32                                            | 19 01 | 19 36          | 17 01 | 66             | 4 12     | 23   |
| 18  | 94                                     | 01.2 | -12                                              | 44.3     | 288                                               | 57.7 <sup>144</sup> | +5 32.7 <sup>151</sup>                            | 45            | 18 41                                            | 19 13 | 19 51          | 17 05 | 70             | 4 11     | 18   |
| 19  | 109                                    | 01.2 |                                                  | 45.1     | 303                                               | 31.1 <sup>144</sup> | +5 47.8 <sup>151</sup>                            | 50            | 52                                               | 27    | 20 12          | 09    | 75             | 09       | 14   |
| 20  | 124                                    | 01.3 |                                                  | 46.0     | 318                                               | 04.5 <sup>144</sup> | +6 02.8 <sup>150</sup>                            | 52            | 18 57                                            | 34    | 22             | 11    | 78             | 08       | 12   |
| 21  | 139                                    | 01.3 |                                                  | 46.8     | 332                                               | 37.9 <sup>144</sup> | 17.8 <sup>150</sup>                               | 54            | 19 03                                            | 42    | 34             | 13    | 81             | 08       | 8    |
| 22  | 154                                    | 01.4 |                                                  | 47.7     | 347                                               | 11.3 <sup>144</sup> | 32.8 <sup>150</sup>                               | 56            | 09                                               | 19 51 | 20 47          | 16    | 83             | 07       | 6    |
| 23  | 169                                    | 01.5 |                                                  | 48.5     | 1                                                 | 44.6 <sup>143</sup> | +6 47.7 <sup>149</sup>                            | 58            | 16                                               | 20 01 | 21 04          | 18    | 88             | 06       | 3    |
| 24  | 184                                    | 01.5 | -12                                              | 49.4     | 16                                                | 18.0 <sup>144</sup> | +7 02.6 <sup>149</sup>                            | 60 S          | 19 24                                            | 20 13 | 21 24          | 17 22 | 91             | 4 05     | **   |
| UT  | ARIES                                  |      | VENUS                                            |          | MARTE                                             |                     | JÚPITER                                           |               | SATURNO                                          |       |                |       |                |          |      |
|     | PMG: 21 <sup>h</sup> 37 <sup>m</sup> 6 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 30 <sup>m</sup> |          | Mag: +1.7<br>PMG: 10 <sup>h</sup> 53 <sup>m</sup> |                     | Mag: -1.7<br>PMG: 10 <sup>h</sup> 06 <sup>m</sup> |               | Mag: +0.1<br>PMG: 5 <sup>h</sup> 37 <sup>m</sup> |       |                |       |                |          |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec      | hG ♂                                              | Dec                 | hG ♃                                              | Dec           | hG ♄                                             | Dec   |                |       |                |          |      |
| h   | °                                      | '    | °                                                | '        | °                                                 | '                   | °                                                 | '             | °                                                | '     |                |       |                |          |      |
| 0   | 34                                     | 42.3 | 217                                              | 29.5     | +2 44.6                                           | 196                 | 37.7                                              | -6 52.5       | 208                                              | 15.4  | -1 34.7        | 275   | 29.9           | +20 36.3 |      |
| 1   | 49                                     | 44.7 | 232                                              | 29.2     | 43.5                                              | 211                 | 38.6                                              | 53.1          | 223                                              | 17.4  | 34.9           | 290   | 32.2           | 36.3     |      |
| 2   | 64                                     | 47.2 | 247                                              | 28.9     | 42.4                                              | 226                 | 39.5                                              | 53.8          | 238                                              | 19.4  | 35.1           | 305   | 34.6           | 36.3     |      |
| 3   | 79                                     | 49.7 | 262                                              | 28.6     | 41.2                                              | 241                 | 40.5                                              | 54.4          | 253                                              | 21.4  | 35.3           | 320   | 37.0           | 36.3     |      |
| 4   | 94                                     | 52.1 | 277                                              | 28.2     | 40.1                                              | 256                 | 41.4                                              | 55.0          | 268                                              | 23.4  | 35.5           | 335   | 39.4           | 36.3     |      |
| 5   | 109                                    | 54.6 | 292                                              | 27.9     | +2 39.0                                           | 271                 | 42.3                                              | -6 55.7       | 283                                              | 25.4  | -1 35.7        | 350   | 41.8           | +20 36.3 |      |
| 6   | 124                                    | 57.1 | 307                                              | 27.6     | +2 37.9                                           | 286                 | 43.3                                              | -6 56.3       | 298                                              | 27.4  | -1 35.9        | 5     | 44.2           | +20 36.2 |      |
| 7   | 139                                    | 59.5 | 322                                              | 27.2     | 36.8                                              | 301                 | 44.2                                              | 56.9          | 313                                              | 29.4  | 36.1           | 20    | 46.6           | 36.2     |      |
| 8   | 155                                    | 02.0 | 337                                              | 26.9     | 35.6                                              | 316                 | 45.2                                              | 57.6          | 328                                              | 31.4  | 36.3           | 35    | 49.0           | 36.2     |      |
| 9   | 170                                    | 04.4 | 352                                              | 26.6     | 34.5                                              | 331                 | 46.1                                              | 58.2          | 343                                              | 33.4  | 36.5           | 50    | 51.4           | 36.2     |      |
| 10  | 185                                    | 06.9 | 7                                                | 26.2     | 33.4                                              | 346                 | 47.0                                              | 58.8          | 358                                              | 35.4  | 36.7           | 65    | 53.8           | 36.2     |      |
| 11  | 200                                    | 09.4 | 22                                               | 25.9     | +2 32.3                                           | 1                   | 48.0                                              | -6 59.5       | 13                                               | 37.4  | -1 36.9        | 80    | 56.2           | +20 36.2 |      |
| 12  | 215                                    | 11.8 | 37                                               | 25.6     | +2 31.2                                           | 16                  | 48.9                                              | -7 00.1       | 28                                               | 39.4  | -1 37.1        | 95    | 58.6           | +20 36.2 |      |
| 13  | 230                                    | 14.3 | 52                                               | 25.2     | 30.0                                              | 31                  | 49.9                                              | 00.8          | 43                                               | 41.4  | 37.3           | 111   | 01.0           | 36.2     |      |
| 14  | 245                                    | 16.8 | 67                                               | 24.9     | 28.9                                              | 46                  | 50.8                                              | 01.4          | 58                                               | 43.3  | 37.5           | 126   | 03.5           | 36.2     |      |
| 15  | 260                                    | 19.2 | 82                                               | 24.6     | 27.8                                              | 61                  | 51.7                                              | 02.0          | 73                                               | 45.3  | 37.7           | 141   | 05.9           | 36.2     |      |
| 16  | 275                                    | 21.7 | 97                                               | 24.2     | 26.7                                              | 76                  | 52.7                                              | 02.7          | 88                                               | 47.3  | 37.9           | 156   | 08.3           | 36.2     |      |
| 17  | 290                                    | 24.2 | 112                                              | 23.9     | +2 25.6                                           | 91                  | 53.6                                              | -7 03.3       | 103                                              | 49.3  | -1 38.0        | 171   | 10.7           | +20 36.2 |      |
| 18  | 305                                    | 26.6 | 127                                              | 23.6     | +2 24.4                                           | 106                 | 54.5                                              | -7 03.9       | 118                                              | 51.3  | -1 38.2        | 186   | 13.1           | +20 36.2 |      |
| 19  | 320                                    | 29.1 | 142                                              | 23.2     | 23.3                                              | 121                 | 55.5                                              | 04.6          | 133                                              | 53.3  | 38.4           | 201   | 15.5           | 36.1     |      |
| 20  | 335                                    | 31.6 | 157                                              | 22.9     | 22.2                                              | 136                 | 56.4                                              | 05.2          | 148                                              | 55.3  | 38.6           | 216   | 17.9           | 36.1     |      |
| 21  | 350                                    | 34.0 | 172                                              | 22.6     | 21.1                                              | 151                 | 57.3                                              | 05.8          | 163                                              | 57.3  | 38.8           | 231   | 20.3           | 36.1     |      |
| 22  | 5                                      | 36.5 | 187                                              | 22.3     | 20.0                                              | 166                 | 58.3                                              | 06.5          | 178                                              | 59.3  | 39.0           | 246   | 22.7           | 36.1     |      |
| 23  | 20                                     | 38.9 | 202                                              | 21.9     | 18.8                                              | 181                 | 59.2                                              | 07.1          | 194                                              | 01.3  | 39.2           | 261   | 25.1           | 36.1     |      |
| 24  | 35                                     | 41.4 | 217                                              | 21.6     | +2 17.7                                           | 197                 | 00.2                                              | -7 07.7       | 209                                              | 03.3  | -1 39.4        | 276   | 27.5           | +20 36.1 |      |
| Dif | —                                      |      | -3                                               | -11      |                                                   | +9                  | -6                                                |               | +20                                              | -2    |                | +24   |                | 0        |      |

| UT | SOL                                                |      |          | LUNA                                                                                                                              |                     |                         | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |
|----|----------------------------------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------------------------|---------------------|-------------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|
|    | SD: 16'1<br>PMG: 11 <sup>h</sup> 43 <sup>m</sup> 9 |      |          | Edad: 12 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 56'5<br>12 <sup>h</sup> : 56'3<br>20 <sup>h</sup> : 56'1<br>R°: 46 <sup>m</sup> |                     |                         |         |                          |         |               |                |      |                |      |
|    | hG ☉                                               | Dec  |          | hG ☾                                                                                                                              | Dif                 | Dec                     |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora |
| h  | °                                                  | '    | °        | °                                                                                                                                 | '                   | °                       | °       | h                        | m       | h             | m              | h    | m              | m    |
| 0  | 184                                                | 01.5 | -12 49.4 | 16                                                                                                                                | 18.0                | +7 02.6                 | 60 N    | 5 37                     | 6 26    | 7 10          | 16 06          | 1    | 6 05           | 92   |
| 1  | 199                                                | 01.6 | 50.2     | 30                                                                                                                                | 51.4 <sup>144</sup> | 17.4 <sup>148</sup>     | 58      | 36                       | 22      | 7 03          | 12             | 5    | 6 00           | 87   |
| 2  | 214                                                | 01.6 | 51.1     | 45                                                                                                                                | 24.7 <sup>143</sup> | 32.2 <sup>148</sup>     | 56      | 34                       | 18      | 6 57          | 18             | 8    | 5 56           | 84   |
| 3  | 229                                                | 01.7 | 51.9     | 59                                                                                                                                | 58.0 <sup>143</sup> | +7 47.0 <sup>148</sup>  | 54      | 33                       | 14      | 51            | 23             | 11   | 52             | 81   |
| 4  | 244                                                | 01.7 | 52.7     | 74                                                                                                                                | 31.3 <sup>143</sup> | +8 01.7 <sup>147</sup>  | 52      | 32                       | 11      | 46            | 27             | 14   | 48             | 78   |
| 5  | 259                                                | 01.8 | -12 53.6 | 89                                                                                                                                | 04.6 <sup>143</sup> | +8 16.3 <sup>146</sup>  | 50      | 5 30                     | 6 08    | 6 42          | 16 31          | 16   | 5 45           | 76   |
| 6  | 274                                                | 01.9 | -12 54.4 | 103                                                                                                                               | 37.9 <sup>143</sup> | +8 31.0 <sup>147</sup>  | 45      | 5 27                     | 6 02    | 6 32          | 16 40          | 21   | 5 38           | 70   |
| 7  | 289                                                | 01.9 | 55.3     | 118                                                                                                                               | 11.2 <sup>143</sup> | +8 45.5 <sup>145</sup>  | 40      | 24                       | 5 56    | 24            | 48             | 24   | 33             | 65   |
| 8  | 304                                                | 02.0 | 56.1     | 132                                                                                                                               | 44.4 <sup>142</sup> | +9 00.1 <sup>146</sup>  | 35      | 21                       | 51      | 17            | 16 54          | 28   | 28             | 62   |
| 9  | 319                                                | 02.0 | 56.9     | 147                                                                                                                               | 17.7 <sup>143</sup> | 14.5 <sup>144</sup>     | 30      | 18                       | 46      | 6 10          | 17 00          | 31   | 23             | 59   |
| 10 | 334                                                | 02.1 | 57.8     | 161                                                                                                                               | 50.9 <sup>142</sup> | 29.0 <sup>145</sup>     | 20      | 11                       | 37      | 5 59          | 09             | 37   | 16             | 53   |
| 11 | 349                                                | 02.1 | -12 58.6 | 176                                                                                                                               | 24.1 <sup>142</sup> | +9 43.3 <sup>143</sup>  | 10 N    | 5 03                     | 5 28    | 5 50          | 17 18          | 41   | 5 09           | 49   |
| 12 | 4                                                  | 02.2 | -12 59.5 | 190                                                                                                                               | 57.2 <sup>141</sup> | +9 57.7 <sup>144</sup>  | 0       | 4 55                     | 5 19    | 5 40          | 17 26          | 46   | 5 03           | 45   |
| 13 | 19                                                 | 02.2 | -13 00.3 | 205                                                                                                                               | 30.4 <sup>142</sup> | +10 11.9 <sup>142</sup> | 10 S    | 44                       | 5 10    | 31            | 35             | 49   | 4 57           | 40   |
| 14 | 34                                                 | 02.3 | 01.1     | 220                                                                                                                               | 03.5 <sup>141</sup> | 26.2 <sup>143</sup>     | 20      | 32                       | 4 58    | 21            | 44             | 54   | 51             | 35   |
| 15 | 49                                                 | 02.3 | 02.0     | 234                                                                                                                               | 36.6 <sup>141</sup> | 40.3 <sup>141</sup>     | 30      | 15                       | 45      | 10            | 17 54          | 59   | 44             | 30   |
| 16 | 64                                                 | 02.4 | 02.8     | 249                                                                                                                               | 09.7 <sup>141</sup> | +10 54.4 <sup>141</sup> | 35      | 4 04                     | 36      | 5 03          | 18 00          | 62   | 39             | 28   |
| 17 | 79                                                 | 02.5 | -13 03.7 | 263                                                                                                                               | 42.8 <sup>141</sup> | +11 08.5 <sup>141</sup> | 40      | 3 52                     | 4 26    | 4 55          | 18 07          | 66   | 4 35           | 23   |
| 18 | 94                                                 | 02.5 | -13 04.5 | 278                                                                                                                               | 15.8 <sup>140</sup> | +11 22.5 <sup>140</sup> | 45      | 3 36                     | 4 14    | 4 46          | 18 15          | 70   | 4 29           | 20   |
| 19 | 109                                                | 02.6 | 05.3     | 292                                                                                                                               | 48.8 <sup>140</sup> | 36.4 <sup>139</sup>     | 50      | 15                       | 4 00    | 35            | 24             | 76   | 23             | 14   |
| 20 | 124                                                | 02.6 | 06.2     | 307                                                                                                                               | 21.8 <sup>140</sup> | +11 50.3 <sup>139</sup> | 52      | 3 05                     | 3 53    | 30            | 29             | 78   | 20             | 12   |
| 21 | 139                                                | 02.7 | 07.0     | 321                                                                                                                               | 54.7 <sup>139</sup> | +12 04.1 <sup>138</sup> | 54      | 2 53                     | 45      | 24            | 34             | 81   | 16             | 10   |
| 22 | 154                                                | 02.7 | 07.9     | 336                                                                                                                               | 27.7 <sup>140</sup> | 17.8 <sup>137</sup>     | 56      | 40                       | 36      | 18            | 39             | 85   | 13             | 7    |
| 23 | 169                                                | 02.8 | 08.7     | 351                                                                                                                               | 00.5 <sup>138</sup> | 31.5 <sup>137</sup>     | 58      | 23                       | 25      | 11            | 46             | 88   | 09             | 4    |
| 24 | 184                                                | 02.8 | -13 09.5 | 5                                                                                                                                 | 33.4 <sup>139</sup> | +12 45.1 <sup>136</sup> | 60 S    | 2 03                     | 3 13    | 4 03          | 18 53          | 92   | 4 04           | 1    |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                           |      | SATURNO                                          |      |     |      |    |      |     |        |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|--------|-----|------|
|     | PMG: 21 <sup>h</sup> 33 <sup>m</sup> 7 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 31 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 51 <sup>m</sup> |      | Mag: -1.7<br>PMG: 10 <sup>h</sup> 02 <sup>m</sup> |      | Mag: +0.1<br>PMG: 5 <sup>h</sup> 33 <sup>m</sup> |      |     |      |    |      |     |        |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                              | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |        |     |      |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                 | '    | °                                                | '    |     |      |    |      |     |        |     |      |
| 0   | 35                                     | 41.4 | 217                                              | 21.6 | +2                                                | 17.7 | 197                                               | 00.2 | -7                                               | 07.7 | 209 | 03.3 | -1 | 39.4 | 276 | 27.5   | +20 | 36.1 |
| 1   | 50                                     | 43.9 | 232                                              | 21.3 |                                                   | 16.6 | 212                                               | 01.1 |                                                  | 08.4 | 224 | 05.3 |    | 39.6 | 291 | 29.9   |     | 36.1 |
| 2   | 65                                     | 46.3 | 247                                              | 20.9 |                                                   | 15.5 | 227                                               | 02.0 |                                                  | 09.0 | 239 | 07.3 |    | 39.8 | 306 | 32.3   |     | 36.1 |
| 3   | 80                                     | 48.8 | 262                                              | 20.6 |                                                   | 14.3 | 242                                               | 03.0 |                                                  | 09.6 | 254 | 09.3 |    | 40.0 | 321 | 34.7   |     | 36.1 |
| 4   | 95                                     | 51.3 | 277                                              | 20.3 |                                                   | 13.2 | 257                                               | 03.9 |                                                  | 10.3 | 269 | 11.3 |    | 40.2 | 336 | 37.1   |     | 36.1 |
| 5   | 110                                    | 53.7 | 292                                              | 19.9 | +2                                                | 12.1 | 272                                               | 04.8 | -7                                               | 10.9 | 284 | 13.3 | -1 | 40.4 | 351 | 39.5   | +20 | 36.1 |
| 6   | 125                                    | 56.2 | 307                                              | 19.6 | +2                                                | 11.0 | 287                                               | 05.8 | -7                                               | 11.6 | 299 | 15.3 | -1 | 40.6 |     | 6 41.9 | +20 | 36.1 |
| 7   | 140                                    | 58.7 | 322                                              | 19.3 |                                                   | 09.8 | 302                                               | 06.7 |                                                  | 12.2 | 314 | 17.3 |    | 40.8 | 21  | 44.3   |     | 36.1 |
| 8   | 156                                    | 01.1 | 337                                              | 18.9 |                                                   | 08.7 | 317                                               | 07.6 |                                                  | 12.8 | 329 | 19.3 |    | 41.0 | 36  | 46.7   |     | 36.0 |
| 9   | 171                                    | 03.6 | 352                                              | 18.6 |                                                   | 07.6 | 332                                               | 08.6 |                                                  | 13.5 | 344 | 21.2 |    | 41.2 | 51  | 49.1   |     | 36.0 |
| 10  | 186                                    | 06.1 | 7                                                | 18.3 |                                                   | 06.5 | 347                                               | 09.5 |                                                  | 14.1 | 359 | 23.2 |    | 41.4 | 66  | 51.5   |     | 36.0 |
| 11  | 201                                    | 08.5 | 22                                               | 17.9 | +2                                                | 05.3 | 2                                                 | 10.4 | -7                                               | 14.7 | 14  | 25.2 | -1 | 41.6 | 81  | 53.9   | +20 | 36.0 |
| 12  | 216                                    | 11.0 | 37                                               | 17.6 | +2                                                | 04.2 | 17                                                | 11.4 | -7                                               | 15.4 | 29  | 27.2 | -1 | 41.8 | 96  | 56.3   | +20 | 36.0 |
| 13  | 231                                    | 13.4 | 52                                               | 17.3 |                                                   | 03.1 | 32                                                | 12.3 |                                                  | 16.0 | 44  | 29.2 |    | 42.0 | 111 | 58.7   |     | 36.0 |
| 14  | 246                                    | 15.9 | 67                                               | 16.9 |                                                   | 02.0 | 47                                                | 13.3 |                                                  | 16.6 | 59  | 31.2 |    | 42.2 | 127 | 01.1   |     | 36.0 |
| 15  | 261                                    | 18.4 | 82                                               | 16.6 | +2                                                | 00.8 | 62                                                | 14.2 |                                                  | 17.3 | 74  | 33.2 |    | 42.4 | 142 | 03.5   |     | 36.0 |
| 16  | 276                                    | 20.8 | 97                                               | 16.3 | +1                                                | 59.7 | 77                                                | 15.1 |                                                  | 17.9 | 89  | 35.2 |    | 42.6 | 157 | 06.0   |     | 36.0 |
| 17  | 291                                    | 23.3 | 112                                              | 15.9 | +1                                                | 58.6 | 92                                                | 16.1 | -7                                               | 18.5 | 104 | 37.2 | -1 | 42.8 | 172 | 08.4   | +20 | 36.0 |
| 18  | 306                                    | 25.8 | 127                                              | 15.6 | +1                                                | 57.5 | 107                                               | 17.0 | -7                                               | 19.2 | 119 | 39.2 | -1 | 43.0 | 187 | 10.8   | +20 | 36.0 |
| 19  | 321                                    | 28.2 | 142                                              | 15.3 |                                                   | 56.3 | 122                                               | 17.9 |                                                  | 19.8 | 134 | 41.2 |    | 43.2 | 202 | 13.2   |     | 36.0 |
| 20  | 336                                    | 30.7 | 157                                              | 14.9 |                                                   | 55.2 | 137                                               | 18.9 |                                                  | 20.4 | 149 | 43.2 |    | 43.4 | 217 | 15.6   |     | 36.0 |
| 21  | 351                                    | 33.2 | 172                                              | 14.6 |                                                   | 54.1 | 152                                               | 19.8 |                                                  | 21.1 | 164 | 45.2 |    | 43.6 | 232 | 18.0   |     | 36.0 |
| 22  | 6                                      | 35.6 | 187                                              | 14.3 |                                                   | 53.0 | 167                                               | 20.7 |                                                  | 21.7 | 179 | 47.2 |    | 43.8 | 247 | 20.4   |     | 35.9 |
| 23  | 21                                     | 38.1 | 202                                              | 13.9 |                                                   | 51.8 | 182                                               | 21.7 |                                                  | 22.3 | 194 | 49.2 |    | 44.0 | 262 | 22.8   |     | 35.9 |
| 24  | 36                                     | 40.5 | 217                                              | 13.6 | +1                                                | 50.7 | 197                                               | 22.6 | -7                                               | 23.0 | 209 | 51.2 | -1 | 44.2 | 277 | 25.2   | +20 | 35.9 |
| Dif | —                                      |      | -3                                               | -11  |                                                   | +9   | -6                                                |      |                                                  | +20  | -2  |      |    | +24  |     |        |     |      |



| UT  | SOL                                    |      |                                                  | ☾ LUNA                                                                                                  |                                                   |                         | Latitud                                          | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |          | Puesta de Luna |       |
|-----|----------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------------------|-------------------------|--------------------------------------------------|---------------|--------------------------------------------------|---------|----------------|----------|----------------|-------|
|     | SD: 16'1                               |      |                                                  | Edad: 13 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 56'0<br>12 <sup>h</sup> : 55'8<br>20 <sup>h</sup> : 55'6 |                                                   |                         |                                                  |               |                                                  |         |                |          |                |       |
|     | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 8 |      |                                                  | SD: 15'3 PMG: **h **m R°: **m                                                                           |                                                   |                         |                                                  |               |                                                  |         |                |          |                |       |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                    | Dif                                               | Dec                     | Dif                                              |               | Civil                                            | Náutico | Hora           | R°       | Hora           | R°    |
| h   | °                                      | '    | °                                                | °                                                                                                       | '                                                 | °                       | '                                                | °             | h m                                              | h m     | h m            | h m m    | h m m          | h m m |
| 0   | 184                                    | 02.8 | -13 09.5                                         | 5                                                                                                       | 33.4                                              | +12 45.1                |                                                  | 60 N          | 16 14                                            | 16 58   | 17 47          | 16 07 2  | 7 37 93        |       |
| 1   | 199                                    | 02.9 |                                                  | 20                                                                                                      | 06.2 <sup>138</sup>                               | +12 58.7 <sup>136</sup> |                                                  | 58            | 21                                               | 17 03   | 49             | 17 7     | 27 89          |       |
| 2   | 214                                    | 02.9 | 11.2                                             | 34                                                                                                      | 39.0 <sup>138</sup>                               | +13 12.2 <sup>135</sup> |                                                  | 56            | 28                                               | 07      | 50             | 26 11    | 20 84          |       |
| 3   | 229                                    | 03.0 | 12.0                                             | 49                                                                                                      | 11.8 <sup>138</sup>                               | 25.6 <sup>134</sup>     |                                                  | 54            | 33                                               | 10      | 52             | 34 14    | 13 81          |       |
| 4   | 244                                    | 03.0 | 12.9                                             | 63                                                                                                      | 44.6 <sup>138</sup>                               | 38.9 <sup>133</sup>     |                                                  | 52            | 39                                               | 14      | 53             | 41 17    | 06 78          |       |
| 5   | 259                                    | 03.1 | -13 13.7                                         | 78                                                                                                      | 17.3 <sup>137</sup>                               | +13 52.2 <sup>133</sup> |                                                  | 50            | 16 43                                            | 17 17   | 17 55          | 16 47 19 | 7 01 75        |       |
| 6   | 274                                    | 03.1 | -13 14.5                                         | 92                                                                                                      | 49.9 <sup>136</sup>                               | +14 05.4 <sup>132</sup> |                                                  | 45            | 16 54                                            | 17 24   | 17 58          | 17 01 24 | 6 48 70        |       |
| 7   | 289                                    | 03.1 | 15.4                                             | 107                                                                                                     | 22.6 <sup>137</sup>                               | 18.6 <sup>132</sup>     |                                                  | 40            | 17 02                                            | 30      | 18 02          | 12 29    | 38 66          |       |
| 8   | 304                                    | 03.2 | 16.2                                             | 121                                                                                                     | 55.2 <sup>136</sup>                               | 31.6 <sup>130</sup>     |                                                  | 35            | 10                                               | 36      | 05             | 22 32    | 30 62          |       |
| 9   | 319                                    | 03.2 | 17.0                                             | 136                                                                                                     | 27.7 <sup>135</sup>                               | 44.6 <sup>130</sup>     |                                                  | 30            | 16                                               | 41      | 09             | 31 34    | 22 60          |       |
| 10  | 334                                    | 03.3 | 17.9                                             | 151                                                                                                     | 00.2 <sup>135</sup>                               | +14 57.6 <sup>130</sup> |                                                  | 20            | 28                                               | 50      | 16             | 46 39    | 6 09 55        |       |
| 11  | 349                                    | 03.3 | -13 18.7                                         | 165                                                                                                     | 32.7 <sup>135</sup>                               | +15 10.4 <sup>128</sup> |                                                  | 10 N          | 17 38                                            | 17 59   | 18 24          | 17 59 43 | 5 58 50        |       |
| 12  | 4                                      | 03.4 | -13 19.5                                         | 180                                                                                                     | 05.2 <sup>135</sup>                               | +15 23.2 <sup>128</sup> |                                                  | 0             | 17 47                                            | 18 08   | 18 33          | 18 12 46 | 5 48 46        |       |
| 13  | 19                                     | 03.4 | 20.4                                             | 194                                                                                                     | 37.6 <sup>134</sup>                               | 35.9 <sup>127</sup>     |                                                  | 10 S          | 17 57                                            | 19      | 44             | 24 51    | 37 42          |       |
| 14  | 34                                     | 03.5 | 21.2                                             | 209                                                                                                     | 10.0 <sup>134</sup>                               | +15 48.5 <sup>126</sup> |                                                  | 20            | 18 07                                            | 30      | 18 57          | 38 54    | 26 38          |       |
| 15  | 49                                     | 03.5 | 22.0                                             | 223                                                                                                     | 42.3 <sup>133</sup>                               | +16 01.0 <sup>125</sup> |                                                  | 30            | 19                                               | 44      | 19 14          | 18 53 60 | 14 33          |       |
| 16  | 64                                     | 03.6 | 22.9                                             | 238                                                                                                     | 14.6 <sup>133</sup>                               | 13.5 <sup>125</sup>     |                                                  | 35            | 26                                               | 18 53   | 25             | 19 02 63 | 5 07 29        |       |
| 17  | 79                                     | 03.6 | -13 23.7                                         | 252                                                                                                     | 46.9 <sup>133</sup>                               | +16 25.9 <sup>124</sup> |                                                  | 40            | 18 35                                            | 19 03   | 19 38          | 19 13 65 | 4 58 27        |       |
| 18  | 94                                     | 03.6 | -13 24.5                                         | 267                                                                                                     | 19.1 <sup>132</sup>                               | +16 38.2 <sup>123</sup> |                                                  | 45            | 18 44                                            | 19 16   | 19 55          | 19 25 70 | 4 49 22        |       |
| 19  | 109                                    | 03.7 | 25.3                                             | 281                                                                                                     | 51.2 <sup>131</sup>                               | +16 50.4 <sup>122</sup> |                                                  | 50            | 18 55                                            | 31      | 20 16          | 40 75    | 37 18          |       |
| 20  | 124                                    | 03.7 | 26.2                                             | 296                                                                                                     | 23.4 <sup>132</sup>                               | +17 02.5 <sup>121</sup> |                                                  | 52            | 19 01                                            | 39      | 27             | 47 78    | 32 15          |       |
| 21  | 139                                    | 03.8 | 27.0                                             | 310                                                                                                     | 55.5 <sup>131</sup>                               | 14.6 <sup>121</sup>     |                                                  | 54            | 07                                               | 47      | 39             | 19 55 81 | 26 12          |       |
| 22  | 154                                    | 03.8 | 27.8                                             | 325                                                                                                     | 27.5 <sup>130</sup>                               | 26.5 <sup>119</sup>     |                                                  | 56            | 13                                               | 19 56   | 20 54          | 20 04 84 | 20 9           |       |
| 23  | 169                                    | 03.9 | 28.7                                             | 339                                                                                                     | 59.5 <sup>130</sup>                               | 38.4 <sup>119</sup>     |                                                  | 58            | 21                                               | 20 07   | 21 11          | 14 89    | 13 5           |       |
| 24  | 184                                    | 03.9 | -13 29.5                                         | 354                                                                                                     | 31.5 <sup>130</sup>                               | +17 50.2 <sup>118</sup> |                                                  | 60 S          | 19 29                                            | 20 20   | 21 33          | 20 25 95 | 4 05 1         |       |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                         | MARTE                                             |                         | JÚPITER                                          |               | SATURNO                                          |         |                |          |                |       |
|     | PMG: 21 <sup>h</sup> 29 <sup>m</sup> 8 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 31 <sup>m</sup> |                                                                                                         | Mag: +1.7<br>PMG: 10 <sup>h</sup> 50 <sup>m</sup> |                         | Mag: -1.7<br>PMG: 9 <sup>h</sup> 59 <sup>m</sup> |               | Mag: +0.1<br>PMG: 5 <sup>h</sup> 29 <sup>m</sup> |         |                |          |                |       |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec                                                                                                     | hG ♂                                              | Dec                     | hG ♃                                             | Dec           | hG ♄                                             | Dec     |                |          |                |       |
| h   | °                                      | '    | °                                                | '                                                                                                       | °                                                 | '                       | °                                                | '             | °                                                | '       |                |          |                |       |
| 0   | 36                                     | 40.5 | 217                                              | 13.6                                                                                                    | 197                                               | 22.6                    | 209                                              | 51.2          | 277                                              | 25.2    |                |          |                |       |
| 1   | 51                                     | 43.0 | 232                                              | 13.3                                                                                                    | 212                                               | 23.5                    | 224                                              | 53.2          | 292                                              | 27.6    |                |          |                |       |
| 2   | 66                                     | 45.5 | 247                                              | 12.9                                                                                                    | 227                                               | 24.5                    | 239                                              | 55.2          | 307                                              | 30.0    |                |          |                |       |
| 3   | 81                                     | 47.9 | 262                                              | 12.6                                                                                                    | 242                                               | 25.4                    | 254                                              | 57.2          | 322                                              | 32.4    |                |          |                |       |
| 4   | 96                                     | 50.4 | 277                                              | 12.3                                                                                                    | 257                                               | 26.3                    | 269                                              | 59.2          | 337                                              | 34.8    |                |          |                |       |
| 5   | 111                                    | 52.9 | 292                                              | 11.9                                                                                                    | 272                                               | 27.3                    | 285                                              | 01.2          | 352                                              | 37.3    |                |          |                |       |
| 6   | 126                                    | 55.3 | 307                                              | 11.6                                                                                                    | 287                                               | 28.2                    | 300                                              | 03.2          | 7                                                | 39.7    |                |          |                |       |
| 7   | 141                                    | 57.8 | 322                                              | 11.3                                                                                                    | 302                                               | 29.1                    | 315                                              | 05.2          | 22                                               | 42.1    |                |          |                |       |
| 8   | 157                                    | 00.3 | 337                                              | 10.9                                                                                                    | 317                                               | 30.1                    | 330                                              | 07.2          | 37                                               | 44.5    |                |          |                |       |
| 9   | 172                                    | 02.7 | 352                                              | 10.6                                                                                                    | 332                                               | 31.0                    | 345                                              | 09.2          | 52                                               | 46.9    |                |          |                |       |
| 10  | 187                                    | 05.2 | 7                                                | 10.3                                                                                                    | 347                                               | 31.9                    | 0                                                | 11.2          | 67                                               | 49.3    |                |          |                |       |
| 11  | 202                                    | 07.7 | 22                                               | 09.9                                                                                                    | 2                                                 | 32.9                    | 15                                               | 13.2          | 82                                               | 51.7    |                |          |                |       |
| 12  | 217                                    | 10.1 | 37                                               | 09.6                                                                                                    | 17                                                | 33.8                    | 30                                               | 15.1          | 97                                               | 54.1    |                |          |                |       |
| 13  | 232                                    | 12.6 | 52                                               | 09.3                                                                                                    | 32                                                | 34.7                    | 45                                               | 17.1          | 112                                              | 56.5    |                |          |                |       |
| 14  | 247                                    | 15.0 | 67                                               | 08.9                                                                                                    | 47                                                | 35.7                    | 60                                               | 19.1          | 127                                              | 58.9    |                |          |                |       |
| 15  | 262                                    | 17.5 | 82                                               | 08.6                                                                                                    | 62                                                | 36.6                    | 75                                               | 21.1          | 143                                              | 01.4    |                |          |                |       |
| 16  | 277                                    | 20.0 | 97                                               | 08.3                                                                                                    | 77                                                | 37.5                    | 90                                               | 23.1          | 158                                              | 03.8    |                |          |                |       |
| 17  | 292                                    | 22.4 | 112                                              | 07.9                                                                                                    | 92                                                | 38.4                    | 105                                              | 25.1          | 173                                              | 06.2    |                |          |                |       |
| 18  | 307                                    | 24.9 | 127                                              | 07.6                                                                                                    | 107                                               | 39.4                    | 120                                              | 27.1          | 188                                              | 08.6    |                |          |                |       |
| 19  | 322                                    | 27.4 | 142                                              | 07.3                                                                                                    | 122                                               | 40.3                    | 135                                              | 29.1          | 203                                              | 11.0    |                |          |                |       |
| 20  | 337                                    | 29.8 | 157                                              | 06.9                                                                                                    | 137                                               | 41.2                    | 150                                              | 31.1          | 218                                              | 13.4    |                |          |                |       |
| 21  | 352                                    | 32.3 | 172                                              | 06.6                                                                                                    | 152                                               | 42.2                    | 165                                              | 33.1          | 233                                              | 15.8    |                |          |                |       |
| 22  | 7                                      | 34.8 | 187                                              | 06.3                                                                                                    | 167                                               | 43.1                    | 180                                              | 35.1          | 248                                              | 18.2    |                |          |                |       |
| 23  | 22                                     | 37.2 | 202                                              | 05.9                                                                                                    | 182                                               | 44.0                    | 195                                              | 37.1          | 263                                              | 20.7    |                |          |                |       |
| 24  | 37                                     | 39.7 | 217                                              | 05.6                                                                                                    | 197                                               | 45.0                    | 210                                              | 39.1          | 278                                              | 23.1    |                |          |                |       |
| Dif | —                                      | -3   | -11                                              |                                                                                                         | +9                                                | -6                      | +20                                              | -2            | +24                                              |         |                |          |                |       |

| UT  | SOL                                    |      |                                                  | LUNA                                                                                                                                              |                     |                                                   |     | Latitud  | Principio del crepúsculo                         |       | Salida de Sol | Salida de Luna                                   |     | Puesta de Luna |    |   |
|-----|----------------------------------------|------|--------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|-----|----------|--------------------------------------------------|-------|---------------|--------------------------------------------------|-----|----------------|----|---|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                  | Edad: 14 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 55 <sup>s</sup> /5<br>12 <sup>h</sup> : 55 <sup>s</sup> /3<br>20 <sup>h</sup> : 55 <sup>s</sup> /1 |                     |                                                   |     |          |                                                  |       |               |                                                  |     |                |    |   |
|     | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 7 |      |                                                  | SD: 15 <sup>h</sup> 1<br>PMG: 0 <sup>h</sup> 23 <sup>m</sup> R°: 47 <sup>m</sup>                                                                  |                     |                                                   |     |          |                                                  |       |               |                                                  |     |                |    |   |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                                                              | Dif                 | Dec                                               | Dif |          | Náutico                                          | Civil |               | Hora                                             | R°  | Hora           | R° |   |
| h   | °                                      | '    | °                                                | °                                                                                                                                                 | '                   | °                                                 | '   | °        | h                                                | m     | h             | m                                                | h   | m              | h  | m |
| 0   | 184                                    | 03.9 | -13 29.5                                         | 354                                                                                                                                               | 31.5                | +17 50.2                                          |     | 60 N     | 5 41                                             | 6 31  | 7 15          | 16 09                                            | 5   | 9 10           | 95 |   |
| 1   | 199                                    | 03.9 | 30.3                                             | 9                                                                                                                                                 | 03.4 <sup>129</sup> | +18 01.9 <sup>117</sup>                           |     | 58       | 40                                               | 26    | 08            | 24                                               | 11  | 8 56           | 88 |   |
| 2   | 214                                    | 04.0 | 31.1                                             | 23                                                                                                                                                | 35.2 <sup>128</sup> | 13.5 <sup>116</sup>                               |     | 56       | 38                                               | 22    | 7 01          | 37                                               | 15  | 44             | 84 |   |
| 3   | 229                                    | 04.0 | 32.0                                             | 38                                                                                                                                                | 07.1 <sup>129</sup> | 25.0 <sup>115</sup>                               |     | 54       | 36                                               | 18    | 6 55          | 48                                               | 19  | 34             | 79 |   |
| 4   | 244                                    | 04.1 | 32.8                                             | 52                                                                                                                                                | 38.8 <sup>127</sup> | 36.5 <sup>115</sup>                               |     | 52       | 35                                               | 15    | 50            | 16 58                                            | 22  | 24             | 77 |   |
| 5   | 259                                    | 04.1 | -13 33.6                                         | 67                                                                                                                                                | 10.6 <sup>128</sup> | +18 47.8 <sup>113</sup>                           |     | 50       | 5 33                                             | 6 11  | 6 45          | 17 06                                            | 25  | 8 16           | 74 |   |
| 6   | 274                                    | 04.2 | -13 34.4                                         | 81                                                                                                                                                | 42.3 <sup>127</sup> | +18 59.0 <sup>112</sup>                           |     | 45       | 5 30                                             | 6 04  | 6 35          | 17 25                                            | 30  | 7 58           | 70 |   |
| 7   | 289                                    | 04.2 | 35.3                                             | 96                                                                                                                                                | 13.9 <sup>126</sup> | +19 10.2 <sup>112</sup>                           |     | 40       | 26                                               | 5 58  | 26            | 41                                               | 33  | 44             | 65 |   |
| 8   | 304                                    | 04.2 | 36.1                                             | 110                                                                                                                                               | 45.5 <sup>126</sup> | 21.3 <sup>111</sup>                               |     | 35       | 23                                               | 52    | 18            | 17 54                                            | 36  | 32             | 62 |   |
| 9   | 319                                    | 04.3 | 36.9                                             | 125                                                                                                                                               | 17.1 <sup>126</sup> | 32.2 <sup>109</sup>                               |     | 30       | 19                                               | 47    | 12            | 18 05                                            | 39  | 22             | 59 |   |
| 10  | 334                                    | 04.3 | 37.7                                             | 139                                                                                                                                               | 48.6 <sup>125</sup> | 43.1 <sup>109</sup>                               |     | 20       | 12                                               | 38    | 6 00          | 25                                               | 42  | 7 04           | 55 |   |
| 11  | 349                                    | 04.3 | -13 38.6                                         | 154                                                                                                                                               | 20.0 <sup>124</sup> | +19 53.9 <sup>108</sup>                           |     | 10 N     | 5 03                                             | 5 28  | 5 50          | 18 42                                            | 46  | 6 48           | 52 |   |
| 12  | 4                                      | 04.4 | -13 39.4                                         | 168                                                                                                                                               | 51.4 <sup>124</sup> | +20 04.5 <sup>106</sup>                           |     | 0        | 4 54                                             | 5 19  | 5 40          | 18 58                                            | 49  | 6 34           | 48 |   |
| 13  | 19                                     | 04.4 | 40.2                                             | 183                                                                                                                                               | 22.8 <sup>124</sup> | 15.1 <sup>106</sup>                               |     | 10 S     | 44                                               | 5 09  | 30            | 19 15                                            | 52  | 19             | 45 |   |
| 14  | 34                                     | 04.5 | 41.0                                             | 197                                                                                                                                               | 54.1 <sup>123</sup> | 25.6 <sup>105</sup>                               |     | 20       | 30                                               | 4 57  | 20            | 32                                               | 55  | 6 04           | 41 |   |
| 15  | 49                                     | 04.5 | 41.8                                             | 212                                                                                                                                               | 25.4 <sup>123</sup> | 36.0 <sup>104</sup>                               |     | 30       | 13                                               | 43    | 08            | 19 53                                            | 59  | 5 47           | 36 |   |
| 16  | 64                                     | 04.5 | 42.7                                             | 226                                                                                                                                               | 56.6 <sup>122</sup> | 46.2 <sup>102</sup>                               |     | 35       | 4 02                                             | 34    | 5 01          | 20 05                                            | 61  | 36             | 34 |   |
| 17  | 79                                     | 04.6 | -13 43.5                                         | 241                                                                                                                                               | 27.8 <sup>122</sup> | +20 56.4 <sup>102</sup>                           |     | 40       | 3 49                                             | 4 24  | 4 52          | 20 18                                            | 65  | 5 25           | 30 |   |
| 18  | 94                                     | 04.6 | -13 44.3                                         | 255                                                                                                                                               | 58.9 <sup>121</sup> | +21 06.5 <sup>101</sup>                           |     | 45       | 3 32                                             | 4 11  | 4 43          | 20 35                                            | 68  | 5 11           | 27 |   |
| 19  | 109                                    | 04.6 | 45.1                                             | 270                                                                                                                                               | 30.0 <sup>121</sup> | 16.5 <sup>100</sup>                               |     | 50       | 11                                               | 3 56  | 31            | 20 55                                            | 73  | 4 55           | 21 |   |
| 20  | 124                                    | 04.7 | 45.9                                             | 285                                                                                                                                               | 01.0 <sup>120</sup> | 26.3 <sup>98</sup>                                |     | 52       | 3 00                                             | 48    | 26            | 21 05                                            | 75  | 47             | 19 |   |
| 21  | 139                                    | 04.7 | 46.8                                             | 299                                                                                                                                               | 32.0 <sup>120</sup> | 36.1 <sup>98</sup>                                |     | 54       | 2 48                                             | 40    | 20            | 16 78                                            |     | 38             | 17 |   |
| 22  | 154                                    | 04.7 | 47.6                                             | 314                                                                                                                                               | 02.9 <sup>119</sup> | 45.7 <sup>96</sup>                                |     | 56       | 33                                               | 30    | 13            | 28 82                                            |     | 29             | 13 |   |
| 23  | 169                                    | 04.8 | 48.4                                             | 328                                                                                                                                               | 33.8 <sup>119</sup> | +21 55.3 <sup>96</sup>                            |     | 58       | 2 16                                             | 20    | 4 06          | 21 43                                            | 87  | 18             | 9  |   |
| 24  | 184                                    | 04.8 | -13 49.2                                         | 343                                                                                                                                               | 04.7 <sup>119</sup> | +22 04.7 <sup>94</sup>                            |     | 60 S     | 1 53                                             | 3 07  | 3 57          | 22 00                                            | 95  | 4 06           | 3  |   |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                                                                   |                     | MARTE                                             |     |          | JÚPITER                                          |       |               | SATURNO                                          |     |                |    |   |
|     | PMG: 21 <sup>h</sup> 25 <sup>m</sup> 8 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 32 <sup>m</sup> |                                                                                                                                                   |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 48 <sup>m</sup> |     |          | Mag: -1.7<br>PMG: 9 <sup>h</sup> 56 <sup>m</sup> |       |               | Mag: +0.1<br>PMG: 5 <sup>h</sup> 26 <sup>m</sup> |     |                |    |   |
|     | hG ♈                                   |      | hG ♀                                             | Dec                                                                                                                                               |                     | hG ♂                                              | Dec |          | hG ♃                                             | Dec   |               | hG ♄                                             | Dec |                |    |   |
| h   | °                                      | '    | °                                                | °                                                                                                                                                 | '                   | °                                                 | '   | °        | °                                                | '     | °             | °                                                | '   | °              | '  | ° |
| 0   | 37                                     | 39.7 | 217 05.6                                         | +1 23.6                                                                                                                                           | 197 45.0            | -7 38.1                                           |     | 210 39.1 | -1 48.9                                          |       | 278 23.1      | +20 35.8                                         |     |                |    |   |
| 1   | 52                                     | 42.2 | 232 05.3                                         | 22.4                                                                                                                                              | 212 45.9            | 38.8                                              |     | 225 41.1 | 49.1                                             |       | 293 25.5      | 35.8                                             |     |                |    |   |
| 2   | 67                                     | 44.6 | 247 04.9                                         | 21.3                                                                                                                                              | 227 46.8            | 39.4                                              |     | 240 43.1 | 49.3                                             |       | 308 27.9      | 35.8                                             |     |                |    |   |
| 3   | 82                                     | 47.1 | 262 04.6                                         | 20.2                                                                                                                                              | 242 47.8            | 40.0                                              |     | 255 45.1 | 49.5                                             |       | 323 30.3      | 35.8                                             |     |                |    |   |
| 4   | 97                                     | 49.5 | 277 04.3                                         | 19.0                                                                                                                                              | 257 48.7            | 40.7                                              |     | 270 47.1 | 49.7                                             |       | 338 32.7      | 35.8                                             |     |                |    |   |
| 5   | 112                                    | 52.0 | 292 03.9                                         | +1 17.9                                                                                                                                           | 272 49.6            | -7 41.3                                           |     | 285 49.1 | -1 49.9                                          |       | 353 35.1      | +20 35.7                                         |     |                |    |   |
| 6   | 127                                    | 54.5 | 307 03.6                                         | +1 16.8                                                                                                                                           | 287 50.5            | -7 41.9                                           |     | 300 51.1 | -1 50.0                                          |       | 8 37.5        | +20 35.7                                         |     |                |    |   |
| 7   | 142                                    | 56.9 | 322 03.3                                         | 15.6                                                                                                                                              | 302 51.5            | 42.5                                              |     | 315 53.1 | 50.2                                             |       | 23 40.0       | 35.7                                             |     |                |    |   |
| 8   | 157                                    | 59.4 | 337 02.9                                         | 14.5                                                                                                                                              | 317 52.4            | 43.2                                              |     | 330 55.1 | 50.4                                             |       | 38 42.4       | 35.7                                             |     |                |    |   |
| 9   | 173                                    | 01.9 | 352 02.6                                         | 13.4                                                                                                                                              | 332 53.3            | 43.8                                              |     | 345 57.1 | 50.6                                             |       | 53 44.8       | 35.7                                             |     |                |    |   |
| 10  | 188                                    | 04.3 | 7 02.2                                           | 12.2                                                                                                                                              | 347 54.3            | 44.4                                              |     | 0 59.1   | 50.8                                             |       | 68 47.2       | 35.7                                             |     |                |    |   |
| 11  | 203                                    | 06.8 | 22 01.9                                          | +1 11.1                                                                                                                                           | 2 55.2              | -7 45.1                                           |     | 16 01.1  | -1 51.0                                          |       | 83 49.6       | +20 35.7                                         |     |                |    |   |
| 12  | 218                                    | 09.3 | 37 01.6                                          | +1 09.9                                                                                                                                           | 17 56.1             | -7 45.7                                           |     | 31 03.1  | -1 51.2                                          |       | 98 52.0       | +20 35.7                                         |     |                |    |   |
| 13  | 233                                    | 11.7 | 52 01.2                                          | 08.8                                                                                                                                              | 32 57.0             | 46.3                                              |     | 46 05.1  | 51.4                                             |       | 113 54.5      | 35.7                                             |     |                |    |   |
| 14  | 248                                    | 14.2 | 67 00.9                                          | 07.7                                                                                                                                              | 47 58.0             | 47.0                                              |     | 61 07.1  | 51.6                                             |       | 128 56.9      | 35.7                                             |     |                |    |   |
| 15  | 263                                    | 16.6 | 82 00.6                                          | 06.5                                                                                                                                              | 62 58.9             | 47.6                                              |     | 76 09.1  | 51.8                                             |       | 143 59.3      | 35.7                                             |     |                |    |   |
| 16  | 278                                    | 19.1 | 97 00.2                                          | 05.4                                                                                                                                              | 77 59.8             | 48.2                                              |     | 91 11.1  | 52.0                                             |       | 159 01.7      | 35.7                                             |     |                |    |   |
| 17  | 293                                    | 21.6 | 111 59.9                                         | +1 04.3                                                                                                                                           | 93 00.8             | -7 48.9                                           |     | 106 13.1 | -1 52.2                                          |       | 174 04.1      | +20 35.7                                         |     |                |    |   |
| 18  | 308                                    | 24.0 | 126 59.6                                         | +1 03.1                                                                                                                                           | 108 01.7            | -7 49.5                                           |     | 121 15.1 | -1 52.4                                          |       | 189 06.5      | +20 35.7                                         |     |                |    |   |
| 19  | 323                                    | 26.5 | 141 59.2                                         | 02.0                                                                                                                                              | 123 02.6            | 50.1                                              |     | 136 17.1 | 52.6                                             |       | 204 08.9      | 35.7                                             |     |                |    |   |
| 20  | 338                                    | 29.0 | 156 58.9                                         | +1 00.9                                                                                                                                           | 138 03.5            | 50.7                                              |     | 151 19.1 | 52.8                                             |       | 219 11.4      | 35.7                                             |     |                |    |   |
| 21  | 353                                    | 31.4 | 171 58.6                                         | +0 59.7                                                                                                                                           | 153 04.5            | 51.4                                              |     | 166 21.1 | 53.0                                             |       | 234 13.8      | 35.7                                             |     |                |    |   |
| 22  | 8                                      | 33.9 | 186 58.2                                         | 58.6                                                                                                                                              | 168 05.4            | 52.0                                              |     | 181 23.1 | 53.2                                             |       | 249 16.2      | 35.7                                             |     |                |    |   |
| 23  | 23                                     | 36.4 | 201 57.9                                         | 57.4                                                                                                                                              | 183 06.3            | 52.6                                              |     | 196 25.1 | 53.4                                             |       | 264 18.6      | 35.7                                             |     |                |    |   |
| 24  | 38                                     | 38.8 | 216 57.5                                         | +0 56.3                                                                                                                                           | 198 07.3            | -7 53.3                                           |     | 211 27.1 | -1 53.6                                          |       | 279 21.0      | +20 35.6                                         |     |                |    |   |
| Dif | —                                      |      | -3                                               | -11                                                                                                                                               | +9                  | -6                                                |     | +20      | -2                                               |       | +24           |                                                  |     |                |    |   |

| UT  | SOL                                    |      |                                                  | ☾ LUNA                                                                                                                                         |                     |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                             |       |         | Salida de Luna                                   |      | Puesta de Luna |    |
|-----|----------------------------------------|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|----------|---------------|--------------------------------------------------|-------|---------|--------------------------------------------------|------|----------------|----|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                  | Edad: 15 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 55 <sup>m</sup> 0<br>12 <sup>h</sup> : 54 <sup>m</sup> 9<br>20 <sup>h</sup> : 54 <sup>m</sup> 7 |                     |                                                   |          |               |                                                  |       |         |                                                  |      |                |    |
|     | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 7 |      |                                                  | SD: 15 <sup>h</sup> 0<br>PMG: 1 <sup>h</sup> 10 <sup>m</sup> R°: 49 <sup>m</sup>                                                               |                     |                                                   |          |               |                                                  |       |         |                                                  |      |                |    |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                                                                                                                                           | Dif                 | Dec                                               | Dif      |               |                                                  | Civil | Náutico | Hora                                             | R°   | Hora           | R° |
| h   | °                                      | '    | °                                                | °                                                                                                                                              | '                   | °                                                 | '        | °             | h m                                              | h m   | h m     | h m m                                            | m    | h m m          | m  |
| 0   | 184                                    | 04.8 | -13 49.2                                         | 343                                                                                                                                            | 04.7                | +22 04.7                                          | 93       | 60 N          | 16 09                                            | 16 53 | 17 42   | 16 14 12                                         |      | 10 45 92       |    |
| 1   | 199                                    | 04.8 | 50.0                                             | 357                                                                                                                                            | 35.5 <sup>118</sup> | 14.0                                              | 93       | 58            | 16                                               | 16 58 | 44      | 35 20                                            |      | 24 85          |    |
| 2   | 214                                    | 04.9 | 50.9                                             | 12                                                                                                                                             | 06.2 <sup>117</sup> | 23.3                                              | 91       | 56            | 23                                               | 17 03 | 46      | 16 52 25                                         |      | 10 08 79       |    |
| 3   | 229                                    | 04.9 | 51.7                                             | 26                                                                                                                                             | 36.9 <sup>117</sup> | 32.4                                              | 90       | 54            | 29                                               | 07    | 48      | 17 07 28                                         |      | 9 53 76        |    |
| 4   | 244                                    | 04.9 | 52.5                                             | 41                                                                                                                                             | 07.6 <sup>117</sup> | 41.4                                              | 89       | 52            | 35                                               | 10    | 50      | 20 30                                            |      | 41 73          |    |
| 5   | 259                                    | 05.0 | -13 53.3                                         | 55                                                                                                                                             | 38.2 <sup>116</sup> | +22 50.3                                          | 89       | 50            | 16 40                                            | 17 14 | 17 52   | 17 31 33                                         |      | 9 30 71        |    |
| 6   | 274                                    | 05.0 | -13 54.1                                         | 70                                                                                                                                             | 08.7 <sup>115</sup> | +22 59.0                                          | 87       | 45            | 16 51                                            | 17 21 | 17 56   | 17 55 36                                         |      | 9 08 66        |    |
| 7   | 289                                    | 05.0 | 54.9                                             | 84                                                                                                                                             | 39.2 <sup>115</sup> | +23 07.7                                          | 87       | 40            | 17 00                                            | 28    | 18 00   | 18 14 39                                         |      | 8 49 64        |    |
| 8   | 304                                    | 05.1 | 55.8                                             | 99                                                                                                                                             | 09.7 <sup>115</sup> | 16.2                                              | 85       | 35            | 08                                               | 34    | 03      | 30 41                                            |      | 34 61          |    |
| 9   | 319                                    | 05.1 | 56.6                                             | 113                                                                                                                                            | 40.1 <sup>114</sup> | 24.7                                              | 85       | 30            | 14                                               | 39    | 07      | 18 44 43                                         |      | 8 21 59        |    |
| 10  | 334                                    | 05.1 | 57.4                                             | 128                                                                                                                                            | 10.5 <sup>114</sup> | 33.0                                              | 83       | 20            | 26                                               | 49    | 15      | 19 07 46                                         |      | 7 59 55        |    |
| 11  | 349                                    | 05.2 | -13 58.2                                         | 142                                                                                                                                            | 40.8 <sup>113</sup> | +23 41.2                                          | 82       | 10 N          | 17 37                                            | 17 59 | 18 24   | 19 28 48                                         |      | 7 40 52        |    |
| 12  | 4                                      | 05.2 | -13 59.0                                         | 157                                                                                                                                            | 11.1 <sup>113</sup> | +23 49.3                                          | 81       | 0             | 17 47                                            | 18 08 | 18 33   | 19 47 51                                         |      | 7 22 49        |    |
| 13  | 19                                     | 05.2 | -13 59.8                                         | 171                                                                                                                                            | 41.4 <sup>113</sup> | +23 57.3                                          | 80       | 10 S          | 17 57                                            | 19    | 44      | 20 07 52                                         |      | 7 04 47        |    |
| 14  | 34                                     | 05.2 | -14 00.6                                         | 186                                                                                                                                            | 11.6 <sup>112</sup> | +24 05.1                                          | 78       | 20            | 18 08                                            | 31    | 18 58   | 27 55                                            |      | 6 45 44        |    |
| 15  | 49                                     | 05.3 | 01.5                                             | 200                                                                                                                                            | 41.7 <sup>111</sup> | 12.9                                              | 78       | 30            | 21                                               | 46    | 19 16   | 20 52 57                                         |      | 23 41          |    |
| 16  | 64                                     | 05.3 | 02.3                                             | 215                                                                                                                                            | 11.8 <sup>111</sup> | 20.5                                              | 76       | 35            | 28                                               | 18 55 | 27      | 21 06 59                                         |      | 6 10 39        |    |
| 17  | 79                                     | 05.3 | -14 03.1                                         | 229                                                                                                                                            | 41.9 <sup>111</sup> | +24 28.0                                          | 75       | 40            | 18 37                                            | 19 06 | 19 41   | 21 23 61                                         |      | 5 55 36        |    |
| 18  | 94                                     | 05.4 | -14 03.9                                         | 244                                                                                                                                            | 11.9 <sup>110</sup> | +24 35.4                                          | 74       | 45            | 18 47                                            | 19 19 | 19 58   | 21 43 63                                         |      | 5 38 33        |    |
| 19  | 109                                    | 05.4 | 04.7                                             | 258                                                                                                                                            | 41.9 <sup>110</sup> | 42.6                                              | 72       | 50            | 18 59                                            | 35    | 20 21   | 22 08 67                                         |      | 16 29          |    |
| 20  | 124                                    | 05.4 | 05.5                                             | 273                                                                                                                                            | 11.8 <sup>109</sup> | 49.7                                              | 71       | 52            | 19 04                                            | 43    | 32      | 20 69                                            |      | 5 06 26        |    |
| 21  | 139                                    | 05.4 | 06.3                                             | 287                                                                                                                                            | 41.7 <sup>109</sup> | +24 56.8                                          | 71       | 54            | 11                                               | 19 51 | 20 45   | 34 72                                            |      | 4 55 23        |    |
| 22  | 154                                    | 05.5 | 07.1                                             | 302                                                                                                                                            | 11.6 <sup>109</sup> | +25 03.7                                          | 69       | 56            | 18                                               | 20 01 | 21 00   | 22 50 75                                         |      | 42 19          |    |
| 23  | 169                                    | 05.5 | 07.9                                             | 316                                                                                                                                            | 41.4 <sup>108</sup> | 10.4                                              | 67       | 58            | 25                                               | 13    | 19      | 23 10 80                                         |      | 27 14          |    |
| 24  | 184                                    | 05.5 | -14 08.7                                         | 331                                                                                                                                            | 11.2 <sup>108</sup> | +25 17.1                                          | 67       | 60 S          | 19 34                                            | 20 26 | 21 43   | 23 35 88                                         |      | 4 09 7         |    |
| UT  | ARIES                                  |      | VENUS                                            |                                                                                                                                                |                     | MARTE                                             |          |               | JÚPITER                                          |       |         | SATURNO                                          |      |                |    |
|     | PMG: 21 <sup>h</sup> 21 <sup>m</sup> 9 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 32 <sup>m</sup> |                                                                                                                                                |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 47 <sup>m</sup> |          |               | Mag: -1.7<br>PMG: 9 <sup>h</sup> 53 <sup>m</sup> |       |         | Mag: +0.1<br>PMG: 5 <sup>h</sup> 22 <sup>m</sup> |      |                |    |
|     | hG ♈                                   |      | hG ♀                                             | Dec                                                                                                                                            |                     | hG ♂                                              | Dec      |               | hG ♃                                             | Dec   |         | hG ♄                                             | Dec  |                |    |
| h   | °                                      | '    | °                                                | '                                                                                                                                              | °                   | '                                                 | °        | '             | °                                                | '     | °       | '                                                | '    | °              | '  |
| 0   | 38                                     | 38.8 | 216                                              | 57.5                                                                                                                                           | +0 56.3             | 198                                               | 07.3     | -7 53.3       | 211                                              | 27.1  | -1 53.6 | 279                                              | 21.0 | +20 35.6       |    |
| 1   | 53                                     | 41.3 | 231                                              | 57.2                                                                                                                                           | 55.2                | 213                                               | 08.2     | 53.9          | 226                                              | 29.1  | 53.8    | 294                                              | 23.5 | 35.6           |    |
| 2   | 68                                     | 43.8 | 246                                              | 56.9                                                                                                                                           | 54.0                | 228                                               | 09.1     | 54.5          | 241                                              | 31.1  | 53.9    | 309                                              | 25.9 | 35.6           |    |
| 3   | 83                                     | 46.2 | 261                                              | 56.5                                                                                                                                           | 52.9                | 243                                               | 10.0     | 55.1          | 256                                              | 33.1  | 54.1    | 324                                              | 28.3 | 35.6           |    |
| 4   | 98                                     | 48.7 | 276                                              | 56.2                                                                                                                                           | 51.8                | 258                                               | 11.0     | 55.8          | 271                                              | 35.1  | 54.3    | 339                                              | 30.7 | 35.6           |    |
| 5   | 113                                    | 51.1 | 291                                              | 55.9                                                                                                                                           | +0 50.6             | 273                                               | 11.9     | -7 56.4       | 286                                              | 37.1  | -1 54.5 | 354                                              | 33.1 | +20 35.6       |    |
| 6   | 128                                    | 53.6 | 306                                              | 55.5                                                                                                                                           | +0 49.5             | 288                                               | 12.8     | -7 57.0       | 301                                              | 39.1  | -1 54.7 | 9                                                | 35.5 | +20 35.6       |    |
| 7   | 143                                    | 56.1 | 321                                              | 55.2                                                                                                                                           | 48.3                | 303                                               | 13.8     | 57.7          | 316                                              | 41.1  | 54.9    | 24                                               | 38.0 | 35.6           |    |
| 8   | 158                                    | 58.5 | 336                                              | 54.9                                                                                                                                           | 47.2                | 318                                               | 14.7     | 58.3          | 331                                              | 43.1  | 55.1    | 39                                               | 40.4 | 35.6           |    |
| 9   | 174                                    | 01.0 | 351                                              | 54.5                                                                                                                                           | 46.1                | 333                                               | 15.6     | 58.9          | 346                                              | 45.1  | 55.3    | 54                                               | 42.8 | 35.6           |    |
| 10  | 189                                    | 03.5 | 6 54.2                                           | 44.9                                                                                                                                           | 348                 | 16.5                                              | -7 59.6  |               | 1                                                | 47.1  | 55.5    | 69                                               | 45.2 | 35.6           |    |
| 11  | 204                                    | 05.9 | 21 53.8                                          | +0 43.8                                                                                                                                        | 3 17.5              | -8 00.2                                           | 16 49.1  | -1 55.7       | 16                                               | 49.1  | -1 55.7 | 84                                               | 47.6 | +20 35.6       |    |
| 12  | 219                                    | 08.4 | 36 53.5                                          | +0 42.6                                                                                                                                        | 18 18.4             | -8 00.8                                           | 31 51.1  | -1 55.9       | 31                                               | 51.1  | -1 55.9 | 99                                               | 50.1 | +20 35.6       |    |
| 13  | 234                                    | 10.9 | 51 53.2                                          | 41.5                                                                                                                                           | 33 19.3             | 01.4                                              | 46 53.1  | 56.1          | 46                                               | 53.1  | 56.1    | 114                                              | 52.5 | 35.6           |    |
| 14  | 249                                    | 13.3 | 66 52.8                                          | 40.4                                                                                                                                           | 48 20.2             | 02.1                                              | 61 55.1  | 56.3          | 61                                               | 55.1  | 56.3    | 129                                              | 54.9 | 35.6           |    |
| 15  | 264                                    | 15.8 | 81 52.5                                          | 39.2                                                                                                                                           | 63 21.2             | 02.7                                              | 76 57.1  | 56.5          | 76                                               | 57.1  | 56.5    | 144                                              | 57.3 | 35.6           |    |
| 16  | 279                                    | 18.3 | 96 52.2                                          | 38.1                                                                                                                                           | 78 22.1             | 03.3                                              | 91 59.1  | 56.7          | 91                                               | 59.1  | 56.7    | 159                                              | 59.7 | 35.6           |    |
| 17  | 294                                    | 20.7 | 111 51.8                                         | +0 37.0                                                                                                                                        | 93 23.0             | -8 04.0                                           | 107 01.1 | -1 56.9       | 107                                              | 01.1  | -1 56.9 | 175                                              | 02.2 | +20 35.6       |    |
| 18  | 309                                    | 23.2 | 126 51.5                                         | +0 35.8                                                                                                                                        | 108 23.9            | -8 04.6                                           | 122 03.1 | -1 57.1       | 122                                              | 03.1  | -1 57.1 | 190                                              | 04.6 | +20 35.6       |    |
| 19  | 324                                    | 25.6 | 141 51.1                                         | 34.7                                                                                                                                           | 123 24.9            | 05.2                                              | 137 05.1 | 57.3          | 137                                              | 05.1  | 57.3    | 205                                              | 07.0 | 35.6           |    |
| 20  | 339                                    | 28.1 | 156 50.8                                         | 33.5                                                                                                                                           | 138 25.8            | 05.8                                              | 152 07.1 | 57.4          | 152                                              | 07.1  | 57.4    | 220                                              | 09.4 | 35.6           |    |
| 21  | 354                                    | 30.6 | 171 50.5                                         | 32.4                                                                                                                                           | 153 26.7            | 06.5                                              | 167 09.1 | 57.6          | 167                                              | 09.1  | 57.6    | 235                                              | 11.9 | 35.6           |    |
| 22  | 9                                      | 33.0 | 186 50.1                                         | 31.2                                                                                                                                           | 168 27.6            | 07.1                                              | 182 11.1 | 57.8          | 182                                              | 11.1  | 57.8    | 250                                              | 14.3 | 35.5           |    |
| 23  | 24                                     | 35.5 | 201 49.8                                         | 30.1                                                                                                                                           | 183 28.6            | 07.7                                              | 197 13.1 | 58.0          | 197                                              | 13.1  | 58.0    | 265                                              | 16.7 | 35.5           |    |
| 24  | 39                                     | 38.0 | 216 49.5                                         | +0 29.0                                                                                                                                        | 198 29.5            | -8 08.3                                           | 212 15.1 | -1 58.2       | 212                                              | 15.1  | -1 58.2 | 280                                              | 19.1 | +20 35.5       |    |
| Dif | —                                      |      | -3                                               | -11                                                                                                                                            | +9                  | -6                                                | +20      | -2            | +20                                              |       | -2      | +24                                              |      | 0              |    |

| UT | SOL                                    |      |     | LUNA                                                                                                    |     |                     |     |                    | Latitud | Principio del crepúsculo |    | Salida de Sol | Salida de Luna |      | Puesta de Luna |    |    |
|----|----------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------|-----|---------------------|-----|--------------------|---------|--------------------------|----|---------------|----------------|------|----------------|----|----|
|    | SD: 16'1                               |      |     | Edad: 16 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'6<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'4 |     |                     |     |                    |         |                          |    |               |                |      |                |    |    |
|    | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      |     | SD: 14'9 PMG: 1 <sup>h</sup> 59 <sup>m</sup> R°: 51 <sup>m</sup>                                        |     |                     |     |                    |         |                          |    |               |                |      |                |    |    |
|    | hG ☉                                   |      | Dec | hG ☾ Dif                                                                                                |     | Dec                 | Dif |                    | Náutico | Civil                    |    | Hora          | R°             | Hora | R°             |    |    |
| h  | °                                      | '    | °   | °                                                                                                       | '   | °                   | '   | °                  | h       | m                        | h  | m             | h              | m    | h              | m  |    |
| 0  | 184                                    | 05.5 | -14 | 08.7                                                                                                    | 331 | 11.2                | +25 | 17.1               | 60 N    | 5                        | 46 | 6             | 35             | 7    | 20             | 16 | 26 |
| 1  | 199                                    | 05.5 |     | 09.6                                                                                                    | 345 | 40.9 <sup>107</sup> |     | 23.6 <sup>65</sup> | 58      | 44                       | 30 | 12            | 16             | 55   | 34             | 11 | 49 |
| 2  | 214                                    | 05.6 |     | 10.4                                                                                                    | 0   | 10.6 <sup>107</sup> |     | 30.0 <sup>64</sup> | 56      | 42                       | 26 | 7             | 05             | 17   | 17             | 38 | 27 |
| 3  | 229                                    | 05.6 |     | 11.2                                                                                                    | 14  | 40.3 <sup>107</sup> |     | 36.2 <sup>62</sup> | 54      | 40                       | 22 | 6             | 59             | 35   | 40             | 11 | 09 |
| 4  | 244                                    | 05.6 |     | 12.0                                                                                                    | 29  | 09.9 <sup>106</sup> |     | 42.4 <sup>62</sup> | 52      | 38                       | 18 | 54            | 17             | 50   | 42             | 10 | 54 |
| 5  | 259                                    | 05.6 | -14 | 12.8                                                                                                    | 43  | 39.5 <sup>106</sup> | +25 | 48.4 <sup>60</sup> | 50      | 5                        | 36 | 6             | 15             | 6    | 48             | 18 | 04 |
| 6  | 274                                    | 05.7 | -14 | 13.6                                                                                                    | 58  | 09.1 <sup>106</sup> | +25 | 54.3 <sup>59</sup> | 45      | 5                        | 32 | 6             | 07             | 6    | 37             | 18 | 31 |
| 7  | 289                                    | 05.7 |     | 14.4                                                                                                    | 72  | 38.6 <sup>105</sup> | +26 | 00.1 <sup>58</sup> | 40      | 28                       | 6  | 00            | 28             | 18   | 53             | 47 | 9  |
| 8  | 304                                    | 05.7 |     | 15.2                                                                                                    | 87  | 08.1 <sup>105</sup> |     | 05.7 <sup>56</sup> | 35      | 24                       | 5  | 54            | 20             | 19   | 11             | 48 | 35 |
| 9  | 319                                    | 05.7 |     | 16.0                                                                                                    | 101 | 37.6 <sup>105</sup> |     | 11.2 <sup>55</sup> | 30      | 20                       | 49 | 13            | 27             | 48   | 9              | 20 | 56 |
| 10 | 334                                    | 05.8 |     | 16.8                                                                                                    | 116 | 07.0 <sup>104</sup> |     | 16.6 <sup>54</sup> | 20      | 12                       | 38 | 6             | 01             | 19   | 53             | 50 | 8  |
| 11 | 349                                    | 05.8 | -14 | 17.6                                                                                                    | 130 | 36.4 <sup>104</sup> | +26 | 21.8 <sup>52</sup> | 10 N    | 5                        | 04 | 5             | 29             | 5    | 50             | 20 | 16 |
| 12 | 4                                      | 05.8 | -14 | 18.4                                                                                                    | 145 | 05.7 <sup>103</sup> | +26 | 27.0 <sup>52</sup> | 0       | 4                        | 54 | 5             | 19             | 5    | 40             | 20 | 38 |
| 13 | 19                                     | 05.8 |     | 19.2                                                                                                    | 159 | 35.1 <sup>104</sup> |     | 31.9 <sup>49</sup> | 10 S    | 43                       | 5  | 08            | 30             | 20   | 59             | 53 | 7  |
| 14 | 34                                     | 05.8 |     | 20.0                                                                                                    | 174 | 04.4 <sup>103</sup> |     | 36.8 <sup>49</sup> | 20      | 29                       | 4  | 56            | 19             | 21   | 22             | 54 | 29 |
| 15 | 49                                     | 05.9 |     | 20.8                                                                                                    | 188 | 33.6 <sup>102</sup> |     | 41.5 <sup>47</sup> | 30      | 4                        | 11 | 41            | 5              | 06   | 21             | 49 | 54 |
| 16 | 64                                     | 05.9 |     | 21.6                                                                                                    | 203 | 02.9 <sup>103</sup> |     | 46.1 <sup>46</sup> | 35      | 3                        | 59 | 32            | 4              | 58   | 22             | 05 | 55 |
| 17 | 79                                     | 05.9 | -14 | 22.4                                                                                                    | 217 | 32.1 <sup>102</sup> | +26 | 50.6 <sup>45</sup> | 40      | 3                        | 46 | 4             | 21             | 4    | 50             | 22 | 24 |
| 18 | 94                                     | 05.9 | -14 | 23.2                                                                                                    | 232 | 01.3 <sup>102</sup> | +26 | 54.9 <sup>43</sup> | 45      | 3                        | 28 | 4             | 08             | 4    | 40             | 22 | 46 |
| 19 | 109                                    | 05.9 |     | 24.0                                                                                                    | 246 | 30.5 <sup>102</sup> | +26 | 59.1 <sup>42</sup> | 50      | 3                        | 06 | 3             | 52             | 28   | 23             | 15 | 58 |
| 20 | 124                                    | 06.0 |     | 24.8                                                                                                    | 260 | 59.6 <sup>101</sup> | +27 | 03.2 <sup>41</sup> | 52      | 2                        | 55 | 44            | 22             | 29   | 59             | 32 | 36 |
| 21 | 139                                    | 06.0 |     | 25.7                                                                                                    | 275 | 28.7 <sup>101</sup> |     | 07.1 <sup>39</sup> | 54      | 42                       | 35 | 16            | 23             | 46   | 59             | 18 | 33 |
| 22 | 154                                    | 06.0 |     | 26.5                                                                                                    | 289 | 57.8 <sup>101</sup> |     | 10.9 <sup>38</sup> | 56      | 26                       | 25 | 09            | **             | *    | *              | 5  | 01 |
| 23 | 169                                    | 06.0 |     | 27.3                                                                                                    | 304 | 26.9 <sup>101</sup> |     | 14.6 <sup>37</sup> | 58      | 2                        | 08 | 14            | 4              | 01   | **             | *  | 4  |
| 24 | 184                                    | 06.0 | -14 | 28.1                                                                                                    | 318 | 56.0 <sup>101</sup> | +27 | 18.1 <sup>35</sup> | 60 S    | 1                        | 44 | 3             | 00             | 3    | 52             | ** | *  |

| UT  | ARIES                                  |      | VENUS                                         |      | MARTE                                          |     | JÚPITER                                       |    | SATURNO                                       |      |    |     |  |  |
|-----|----------------------------------------|------|-----------------------------------------------|------|------------------------------------------------|-----|-----------------------------------------------|----|-----------------------------------------------|------|----|-----|--|--|
|     | PMG: 21 <sup>h</sup> 18 <sup>m</sup> 0 |      | Mag: -4.0 PMG: 9 <sup>h</sup> 33 <sup>m</sup> |      | Mag: +1.7 PMG: 10 <sup>h</sup> 45 <sup>m</sup> |     | Mag: -1.7 PMG: 9 <sup>h</sup> 50 <sup>m</sup> |    | Mag: +0.1 PMG: 5 <sup>h</sup> 18 <sup>m</sup> |      |    |     |  |  |
|     | hG ♈                                   |      | hG ♀ Dec                                      |      | hG ♂ Dec                                       |     | hG ♃ Dec                                      |    | hG ♄ Dec                                      |      |    |     |  |  |
| h   | °                                      | '    | °                                             | °    | '                                              | °   | °                                             | '  | °                                             | °    | '  |     |  |  |
| 0   | 39                                     | 38.0 | 216                                           | 49.5 | +0                                             | 198 | 29.5                                          | -8 | 212                                           | 15.1 | -1 |     |  |  |
| 1   | 54                                     | 40.4 | 231                                           | 49.1 |                                                | 213 | 30.4                                          |    | 227                                           | 17.1 |    |     |  |  |
| 2   | 69                                     | 42.9 | 246                                           | 48.8 |                                                | 228 | 31.3                                          |    | 242                                           | 19.1 |    |     |  |  |
| 3   | 84                                     | 45.4 | 261                                           | 48.4 |                                                | 243 | 32.3                                          |    | 257                                           | 21.1 |    |     |  |  |
| 4   | 99                                     | 47.8 | 276                                           | 48.1 |                                                | 258 | 33.2                                          |    | 272                                           | 23.1 |    |     |  |  |
| 5   | 114                                    | 50.3 | 291                                           | 47.8 | +0                                             | 273 | 34.1                                          | -8 | 287                                           | 25.1 | -1 |     |  |  |
| 6   | 129                                    | 52.7 | 306                                           | 47.4 | +0                                             | 288 | 35.0                                          | -8 | 302                                           | 27.1 | -1 |     |  |  |
| 7   | 144                                    | 55.2 | 321                                           | 47.1 |                                                | 303 | 36.0                                          |    | 317                                           | 29.1 |    |     |  |  |
| 8   | 159                                    | 57.7 | 336                                           | 46.7 |                                                | 318 | 36.9                                          |    | 332                                           | 31.1 | -1 |     |  |  |
| 9   | 175                                    | 00.1 | 351                                           | 46.4 |                                                | 333 | 37.8                                          |    | 347                                           | 33.1 | -2 |     |  |  |
| 10  | 190                                    | 02.6 | 6                                             | 46.1 |                                                | 348 | 38.7                                          |    | 2                                             | 35.1 | -2 |     |  |  |
| 11  | 205                                    | 05.1 | 21                                            | 45.7 | +0                                             | 3   | 39.7                                          | -8 | 17                                            | 37.1 | -2 |     |  |  |
| 12  | 220                                    | 07.5 | 36                                            | 45.4 | +0                                             | 18  | 40.6                                          | -8 | 32                                            | 39.1 | -2 |     |  |  |
| 13  | 235                                    | 10.0 | 51                                            | 45.0 |                                                | 33  | 41.5                                          |    | 47                                            | 41.1 |    |     |  |  |
| 14  | 250                                    | 12.5 | 66                                            | 44.7 |                                                | 48  | 42.4                                          |    | 62                                            | 43.1 |    |     |  |  |
| 15  | 265                                    | 14.9 | 81                                            | 44.4 |                                                | 63  | 43.3                                          |    | 77                                            | 45.2 |    |     |  |  |
| 16  | 280                                    | 17.4 | 96                                            | 44.0 |                                                | 78  | 44.3                                          |    | 92                                            | 47.2 |    |     |  |  |
| 17  | 295                                    | 19.9 | 111                                           | 43.7 | +0                                             | 93  | 45.2                                          | -8 | 107                                           | 49.2 | -2 |     |  |  |
| 18  | 310                                    | 22.3 | 126                                           | 43.4 | +0                                             | 108 | 46.1                                          | -8 | 122                                           | 51.2 | -2 |     |  |  |
| 19  | 325                                    | 24.8 | 141                                           | 43.0 |                                                | 123 | 47.0                                          |    | 137                                           | 53.2 |    |     |  |  |
| 20  | 340                                    | 27.2 | 156                                           | 42.7 |                                                | 138 | 48.0                                          |    | 152                                           | 55.2 |    |     |  |  |
| 21  | 355                                    | 29.7 | 171                                           | 42.3 |                                                | 153 | 48.9                                          |    | 167                                           | 57.2 |    |     |  |  |
| 22  | 10                                     | 32.2 | 186                                           | 42.0 |                                                | 168 | 49.8                                          |    | 182                                           | 59.2 |    |     |  |  |
| 23  | 25                                     | 34.6 | 201                                           | 41.7 |                                                | 183 | 50.7                                          |    | 198                                           | 01.2 |    |     |  |  |
| 24  | 40                                     | 37.1 | 216                                           | 41.3 | +0                                             | 198 | 51.6                                          | -8 | 213                                           | 03.2 | -2 |     |  |  |
| Dif | —                                      |      | -3                                            |      | -11                                            | +9  |                                               | -6 | +20                                           |      | -2 | +24 |  |  |

| UT  | SOL                                    |      |                                               |      | LUNA                                                                                                    |                     |                                               |                    | Latitud                                       | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |    | Puesta de Luna |    |
|-----|----------------------------------------|------|-----------------------------------------------|------|---------------------------------------------------------------------------------------------------------|---------------------|-----------------------------------------------|--------------------|-----------------------------------------------|---------------|----------------------|---------|----------------|----|----------------|----|
|     | SD: 16'1                               |      |                                               |      | Edad: 17 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'3<br>20 <sup>h</sup> : 54'2 |                     |                                               |                    |                                               |               |                      |         |                |    |                |    |
|     | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      |                                               |      | SD: 14'8 PMG: 2 <sup>h</sup> 50 <sup>m</sup> R°: 52 <sup>m</sup>                                        |                     |                                               |                    |                                               |               |                      |         |                |    |                |    |
|     | hG ☉                                   |      | Dec                                           |      | hG ☾                                                                                                    |                     | Dif                                           |                    |                                               |               | Civil                | Náutico | Hora           | R° | Hora           | R° |
| h   | °                                      | '    | °                                             | '    | °                                                                                                       | '                   | °                                             | '                  | °                                             | h m           | h m                  | h m     | h m m          |    | h m m          |    |
| 0   | 184                                    | 06.0 | -14                                           | 28.1 | 318                                                                                                     | 56.0                | +27                                           | 18.1               | 60 N                                          | 16 03         | 16 49                | 17 38   | 16 54 56       |    | 13 36 51       |    |
| 1   | 199                                    | 06.0 |                                               | 28.8 | 333                                                                                                     | 25.0 <sup>100</sup> |                                               | 21.5 <sup>34</sup> | 58                                            | 12            | 54                   | 40      | 17 29 55       |    | 13 01 51       |    |
| 2   | 214                                    | 06.1 |                                               | 29.6 | 347                                                                                                     | 54.0 <sup>100</sup> |                                               | 24.8 <sup>33</sup> | 56                                            | 19            | 16 58                | 43      | 17 55 55       |    | 12 35 52       |    |
| 3   | 229                                    | 06.1 |                                               | 30.4 | 2                                                                                                       | 23.1 <sup>101</sup> |                                               | 27.9 <sup>31</sup> | 54                                            | 25            | 17 03                | 45      | 18 15 55       |    | 12 15 52       |    |
| 4   | 244                                    | 06.1 |                                               | 31.2 | 16                                                                                                      | 52.0 <sup>99</sup>  |                                               | 30.9 <sup>30</sup> | 52                                            | 31            | 07                   | 47      | 32 54          |    | 11 58 52       |    |
| 5   | 259                                    | 06.1 | -14                                           | 32.0 | 31                                                                                                      | 21.0 <sup>100</sup> | +27                                           | 33.8 <sup>29</sup> | 50                                            | 16 36         | 17 10                | 17 49   | 18 47 54       |    | 11 44 52       |    |
| 6   | 274                                    | 06.1 | -14                                           | 32.8 | 45                                                                                                      | 50.0 <sup>100</sup> | +27                                           | 36.5 <sup>27</sup> | 45                                            | 16 48         | 17 18                | 17 53   | 19 16 54       |    | 11 14 52       |    |
| 7   | 289                                    | 06.1 |                                               | 33.6 | 60                                                                                                      | 18.9 <sup>99</sup>  |                                               | 39.1 <sup>26</sup> | 40                                            | 16 57         | 25                   | 17 57   | 40 53          |    | 10 51 52       |    |
| 8   | 304                                    | 06.2 |                                               | 34.4 | 74                                                                                                      | 47.9 <sup>100</sup> |                                               | 41.6 <sup>25</sup> | 35                                            | 17 06         | 32                   | 18 02   | 19 59 53       |    | 32 52          |    |
| 9   | 319                                    | 06.2 |                                               | 35.2 | 89                                                                                                      | 16.8 <sup>99</sup>  |                                               | 43.9 <sup>23</sup> | 30                                            | 13            | 37                   | 06      | 20 15 53       |    | 10 16 52       |    |
| 10  | 334                                    | 06.2 |                                               | 36.0 | 103                                                                                                     | 45.7 <sup>99</sup>  |                                               | 46.1 <sup>22</sup> | 20                                            | 25            | 48                   | 14      | 20 43 52       |    | 9 48 52        |    |
| 11  | 349                                    | 06.2 | -14                                           | 36.8 | 118                                                                                                     | 14.6 <sup>99</sup>  | +27                                           | 48.1 <sup>20</sup> | 10 N                                          | 17 36         | 17 58                | 18 23   | 21 07 52       |    | 9 25 51        |    |
| 12  | 4                                      | 06.2 | -14                                           | 37.6 | 132                                                                                                     | 43.5 <sup>99</sup>  | +27                                           | 50.0 <sup>19</sup> | 0                                             | 17 47         | 18 08                | 18 33   | 21 29 51       |    | 9 03 51        |    |
| 13  | 19                                     | 06.2 |                                               | 38.4 | 147                                                                                                     | 12.4 <sup>99</sup>  |                                               | 51.8 <sup>18</sup> | 10 S                                          | 17 58         | 19                   | 45      | 21 52 50       |    | 8 41 51        |    |
| 14  | 34                                     | 06.2 |                                               | 39.2 | 161                                                                                                     | 41.3 <sup>99</sup>  |                                               | 53.4 <sup>16</sup> | 20                                            | 18 09         | 32                   | 18 59   | 22 16 50       |    | 8 17 51        |    |
| 15  | 49                                     | 06.2 |                                               | 40.0 | 176                                                                                                     | 10.2 <sup>99</sup>  |                                               | 54.9 <sup>15</sup> | 30                                            | 22            | 48                   | 19 18   | 22 43 50       |    | 7 49 51        |    |
| 16  | 64                                     | 06.3 |                                               | 40.8 | 190                                                                                                     | 39.1 <sup>99</sup>  |                                               | 56.3 <sup>14</sup> | 35                                            | 30            | 18 57                | 30      | 23 00 49       |    | 33 50          |    |
| 17  | 79                                     | 06.3 | -14                                           | 41.6 | 205                                                                                                     | 07.9 <sup>98</sup>  | +27                                           | 57.5 <sup>12</sup> | 40                                            | 18 39         | 19 08                | 19 44   | 23 19 49       |    | 7 14 50        |    |
| 18  | 94                                     | 06.3 | -14                                           | 42.4 | 219                                                                                                     | 36.8 <sup>99</sup>  | +27                                           | 58.6 <sup>11</sup> | 45                                            | 18 50         | 19 22                | 20 02   | 23 43 47       |    | 6 51 50        |    |
| 19  | 109                                    | 06.3 |                                               | 43.2 | 234                                                                                                     | 05.7 <sup>99</sup>  | +27                                           | 59.6 <sup>10</sup> | 50                                            | 19 02         | 39                   | 25      | ** ** *        |    | 22 49          |    |
| 20  | 124                                    | 06.3 |                                               | 44.0 | 248                                                                                                     | 34.6 <sup>99</sup>  | +28                                           | 00.4 <sup>8</sup>  | 52                                            | 08            | 47                   | 37      | ** ** *        |    | 6 08 48        |    |
| 21  | 139                                    | 06.3 |                                               | 44.7 | 263                                                                                                     | 03.4 <sup>98</sup>  |                                               | 01.1 <sup>7</sup>  | 54                                            | 15            | 19 56                | 20 50   | ** ** *        |    | 5 51 47        |    |
| 22  | 154                                    | 06.3 |                                               | 45.5 | 277                                                                                                     | 32.3 <sup>99</sup>  |                                               | 01.7 <sup>6</sup>  | 56                                            | 22            | 20 06                | 21 07   | 0 05 61        |    | 31 47          |    |
| 23  | 169                                    | 06.3 |                                               | 46.3 | 292                                                                                                     | 01.2 <sup>99</sup>  |                                               | 02.1 <sup>4</sup>  | 58                                            | 30            | 18                   | 27      | 0 30 63        |    | 5 07 44        |    |
| 24  | 184                                    | 06.3 | -14                                           | 47.1 | 306                                                                                                     | 30.1 <sup>99</sup>  | +28                                           | 02.3 <sup>2</sup>  | 60 S                                          | 19 40         | 20 32                | 21 53   | 1 03 67        |    | 4 33 41        |    |
| UT  | ARIES                                  |      | VENUS                                         |      | MARTE                                                                                                   |                     | JÚPITER                                       |                    | SATURNO                                       |               |                      |         |                |    |                |    |
|     | PMG: 21 <sup>h</sup> 14 <sup>m</sup> 0 |      | Mag: -4.0 PMG: 9 <sup>h</sup> 33 <sup>m</sup> |      | Mag: +1.7 PMG: 10 <sup>h</sup> 44 <sup>m</sup>                                                          |                     | Mag: -1.7 PMG: 9 <sup>h</sup> 46 <sup>m</sup> |                    | Mag: +0.1 PMG: 5 <sup>h</sup> 14 <sup>m</sup> |               |                      |         |                |    |                |    |
|     | hG ♈                                   |      | hG ♀                                          |      | hG ♂                                                                                                    |                     | hG ♃                                          |                    | hG ♄                                          |               |                      |         |                |    |                |    |
| h   | °                                      | '    | °                                             | '    | °                                                                                                       | '                   | °                                             | '                  | °                                             | '             |                      |         |                |    |                |    |
| 0   | 40                                     | 37.1 | 216                                           | 41.3 | +0                                                                                                      | 01.5                | 198                                           | 51.6               | -8                                            | 23.4          |                      |         |                |    |                |    |
| 1   | 55                                     | 39.6 | 231                                           | 41.0 | +0                                                                                                      | 00.4                | 213                                           | 52.6               |                                               | 24.0          |                      |         |                |    |                |    |
| 2   | 70                                     | 42.0 | 246                                           | 40.6 | -0                                                                                                      | 00.8                | 228                                           | 53.5               |                                               | 24.6          |                      |         |                |    |                |    |
| 3   | 85                                     | 44.5 | 261                                           | 40.3 |                                                                                                         | 01.9                | 243                                           | 54.4               |                                               | 25.3          |                      |         |                |    |                |    |
| 4   | 100                                    | 47.0 | 276                                           | 39.9 |                                                                                                         | 03.0                | 258                                           | 55.3               |                                               | 25.9          |                      |         |                |    |                |    |
| 5   | 115                                    | 49.4 | 291                                           | 39.6 | -0                                                                                                      | 04.2                | 273                                           | 56.3               | -8                                            | 26.5          |                      |         |                |    |                |    |
| 6   | 130                                    | 51.9 | 306                                           | 39.3 | -0                                                                                                      | 05.3                | 288                                           | 57.2               | -8                                            | 27.1          |                      |         |                |    |                |    |
| 7   | 145                                    | 54.4 | 321                                           | 38.9 |                                                                                                         | 06.5                | 303                                           | 58.1               |                                               | 27.8          |                      |         |                |    |                |    |
| 8   | 160                                    | 56.8 | 336                                           | 38.6 |                                                                                                         | 07.6                | 318                                           | 59.0               |                                               | 28.4          |                      |         |                |    |                |    |
| 9   | 175                                    | 59.3 | 351                                           | 38.2 |                                                                                                         | 08.8                | 333                                           | 59.9               |                                               | 29.0          |                      |         |                |    |                |    |
| 10  | 191                                    | 01.7 | 6                                             | 37.9 |                                                                                                         | 09.9                | 349                                           | 00.9               |                                               | 29.6          |                      |         |                |    |                |    |
| 11  | 206                                    | 04.2 | 21                                            | 37.6 | -0                                                                                                      | 11.1                | 4                                             | 01.8               | -8                                            | 30.3          |                      |         |                |    |                |    |
| 12  | 221                                    | 06.7 | 36                                            | 37.2 | -0                                                                                                      | 12.2                | 19                                            | 02.7               | -8                                            | 30.9          |                      |         |                |    |                |    |
| 13  | 236                                    | 09.1 | 51                                            | 36.9 |                                                                                                         | 13.4                | 34                                            | 03.6               |                                               | 31.5          |                      |         |                |    |                |    |
| 14  | 251                                    | 11.6 | 66                                            | 36.5 |                                                                                                         | 14.5                | 49                                            | 04.5               |                                               | 32.1          |                      |         |                |    |                |    |
| 15  | 266                                    | 14.1 | 81                                            | 36.2 |                                                                                                         | 15.7                | 64                                            | 05.5               |                                               | 32.8          |                      |         |                |    |                |    |
| 16  | 281                                    | 16.5 | 96                                            | 35.9 |                                                                                                         | 16.8                | 79                                            | 06.4               |                                               | 33.4          |                      |         |                |    |                |    |
| 17  | 296                                    | 19.0 | 111                                           | 35.5 | -0                                                                                                      | 17.9                | 94                                            | 07.3               | -8                                            | 34.0          |                      |         |                |    |                |    |
| 18  | 311                                    | 21.5 | 126                                           | 35.2 | -0                                                                                                      | 19.1                | 109                                           | 08.2               | -8                                            | 34.6          |                      |         |                |    |                |    |
| 19  | 326                                    | 23.9 | 141                                           | 34.8 |                                                                                                         | 20.2                | 124                                           | 09.1               |                                               | 35.2          |                      |         |                |    |                |    |
| 20  | 341                                    | 26.4 | 156                                           | 34.5 |                                                                                                         | 21.4                | 139                                           | 10.0               |                                               | 35.9          |                      |         |                |    |                |    |
| 21  | 356                                    | 28.9 | 171                                           | 34.1 |                                                                                                         | 22.5                | 154                                           | 11.0               |                                               | 36.5          |                      |         |                |    |                |    |
| 22  | 11                                     | 31.3 | 186                                           | 33.8 |                                                                                                         | 23.7                | 169                                           | 11.9               |                                               | 37.1          |                      |         |                |    |                |    |
| 23  | 26                                     | 33.8 | 201                                           | 33.5 |                                                                                                         | 24.8                | 184                                           | 12.8               |                                               | 37.7          |                      |         |                |    |                |    |
| 24  | 41                                     | 36.2 | 216                                           | 33.1 | -0                                                                                                      | 26.0                | 199                                           | 13.7               | -8                                            | 38.4          |                      |         |                |    |                |    |
| Dif | —                                      |      | -3                                            |      | -11                                                                                                     |                     | +9                                            |                    | -6                                            |               |                      |         |                |    |                |    |
|     |                                        |      |                                               |      |                                                                                                         |                     | +20                                           |                    | -2                                            |               |                      |         |                |    |                |    |
|     |                                        |      |                                               |      |                                                                                                         |                     |                                               |                    | +24                                           |               |                      |         |                |    |                |    |
|     |                                        |      |                                               |      |                                                                                                         |                     |                                               |                    | 0                                             |               |                      |         |                |    |                |    |

| UT | SOL                                    |      |     | LUNA                                                                                                    |     |      |     |      | Latitud | Principio del crepúsculo |    | Salida de Sol | Salida de Luna |      | Puesta de Luna |    |
|----|----------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|----|---------------|----------------|------|----------------|----|
|    | SD: 16'1                               |      |     | Edad: 18 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'1<br>20 <sup>h</sup> : 54'1 |     |      |     |      |         |                          |    |               |                |      |                |    |
|    | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      |     | SD: 14'8 PMG: 3 <sup>h</sup> 42 <sup>m</sup> R°: 51 <sup>m</sup>                                        |     |      |     |      |         |                          |    |               |                |      |                |    |
|    | hG ☉                                   |      | Dec | hG ☾ Dif                                                                                                |     | Dec  | Dif |      | Náutico | Civil                    |    | Hora          | R°             | Hora | R°             |    |
| h  | °                                      | '    | °   | °                                                                                                       | '   | °    | '   | °    | h       | m                        | h  | m             | h              | m    | h              | m  |
| 0  | 184                                    | 06.3 | -14 | 47.1                                                                                                    | 306 | 30.1 | +28 | 02.3 | 60      | N                        | 5  | 50            | 6              | 40   | 7              | 25 |
| 1  | 199                                    | 06.3 |     | 47.9                                                                                                    | 320 | 59.0 |     | 02.5 | 58      |                          |    | 48            | 35             | 17   | 17             | 50 |
| 2  | 214                                    | 06.4 |     | 48.7                                                                                                    | 335 | 27.9 |     | 02.5 | 56      |                          |    | 46            | 30             | 10   | 18             | 24 |
| 3  | 229                                    | 06.4 |     | 49.5                                                                                                    | 349 | 56.8 |     | 02.4 | 54      |                          |    | 43            | 25             | 7    | 03             | 10 |
| 4  | 244                                    | 06.4 |     | 50.3                                                                                                    | 4   | 25.8 | 100 | 02.1 | 52      |                          |    | 41            | 21             | 6    | 57             | 19 |
| 5  | 259                                    | 06.4 | -14 | 51.1                                                                                                    | 18  | 54.7 | 99  | +28  | 50      |                          |    | 39            | 6              | 18   | 6              | 52 |
| 6  | 274                                    | 06.4 | -14 | 51.9                                                                                                    | 33  | 23.7 | 100 | +28  | 45      |                          |    | 35            | 6              | 09   | 6              | 40 |
| 7  | 289                                    | 06.4 |     | 52.6                                                                                                    | 47  | 52.6 | 99  | +28  | 40      |                          |    | 30            | 6              | 02   | 30             | 33 |
| 8  | 304                                    | 06.4 |     | 53.4                                                                                                    | 62  | 21.6 | 100 | +27  | 35      |                          |    | 26            | 5              | 56   | 22             | 57 |
| 9  | 319                                    | 06.4 |     | 54.2                                                                                                    | 76  | 50.6 | 100 |      | 30      |                          |    | 22            | 50             | 15   | 21             | 08 |
| 10 | 334                                    | 06.4 |     | 55.0                                                                                                    | 91  | 19.6 | 100 |      | 20      |                          |    | 13            | 39             | 6    | 02             | 35 |
| 11 | 349                                    | 06.4 | -14 | 55.8                                                                                                    | 105 | 48.6 | 100 | +27  | 10      | N                        | 5  | 04            | 5              | 29   | 5              | 51 |
| 12 | 4                                      | 06.4 | -14 | 56.6                                                                                                    | 120 | 17.7 | 101 | +27  | 0       |                          | 4  | 54            | 5              | 19   | 5              | 40 |
| 13 | 19                                     | 06.4 |     | 57.4                                                                                                    | 134 | 46.7 | 100 |      | 10      | S                        | 42 | 5             | 08             | 29   | 22             | 42 |
| 14 | 34                                     | 06.4 |     | 58.1                                                                                                    | 149 | 15.8 | 101 |      | 20      |                          | 28 | 4             | 55             | 18   | 23             | 06 |
| 15 | 49                                     | 06.4 |     | 58.9                                                                                                    | 163 | 44.9 | 101 |      | 30      |                          | 4  | 09            | 39             | 5    | 04             | 33 |
| 16 | 64                                     | 06.4 | -14 | 59.7                                                                                                    | 178 | 14.0 | 101 |      | 35      |                          | 3  | 57            | 30             | 4    | 56             | 23 |
| 17 | 79                                     | 06.4 | -15 | 00.5                                                                                                    | 192 | 43.2 | 102 | +27  | 40      |                          | 3  | 43            | 4              | 48   | 4              | 48 |
| 18 | 94                                     | 06.4 | -15 | 01.3                                                                                                    | 207 | 12.4 | 102 | +27  | 45      |                          | 3  | 25            | 4              | 05   | 4              | 37 |
| 19 | 109                                    | 06.4 |     | 02.0                                                                                                    | 221 | 41.6 | 102 |      | 50      |                          | 3  | 01            | 3              | 48   | 24             | 0  |
| 20 | 124                                    | 06.4 |     | 02.8                                                                                                    | 236 | 10.8 | 102 |      | 52      |                          | 2  | 50            | 40             | 18   | 28             | 45 |
| 21 | 139                                    | 06.4 |     | 03.6                                                                                                    | 250 | 40.0 | 102 |      | 54      |                          |    | 36            | 31             | 12   | 0              | 45 |
| 22 | 154                                    | 06.4 |     | 04.4                                                                                                    | 265 | 09.3 | 103 |      | 56      |                          |    | 20            | 20             | 4    | 04             | 1  |
| 23 | 169                                    | 06.4 |     | 05.2                                                                                                    | 279 | 38.6 | 103 |      | 58      |                          | 2  | 00            | 3              | 08   | 3              | 56 |
| 24 | 184                                    | 06.4 | -15 | 06.0                                                                                                    | 294 | 08.0 | 104 | +27  | 60      | S                        | 1  | 33            | 2              | 54   | 3              | 47 |

| UT  | ARIES                                  |      | VENUS                                         |      | MARTE                                          |      | JÚPITER                                       |      | SATURNO                                       |      |
|-----|----------------------------------------|------|-----------------------------------------------|------|------------------------------------------------|------|-----------------------------------------------|------|-----------------------------------------------|------|
|     | PMG: 21 <sup>h</sup> 10 <sup>m</sup> 1 |      | Mag: -4.0 PMG: 9 <sup>h</sup> 34 <sup>m</sup> |      | Mag: +1.7 PMG: 10 <sup>h</sup> 42 <sup>m</sup> |      | Mag: -1.7 PMG: 9 <sup>h</sup> 43 <sup>m</sup> |      | Mag: +0.1 PMG: 5 <sup>h</sup> 10 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀ Dec                                      |      | hG ♂ Dec                                       |      | hG ♃ Dec                                      |      | hG ♄ Dec                                      |      |
| h   | °                                      | '    | °                                             | '    | °                                              | '    | °                                             | '    | °                                             | '    |
| 0   | 41                                     | 36.2 | 216                                           | 33.1 | -0                                             | 26.0 | 199                                           | 13.7 | -8                                            | 38.4 |
| 1   | 56                                     | 38.7 | 231                                           | 32.8 |                                                | 27.1 | 214                                           | 14.6 |                                               | 39.0 |
| 2   | 71                                     | 41.2 | 246                                           | 32.4 |                                                | 28.3 | 229                                           | 15.6 |                                               | 39.6 |
| 3   | 86                                     | 43.6 | 261                                           | 32.1 |                                                | 29.4 | 244                                           | 16.5 |                                               | 40.2 |
| 4   | 101                                    | 46.1 | 276                                           | 31.7 |                                                | 30.6 | 259                                           | 17.4 |                                               | 40.9 |
| 5   | 116                                    | 48.6 | 291                                           | 31.4 | -0                                             | 31.7 | 274                                           | 18.3 | -8                                            | 41.5 |
| 6   | 131                                    | 51.0 | 306                                           | 31.1 | -0                                             | 32.9 | 289                                           | 19.2 | -8                                            | 42.1 |
| 7   | 146                                    | 53.5 | 321                                           | 30.7 |                                                | 34.0 | 304                                           | 20.1 |                                               | 42.7 |
| 8   | 161                                    | 56.0 | 336                                           | 30.4 |                                                | 35.2 | 319                                           | 21.1 |                                               | 43.4 |
| 9   | 176                                    | 58.4 | 351                                           | 30.0 |                                                | 36.3 | 334                                           | 22.0 |                                               | 44.0 |
| 10  | 192                                    | 00.9 | 6                                             | 29.7 |                                                | 37.5 | 349                                           | 22.9 |                                               | 44.6 |
| 11  | 207                                    | 03.4 | 21                                            | 29.3 | -0                                             | 38.6 | 4                                             | 23.8 | -8                                            | 45.2 |
| 12  | 222                                    | 05.8 | 36                                            | 29.0 | -0                                             | 39.8 | 19                                            | 24.7 | -8                                            | 45.8 |
| 13  | 237                                    | 08.3 | 51                                            | 28.6 |                                                | 40.9 | 34                                            | 25.7 |                                               | 46.5 |
| 14  | 252                                    | 10.7 | 66                                            | 28.3 |                                                | 42.1 | 49                                            | 26.6 |                                               | 47.1 |
| 15  | 267                                    | 13.2 | 81                                            | 28.0 |                                                | 43.2 | 64                                            | 27.5 |                                               | 47.7 |
| 16  | 282                                    | 15.7 | 96                                            | 27.6 |                                                | 44.4 | 79                                            | 28.4 |                                               | 48.3 |
| 17  | 297                                    | 18.1 | 111                                           | 27.3 | -0                                             | 45.5 | 94                                            | 29.3 | -8                                            | 49.0 |
| 18  | 312                                    | 20.6 | 126                                           | 26.9 | -0                                             | 46.7 | 109                                           | 30.2 | -8                                            | 49.6 |
| 19  | 327                                    | 23.1 | 141                                           | 26.6 |                                                | 47.8 | 124                                           | 31.1 |                                               | 50.2 |
| 20  | 342                                    | 25.5 | 156                                           | 26.2 |                                                | 49.0 | 139                                           | 32.1 |                                               | 50.8 |
| 21  | 357                                    | 28.0 | 171                                           | 25.9 |                                                | 50.1 | 154                                           | 33.0 |                                               | 51.4 |
| 22  | 12                                     | 30.5 | 186                                           | 25.5 |                                                | 51.3 | 169                                           | 33.9 |                                               | 52.1 |
| 23  | 27                                     | 32.9 | 201                                           | 25.2 |                                                | 52.4 | 184                                           | 34.8 |                                               | 52.7 |
| 24  | 42                                     | 35.4 | 216                                           | 24.8 | -0                                             | 53.6 | 199                                           | 35.7 | -8                                            | 53.3 |
| Dif | —                                      |      | -3                                            |      | -11                                            |      | +9                                            |      | -6                                            |      |
|     |                                        |      |                                               |      |                                                |      | +20                                           |      | -2                                            |      |
|     |                                        |      |                                               |      |                                                |      |                                               |      | +24                                           |      |

| UT | SOL                                    |      |          | ☾ LUNA                                                                                                  |                     |          | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |    | Puesta de Luna |    |
|----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------|---------------------|----------|---------|---------------|----------------------|-------|---------|----------------|----|----------------|----|
|    | SD: 16'1                               |      |          | Edad: 19 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'2 |                     |          |         |               |                      |       |         |                |    |                |    |
|    | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      |          | PMG: 4 <sup>h</sup> 33 <sup>m</sup> R°: 49 <sup>m</sup>                                                 |                     |          |         |               |                      |       |         |                |    |                |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                    | Dif                 | Dec      | Dif     |               |                      | Civil | Náutico | Hora           | R° | Hora           | R° |
| h  | °                                      | '    | °        | °                                                                                                       | '                   | °        | '       | °             | h m                  | h m   | h m     | h m m          |    | h m m          |    |
| 0  | 184                                    | 06.4 | -15 06.0 | 294                                                                                                     | 08.0                | +27 28.6 | 31      | 60 N          | 15 58                | 16 44 | 17 34   | 19 11 91       |    | 14 51 10       |    |
| 1  | 199                                    | 06.4 | 06.7     | 308                                                                                                     | 37.3 <sup>103</sup> | 25.5     | 31      | 58            | 16 07                | 49    | 36      | 38 83          |    | 24 17          |    |
| 2  | 214                                    | 06.4 | 07.5     | 323                                                                                                     | 06.7 <sup>104</sup> | 22.3     | 32      | 56            | 15                   | 55    | 39      | 19 59 78       |    | 14 02 22       |    |
| 3  | 229                                    | 06.4 | 08.3     | 337                                                                                                     | 36.2 <sup>105</sup> | 19.0     | 33      | 54            | 21                   | 16 59 | 41      | 20 16 75       |    | 13 45 25       |    |
| 4  | 244                                    | 06.4 | 09.1     | 352                                                                                                     | 05.6 <sup>104</sup> | 15.5     | 35      | 52            | 27                   | 17 03 | 43      | 31 72          |    | 29 29          |    |
| 5  | 259                                    | 06.4 | -15 09.8 | 6                                                                                                       | 35.1 <sup>105</sup> | +27 11.9 | 36      | 50            | 16 33                | 17 07 | 17 46   | 20 44 70       |    | 13 16 31       |    |
| 6  | 274                                    | 06.4 | -15 10.6 | 21                                                                                                      | 04.7 <sup>106</sup> | +27 08.2 | 37      | 45            | 16 45                | 17 16 | 17 51   | 21 10 66       |    | 12 49 35       |    |
| 7  | 289                                    | 06.4 | 11.4     | 35                                                                                                      | 34.2 <sup>105</sup> | 04.4     | 38      | 40            | 16 55                | 23    | 17 55   | 31 62          |    | 28 37          |    |
| 8  | 304                                    | 06.4 | 12.2     | 50                                                                                                      | 03.8 <sup>106</sup> | +27 00.4 | 40      | 35            | 17 04                | 30    | 18 00   | 21 49 59       |    | 12 10 40       |    |
| 9  | 319                                    | 06.4 | 13.0     | 64                                                                                                      | 33.5 <sup>107</sup> | +26 56.3 | 41      | 30            | 11                   | 36    | 04      | 22 03 58       |    | 11 55 41       |    |
| 10 | 334                                    | 06.4 | 13.7     | 79                                                                                                      | 03.2 <sup>107</sup> | 52.1     | 42      | 20            | 24                   | 47    | 13      | 29 53          |    | 29 44          |    |
| 11 | 349                                    | 06.4 | -15 14.5 | 93                                                                                                      | 32.9 <sup>107</sup> | +26 47.7 | 44      | 10 N          | 17 36                | 17 58 | 18 23   | 22 50 51       |    | 11 06 47       |    |
| 12 | 4                                      | 06.4 | -15 15.3 | 108                                                                                                     | 02.6 <sup>107</sup> | +26 43.2 | 45      | 0             | 17 47                | 18 08 | 18 33   | 23 11 48       |    | 10 45 49       |    |
| 13 | 19                                     | 06.4 | 16.1     | 122                                                                                                     | 32.4 <sup>108</sup> | 38.6     | 46      | 10 S          | 17 58                | 20    | 18 46   | 31 45          |    | 24 51          |    |
| 14 | 34                                     | 06.4 | 16.8     | 137                                                                                                     | 02.3 <sup>109</sup> | 33.9     | 47      | 20            | 18 10                | 33    | 19 00   | 23 52 43       |    | 10 01 54       |    |
| 15 | 49                                     | 06.4 | 17.6     | 151                                                                                                     | 32.1 <sup>108</sup> | 29.0     | 49      | 30            | 24                   | 49    | 20      | *** ** *       |    | 9 34 57        |    |
| 16 | 64                                     | 06.4 | 18.4     | 166                                                                                                     | 02.0 <sup>109</sup> | 24.1     | 49      | 35            | 32                   | 18 59 | 32      | *** ** *       |    | 19 58          |    |
| 17 | 79                                     | 06.4 | -15 19.1 | 180                                                                                                     | 32.0 <sup>110</sup> | +26 19.0 | 51      | 40            | 18 41                | 19 11 | 19 47   | 0 08 41        |    | 9 00 61        |    |
| 18 | 94                                     | 06.4 | -15 19.9 | 195                                                                                                     | 02.0 <sup>110</sup> | +26 13.7 | 53      | 45            | 18 52                | 19 25 | 20 05   | 0 30 39        |    | 8 38 63        |    |
| 19 | 109                                    | 06.4 | 20.7     | 209                                                                                                     | 32.0 <sup>110</sup> | 08.4     | 53      | 50            | 19 06                | 42    | 30      | 0 59 35        |    | 8 10 67        |    |
| 20 | 124                                    | 06.4 | 21.5     | 224                                                                                                     | 02.1 <sup>111</sup> | +26 02.9 | 55      | 52            | 12                   | 19 51 | 42      | 1 13 34        |    | 7 56 69        |    |
| 21 | 139                                    | 06.4 | 22.2     | 238                                                                                                     | 32.3 <sup>112</sup> | +25 57.3 | 56      | 54            | 19                   | 20 00 | 20 56   | 30 30          |    | 40 71          |    |
| 22 | 154                                    | 06.3 | 23.0     | 253                                                                                                     | 02.4 <sup>111</sup> | 51.6     | 57      | 56            | 26                   | 11    | 21 14   | 1 49 28        |    | 7 21 74        |    |
| 23 | 169                                    | 06.3 | 23.8     | 267                                                                                                     | 32.6 <sup>112</sup> | 45.8     | 58      | 58            | 35                   | 24    | 21 35   | 2 13 23        |    | 6 57 80        |    |
| 24 | 184                                    | 06.3 | -15 24.5 | 282                                                                                                     | 02.9 <sup>113</sup> | +25 39.8 | 60      | 60 S          | 19 45                | 20 39 | 22 04   | 2 45 15        |    | 6 25 88        |    |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |          | JÚPITER                                          |          | SATURNO                                          |          |          |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|----------|--------------------------------------------------|----------|--------------------------------------------------|----------|----------|
|     | PMG: 21 <sup>h</sup> 06 <sup>m</sup> 2 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 35 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 41 <sup>m</sup> |          | Mag: -1.7<br>PMG: 9 <sup>h</sup> 40 <sup>m</sup> |          | Mag: +0.1<br>PMG: 5 <sup>h</sup> 06 <sup>m</sup> |          |          |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec      | hG ♃                                             | Dec      | hG ♄                                             | Dec      |          |
| h   | °                                      | '    | °                                                | '    | °                                                 | '        | °                                                | '        | °                                                | '        |          |
| 0   | 42                                     | 35.4 | 216                                              | 24.8 | -0 53.6                                           | 199 35.7 | -8 53.3                                          | 214 39.4 | -2 12.1                                          | 283 14.1 | +20 35.3 |
| 1   | 57                                     | 37.8 | 231                                              | 24.5 | 54.7                                              | 214 36.6 | 53.9                                             | 229 41.5 | 12.3                                             | 298 16.5 | 35.3     |
| 2   | 72                                     | 40.3 | 246                                              | 24.2 | 55.9                                              | 229 37.6 | 54.5                                             | 244 43.5 | 12.5                                             | 313 18.9 | 35.3     |
| 3   | 87                                     | 42.8 | 261                                              | 23.8 | 57.0                                              | 244 38.5 | 55.2                                             | 259 45.5 | 12.6                                             | 328 21.4 | 35.3     |
| 4   | 102                                    | 45.2 | 276                                              | 23.5 | 58.2                                              | 259 39.4 | 55.8                                             | 274 47.5 | 12.8                                             | 343 23.8 | 35.3     |
| 5   | 117                                    | 47.7 | 291                                              | 23.1 | -0 59.3                                           | 274 40.3 | -8 56.4                                          | 289 49.5 | -2 13.0                                          | 358 26.3 | +20 35.3 |
| 6   | 132                                    | 50.2 | 306                                              | 22.8 | -1 00.5                                           | 289 41.2 | -8 57.0                                          | 304 51.5 | -2 13.2                                          | 13 28.7  | +20 35.3 |
| 7   | 147                                    | 52.6 | 321                                              | 22.4 | 01.6                                              | 304 42.1 | 57.7                                             | 319 53.5 | 13.4                                             | 28 31.1  | 35.3     |
| 8   | 162                                    | 55.1 | 336                                              | 22.1 | 02.8                                              | 319 43.0 | 58.3                                             | 334 55.5 | 13.6                                             | 43 33.6  | 35.3     |
| 9   | 177                                    | 57.6 | 351                                              | 21.7 | 03.9                                              | 334 44.0 | 58.9                                             | 349 57.5 | 13.8                                             | 58 36.0  | 35.3     |
| 10  | 193                                    | 00.0 | 6                                                | 21.4 | 05.1                                              | 349 44.9 | -8 59.5                                          | 4 59.5   | 14.0                                             | 73 38.5  | 35.3     |
| 11  | 208                                    | 02.5 | 21                                               | 21.0 | -1 06.2                                           | 4 45.8   | -9 00.1                                          | 20 01.5  | -2 14.2                                          | 88 40.9  | +20 35.3 |
| 12  | 223                                    | 05.0 | 36                                               | 20.7 | -1 07.4                                           | 19 46.7  | -9 00.8                                          | 35 03.5  | -2 14.4                                          | 103 43.3 | +20 35.3 |
| 13  | 238                                    | 07.4 | 51                                               | 20.3 | 08.5                                              | 34 47.6  | 01.4                                             | 50 05.5  | 14.5                                             | 118 45.8 | 35.3     |
| 14  | 253                                    | 09.9 | 66                                               | 20.0 | 09.7                                              | 49 48.5  | 02.0                                             | 65 07.6  | 14.7                                             | 133 48.2 | 35.3     |
| 15  | 268                                    | 12.3 | 81                                               | 19.6 | 10.8                                              | 64 49.4  | 02.6                                             | 80 09.6  | 14.9                                             | 148 50.7 | 35.3     |
| 16  | 283                                    | 14.8 | 96                                               | 19.3 | 12.0                                              | 79 50.4  | 03.2                                             | 95 11.6  | 15.1                                             | 163 53.1 | 35.3     |
| 17  | 298                                    | 17.3 | 111                                              | 18.9 | -1 13.1                                           | 94 51.3  | -9 03.9                                          | 110 13.6 | -2 15.3                                          | 178 55.5 | +20 35.3 |
| 18  | 313                                    | 19.7 | 126                                              | 18.6 | -1 14.3                                           | 109 52.2 | -9 04.5                                          | 125 15.6 | -2 15.5                                          | 193 58.0 | +20 35.3 |
| 19  | 328                                    | 22.2 | 141                                              | 18.2 | 15.4                                              | 124 53.1 | 05.1                                             | 140 17.6 | 15.7                                             | 209 00.4 | 35.3     |
| 20  | 343                                    | 24.7 | 156                                              | 17.9 | 16.6                                              | 139 54.0 | 05.7                                             | 155 19.6 | 15.9                                             | 224 02.9 | 35.3     |
| 21  | 358                                    | 27.1 | 171                                              | 17.6 | 17.7                                              | 154 54.9 | 06.3                                             | 170 21.6 | 16.1                                             | 239 05.3 | 35.3     |
| 22  | 13                                     | 29.6 | 186                                              | 17.2 | 18.9                                              | 169 55.8 | 06.9                                             | 185 23.6 | 16.3                                             | 254 07.7 | 35.3     |
| 23  | 28                                     | 32.1 | 201                                              | 16.9 | 20.0                                              | 184 56.7 | 07.6                                             | 200 25.6 | 16.4                                             | 269 10.2 | 35.3     |
| 24  | 43                                     | 34.5 | 216                                              | 16.5 | -1 21.2                                           | 199 57.7 | -9 08.2                                          | 215 27.6 | -2 16.6                                          | 284 12.6 | +20 35.3 |
| Dif | —                                      |      | -3                                               |      | -12                                               | +9       |                                                  | -6       |                                                  | +24      |          |

| UT  | SOL                                                |      |     | LUNA                                                                                                                                                                              |     |                     | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |          | Puesta de Luna                                   |       |     |      |     |      |
|-----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|----------|--------------------------------------------------|-------|-----|------|-----|------|
|     | SD: 16'1<br>PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      |     | Edad: 20 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'5<br>SD: 14'8<br>PMG: 5 <sup>h</sup> 22 <sup>m</sup> R°: 48 <sup>m</sup> |     |                     |                                                   |                          |         |                                                  |                |          |                                                  |       |     |      |     |      |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec                 |                                                   | Dif                      | Náutico |                                                  | Civil          | Hora     | R°                                               | Hora  | R°  |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | h                        | m       | h                                                | m              | h        | m                                                | h     | m   |      |     |      |
| 0   | 184                                                | 06.3 | -15 | 24.5                                                                                                                                                                              | 282 | 02.9                | +25 39.8                                          | 60 N                     | 5 55    | 6 45                                             | 7 31           | 20 42    | 92                                               | 15 01 | 4   |      |     |      |
| 1   | 199                                                | 06.3 |     | 25.3                                                                                                                                                                              | 296 | 33.2 <sup>113</sup> | 33.8 <sup>60</sup>                                | 58                       | 52      | 39                                               | 22             | 21 01    | 86                                               | 14 41 | 10  |      |     |      |
| 2   | 214                                                | 06.3 |     | 26.1                                                                                                                                                                              | 311 | 03.6 <sup>114</sup> | 27.6 <sup>62</sup>                                | 56                       | 49      | 34                                               | 14             | 17 82    |                                                  | 24 15 |     |      |     |      |
| 3   | 229                                                | 06.3 |     | 26.8                                                                                                                                                                              | 325 | 34.0 <sup>114</sup> | 21.3 <sup>63</sup>                                | 54                       | 47      | 29                                               | 07             | 31 78    |                                                  | 14 10 | 18  |      |     |      |
| 4   | 244                                                | 06.3 |     | 27.6                                                                                                                                                                              | 340 | 04.4 <sup>114</sup> | 14.9 <sup>64</sup>                                | 52                       | 45      | 25                                               | 7 01           | 43 75    |                                                  | 13 58 | 21  |      |     |      |
| 5   | 259                                                | 06.3 | -15 | 28.4                                                                                                                                                                              | 354 | 34.9 <sup>115</sup> | +25 08.3 <sup>66</sup>                            | 50                       | 5 42    | 6 21                                             | 6 55           | 21 54    | 72                                               | 13 47 | 23  |      |     |      |
| 6   | 274                                                | 06.3 | -15 | 29.1                                                                                                                                                                              | 9   | 05.4 <sup>115</sup> | +25 01.7 <sup>66</sup>                            | 45                       | 5 37    | 6 12                                             | 6 43           | 22 16    | 67                                               | 13 24 | 28  |      |     |      |
| 7   | 289                                                | 06.3 |     | 29.9                                                                                                                                                                              | 23  | 36.0 <sup>116</sup> | +24 54.9 <sup>68</sup>                            | 40                       | 32      | 6 04                                             | 33             | 33 64    |                                                  | 13 05 | 32  |      |     |      |
| 8   | 304                                                | 06.3 |     | 30.7                                                                                                                                                                              | 38  | 06.6 <sup>116</sup> | 48.0 <sup>69</sup>                                | 35                       | 28      | 5 58                                             | 24             | 22 48    | 60                                               | 12 50 | 34  |      |     |      |
| 9   | 319                                                | 06.2 |     | 31.4                                                                                                                                                                              | 52  | 37.3 <sup>117</sup> | 41.0 <sup>70</sup>                                | 30                       | 23      | 52                                               | 16             | 23 01    | 58                                               | 36    | 37  |      |     |      |
| 10  | 334                                                | 06.2 |     | 32.2                                                                                                                                                                              | 67  | 08.0 <sup>117</sup> | 33.9 <sup>71</sup>                                | 20                       | 14      | 40                                               | 6 03           | 22 54    |                                                  | 12 13 | 41  |      |     |      |
| 11  | 349                                                | 06.2 | -15 | 33.0                                                                                                                                                                              | 81  | 38.8 <sup>118</sup> | +24 26.6 <sup>73</sup>                            | 10 N                     | 5 04    | 5 30                                             | 5 51           | 23 41    | 50                                               | 11 53 | 44  |      |     |      |
| 12  | 4                                                  | 06.2 | -15 | 33.7                                                                                                                                                                              | 96  | 09.6 <sup>118</sup> | +24 19.3 <sup>73</sup>                            | 0                        | 4 54    | 5 19                                             | 5 40           | 23 59    | 46                                               | 11 34 | 47  |      |     |      |
| 13  | 19                                                 | 06.2 |     | 34.5                                                                                                                                                                              | 110 | 40.5 <sup>119</sup> | 11.8 <sup>75</sup>                                | 10 S                     | 41      | 5 07                                             | 29             | *** ** * | **                                               | 11 15 | 50  |      |     |      |
| 14  | 34                                                 | 06.2 |     | 35.3                                                                                                                                                                              | 125 | 11.4 <sup>119</sup> | +24 04.3 <sup>75</sup>                            | 20                       | 26      | 4 54                                             | 17             | *** ** * | **                                               | 10 55 | 53  |      |     |      |
| 15  | 49                                                 | 06.2 |     | 36.0                                                                                                                                                                              | 139 | 42.4 <sup>120</sup> | +23 56.6 <sup>77</sup>                            | 30                       | 4 07    | 37                                               | 5 03           | 0 17     | 39                                               | 31 58 |     |      |     |      |
| 16  | 64                                                 | 06.1 |     | 36.8                                                                                                                                                                              | 154 | 13.4 <sup>120</sup> | 48.8 <sup>78</sup>                                | 35                       | 3 55    | 27                                               | 4 55           | 32 37    |                                                  | 17 60 |     |      |     |      |
| 17  | 79                                                 | 06.1 | -15 | 37.6                                                                                                                                                                              | 168 | 44.5 <sup>121</sup> | +23 40.9 <sup>79</sup>                            | 40                       | 3 40    | 4 16                                             | 4 45           | 0 49     | 34                                               | 10 01 | 63  |      |     |      |
| 18  | 94                                                 | 06.1 | -15 | 38.3                                                                                                                                                                              | 183 | 15.6 <sup>121</sup> | +23 32.9 <sup>80</sup>                            | 45                       | 3 21    | 4 02                                             | 4 34           | 1 09     | 31                                               | 9 41  | 67  |      |     |      |
| 19  | 109                                                | 06.1 |     | 39.1                                                                                                                                                                              | 197 | 46.7 <sup>121</sup> | 24.8 <sup>81</sup>                                | 50                       | 2 57    | 3 44                                             | 21             | 34 27    |                                                  | 17 71 |     |      |     |      |
| 20  | 124                                                | 06.1 |     | 39.8                                                                                                                                                                              | 212 | 17.9 <sup>122</sup> | 16.6 <sup>82</sup>                                | 52                       | 45      | 36                                               | 15             | 1 47     | 24                                               | 9 05  | 74  |      |     |      |
| 21  | 139                                                | 06.1 |     | 40.6                                                                                                                                                                              | 226 | 49.2 <sup>123</sup> | +23 08.2 <sup>84</sup>                            | 54                       | 30      | 26                                               | 08             | 2 00     | 22                                               | 8 51  | 77  |      |     |      |
| 22  | 154                                                | 06.1 |     | 41.4                                                                                                                                                                              | 241 | 20.5 <sup>123</sup> | +22 59.8 <sup>84</sup>                            | 56                       | 2 13    | 15                                               | 4 00           | 17 17    |                                                  | 35 81 |     |      |     |      |
| 23  | 169                                                | 06.0 |     | 42.1                                                                                                                                                                              | 255 | 51.9 <sup>124</sup> | 51.2 <sup>86</sup>                                | 58                       | 1 51    | 3 02                                             | 3 51           | 2 36     | 13                                               | 8 17  | 85  |      |     |      |
| 24  | 184                                                | 06.0 | -15 | 42.9                                                                                                                                                                              | 270 | 23.3 <sup>124</sup> | +22 42.6 <sup>86</sup>                            | 60 S                     | 1 22    | 2 47                                             | 3 41           | 3 00     | 6                                                | 7 53  | 93  |      |     |      |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                                                                             |     |                     | MARTE                                             |                          |         | JÚPITER                                          |                |          | SATURNO                                          |       |     |      |     |      |
|     | PMG: 21 <sup>h</sup> 02 <sup>m</sup> 2             |      |     | Mag: -4.0<br>PMG: 9 <sup>h</sup> 35 <sup>m</sup>                                                                                                                                  |     |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 40 <sup>m</sup> |                          |         | Mag: -1.7<br>PMG: 9 <sup>h</sup> 37 <sup>m</sup> |                |          | Mag: +0.1<br>PMG: 5 <sup>h</sup> 02 <sup>m</sup> |       |     |      |     |      |
|     | hG ♈                                               |      |     | hG ♀                                                                                                                                                                              | Dec |                     | hG ♂                                              | Dec                      |         | hG ♃                                             | Dec            |          | hG ♄                                             | Dec   |     |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | '                        | °       | '                                                | °              | '        | °                                                | '     | °   |      |     |      |
| 0   | 43                                                 | 34.5 | 216 | 16.5                                                                                                                                                                              | -1  | 21.2                | 199                                               | 57.7                     | -9      | 08.2                                             | 215            | 27.6     | -2                                               | 16.6  | 284 | 12.6 | +20 | 35.3 |
| 1   | 58                                                 | 37.0 | 231 | 16.2                                                                                                                                                                              |     | 22.3                | 214                                               | 58.6                     |         | 08.8                                             | 230            | 29.7     |                                                  | 16.8  | 299 | 15.1 |     | 35.3 |
| 2   | 73                                                 | 39.5 | 246 | 15.8                                                                                                                                                                              |     | 23.5                | 229                                               | 59.5                     |         | 09.4                                             | 245            | 31.7     |                                                  | 17.0  | 314 | 17.5 |     | 35.3 |
| 3   | 88                                                 | 41.9 | 261 | 15.5                                                                                                                                                                              |     | 24.6                | 245                                               | 00.4                     |         | 10.0                                             | 260            | 33.7     |                                                  | 17.2  | 329 | 20.0 |     | 35.3 |
| 4   | 103                                                | 44.4 | 276 | 15.1                                                                                                                                                                              |     | 25.8                | 260                                               | 01.3                     |         | 10.7                                             | 275            | 35.7     |                                                  | 17.4  | 344 | 22.4 |     | 35.3 |
| 5   | 118                                                | 46.8 | 291 | 14.8                                                                                                                                                                              | -1  | 26.9                | 275                                               | 02.2                     | -9      | 11.3                                             | 290            | 37.7     | -2                                               | 17.6  | 359 | 24.8 | +20 | 35.3 |
| 6   | 133                                                | 49.3 | 306 | 14.4                                                                                                                                                                              | -1  | 28.1                | 290                                               | 03.1                     | -9      | 11.9                                             | 305            | 39.7     | -2                                               | 17.8  | 14  | 27.3 | +20 | 35.3 |
| 7   | 148                                                | 51.8 | 321 | 14.1                                                                                                                                                                              |     | 29.2                | 305                                               | 04.0                     |         | 12.5                                             | 320            | 41.7     |                                                  | 18.0  | 29  | 29.7 |     | 35.3 |
| 8   | 163                                                | 54.2 | 336 | 13.7                                                                                                                                                                              |     | 30.4                | 320                                               | 04.9                     |         | 13.1                                             | 335            | 43.7     |                                                  | 18.2  | 44  | 32.2 |     | 35.3 |
| 9   | 178                                                | 56.7 | 351 | 13.4                                                                                                                                                                              |     | 31.5                | 335                                               | 05.9                     |         | 13.8                                             | 350            | 45.7     |                                                  | 18.3  | 59  | 34.6 |     | 35.3 |
| 10  | 193                                                | 59.2 | 6   | 13.0                                                                                                                                                                              |     | 32.7                | 350                                               | 06.8                     |         | 14.4                                             | 5              | 47.7     |                                                  | 18.5  | 74  | 37.1 |     | 35.3 |
| 11  | 209                                                | 01.6 | 21  | 12.7                                                                                                                                                                              | -1  | 33.9                | 5                                                 | 07.7                     | -9      | 15.0                                             | 20             | 49.8     | -2                                               | 18.7  | 89  | 39.5 | +20 | 35.3 |
| 12  | 224                                                | 04.1 | 36  | 12.3                                                                                                                                                                              | -1  | 35.0                | 20                                                | 08.6                     | -9      | 15.6                                             | 35             | 51.8     | -2                                               | 18.9  | 104 | 41.9 | +20 | 35.3 |
| 13  | 239                                                | 06.6 | 51  | 12.0                                                                                                                                                                              |     | 36.2                | 35                                                | 09.5                     |         | 16.2                                             | 50             | 53.8     |                                                  | 19.1  | 119 | 44.4 |     | 35.3 |
| 14  | 254                                                | 09.0 | 66  | 11.6                                                                                                                                                                              |     | 37.3                | 50                                                | 10.4                     |         | 16.8                                             | 65             | 55.8     |                                                  | 19.3  | 134 | 46.8 |     | 35.3 |
| 15  | 269                                                | 11.5 | 81  | 11.3                                                                                                                                                                              |     | 38.5                | 65                                                | 11.3                     |         | 17.5                                             | 80             | 57.8     |                                                  | 19.5  | 149 | 49.3 |     | 35.3 |
| 16  | 284                                                | 14.0 | 96  | 10.9                                                                                                                                                                              |     | 39.6                | 80                                                | 12.2                     |         | 18.1                                             | 95             | 59.8     |                                                  | 19.7  | 164 | 51.7 |     | 35.3 |
| 17  | 299                                                | 16.4 | 111 | 10.6                                                                                                                                                                              | -1  | 40.8                | 95                                                | 13.1                     | -9      | 18.7                                             | 111            | 01.8     | -2                                               | 19.9  | 179 | 54.2 | +20 | 35.3 |
| 18  | 314                                                | 18.9 | 126 | 10.2                                                                                                                                                                              | -1  | 41.9                | 110                                               | 14.0                     | -9      | 19.3                                             | 126            | 03.8     | -2                                               | 20.0  | 194 | 56.6 | +20 | 35.3 |
| 19  | 329                                                | 21.3 | 141 | 09.8                                                                                                                                                                              |     | 43.1                | 125                                               | 15.0                     |         | 19.9                                             | 141            | 05.8     |                                                  | 20.2  | 209 | 59.1 |     | 35.3 |
| 20  | 344                                                | 23.8 | 156 | 09.5                                                                                                                                                                              |     | 44.2                | 140                                               | 15.9                     |         | 20.5                                             | 156            | 07.9     |                                                  | 20.4  | 225 | 01.5 |     | 35.3 |
| 21  | 359                                                | 26.3 | 171 | 09.1                                                                                                                                                                              |     | 45.4                | 155                                               | 16.8                     |         | 21.2                                             | 171            | 09.9     |                                                  | 20.6  | 240 | 04.0 |     | 35.3 |
| 22  | 14                                                 | 28.7 | 186 | 08.8                                                                                                                                                                              |     | 46.5                | 170                                               | 17.7                     |         | 21.8                                             | 186            | 11.9     |                                                  | 20.8  | 255 | 06.4 |     | 35.3 |
| 23  | 29                                                 | 31.2 | 201 | 08.4                                                                                                                                                                              |     | 47.7                | 185                                               | 18.6                     |         | 22.4                                             | 201            | 13.9     |                                                  | 21.0  | 270 | 08.8 |     | 35.3 |
| 24  | 44                                                 | 33.7 | 216 | 08.1                                                                                                                                                                              | -1  | 48.8                | 200                                               | 19.5                     | -9      | 23.0                                             | 216            | 15.9     | -2                                               | 21.2  | 285 | 11.3 | +20 | 35.3 |
| Dif | —                                                  |      |     | -4                                                                                                                                                                                | -12 |                     | +9                                                | -6                       |         | +20                                              | -2             |          | +24                                              |       |     |      |     |      |



| UT | SOL                                    |      |  LUNA |      |                                                                                       |                                     | Latitud | Puesta de Sol | Final del crepúsculo |         |          | Salida de Luna |       | Puesta de Luna |  |
|----|----------------------------------------|------|----------------------------------------------------------------------------------------|------|---------------------------------------------------------------------------------------|-------------------------------------|---------|---------------|----------------------|---------|----------|----------------|-------|----------------|--|
|    | SD: 16:1                               |      | Edad: 21 <sup>d</sup> 9                                                                |      | PHE {<br>4 <sup>h</sup> : 54'/6<br>12 <sup>h</sup> : 54'/8<br>20 <sup>h</sup> : 54'/9 |                                     |         |               |                      |         |          |                |       |                |  |
|    | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 6 |      | SD: 14:9                                                                               |      |                                                                                       | PMG: 6 <sup>h</sup> 10 <sup>m</sup> |         |               | R°: 46 <sup>m</sup>  |         |          |                |       |                |  |
|    | hG ☉                                   | Dec  | hG ☾                                                                                   | Dif  | Dec                                                                                   | Dif                                 |         |               | Civil                | Náutico | Hora     | R°             | Hora  | R°             |  |
| h  | °                                      | '    | °                                                                                      | '    | °                                                                                     | '                                   | °       | h m           | h m                  | h m     | h m m    | m              | h m m | m              |  |
| 0  | 184                                    | 06.0 | -15 42.9                                                                               | 270  | 23.3                                                                                  | +22 42.6                            | 60 N    | 15 53         | 16 39                | 17 29   | 22 14 91 | 15 05 2        |       |                |  |
| 1  | 199                                    | 06.0 |                                                                                        | 284  | 54.7 <sup>124</sup>                                                                   | 33.8 <sup>88</sup>                  | 58      | 16 02         | 45                   | 32      | 27 87    | 14 51 7        |       |                |  |
| 2  | 214                                    | 06.0 |                                                                                        | 299  | 26.2 <sup>125</sup>                                                                   | 25.0 <sup>88</sup>                  | 56      | 10            | 51                   | 35      | 39 82    | 39 10          |       |                |  |
| 3  | 229                                    | 06.0 |                                                                                        | 313  | 57.7 <sup>125</sup>                                                                   | 16.0 <sup>90</sup>                  | 54      | 18            | 16 56                | 38      | 49 79    | 28 13          |       |                |  |
| 4  | 244                                    | 05.9 |                                                                                        | 328  | 29.3 <sup>126</sup>                                                                   | +22 06.9 <sup>91</sup>              | 52      | 24            | 17 00                | 40      | 22 58 76 | 19 16          |       |                |  |
| 5  | 259                                    | 05.9 | -15 46.7                                                                               | 343  | 01.0 <sup>127</sup>                                                                   | +21 57.8 <sup>91</sup>              | 50      | 16 30         | 17 04                | 17 43   | 23 06 73 | 14 10 18       |       |                |  |
| 6  | 274                                    | 05.9 | -15 47.4                                                                               | 357  | 32.7 <sup>127</sup>                                                                   | +21 48.5 <sup>93</sup>              | 45      | 16 42         | 17 13                | 17 48   | 23 23 68 | 13 52 23       |       |                |  |
| 7  | 289                                    | 05.9 |                                                                                        | 12   | 04.4 <sup>127</sup>                                                                   | 39.1 <sup>94</sup>                  | 40      | 16 53         | 21                   | 53      | 37 64    | 37 27          |       |                |  |
| 8  | 304                                    | 05.9 |                                                                                        | 26   | 36.2 <sup>128</sup>                                                                   | 29.7 <sup>94</sup>                  | 35      | 17 02         | 28                   | 17 58   | 48 61    | 24 31          |       |                |  |
| 9  | 319                                    | 05.8 |                                                                                        | 49.7 | 41 08.0 <sup>128</sup>                                                                | 20.1 <sup>96</sup>                  | 30      | 10            | 35                   | 18 03   | 23 59 57 | 13 13 33       |       |                |  |
| 10 | 334                                    | 05.8 |                                                                                        | 55   | 39.9 <sup>129</sup>                                                                   | 10.4 <sup>97</sup>                  | 20      | 23            | 46                   | 13      | ** ** *  | 12 54 38       |       |                |  |
| 11 | 349                                    | 05.8 | -15 51.2                                                                               | 70   | 11.8 <sup>129</sup>                                                                   | +21 00.6 <sup>98</sup>              | 10 N    | 17 36         | 17 57                | 18 23   | ** ** *  | 12 37 42       |       |                |  |
| 12 | 4                                      | 05.8 | -15 51.9                                                                               | 84   | 43.8 <sup>130</sup>                                                                   | +20 50.8 <sup>98</sup>              | 0       | 17 47         | 18 09                | 18 34   | ** ** *  | 12 21 46       |       |                |  |
| 13 | 19                                     | 05.8 |                                                                                        | 99   | 15.8 <sup>130</sup>                                                                   | 40.8 <sup>100</sup>                 | 10 S    | 17 59         | 21                   | 18 46   | 0 16 43  | 12 05 50       |       |                |  |
| 14 | 34                                     | 05.7 |                                                                                        | 113  | 47.8 <sup>130</sup>                                                                   | 30.8 <sup>100</sup>                 | 20      | 18 11         | 34                   | 19 02   | 35 39    | 11 48 53       |       |                |  |
| 15 | 49                                     | 05.7 |                                                                                        | 128  | 19.9 <sup>131</sup>                                                                   | 20.6 <sup>102</sup>                 | 30      | 26            | 18 51                | 22      | 0 56 35  | 29 57          |       |                |  |
| 16 | 64                                     | 05.7 |                                                                                        | 142  | 52.1 <sup>132</sup>                                                                   | +20 10.4 <sup>102</sup>             | 35      | 34            | 19 01                | 34      | 1 09 32  | 17 61          |       |                |  |
| 17 | 79                                     | 05.7 | -15 55.7                                                                               | 157  | 24.2 <sup>131</sup>                                                                   | +20 00.0 <sup>104</sup>             | 40      | 18 44         | 19 13                | 19 50   | 1 23 29  | 11 04 64       |       |                |  |
| 18 | 94                                     | 05.6 | -15 56.5                                                                               | 171  | 56.5 <sup>133</sup>                                                                   | +19 49.6 <sup>104</sup>             | 45      | 18 55         | 19 28                | 20 09   | 1 40 25  | 10 48 68       |       |                |  |
| 19 | 109                                    | 05.6 |                                                                                        | 186  | 28.7 <sup>132</sup>                                                                   | 39.0 <sup>106</sup>                 | 50      | 19 09         | 46                   | 34      | 2 01 20  | 28 73          |       |                |  |
| 20 | 124                                    | 05.6 |                                                                                        | 201  | 01.1 <sup>134</sup>                                                                   | 28.4 <sup>106</sup>                 | 52      | 16            | 19 55                | 20 47   | 11 18    | 19 75          |       |                |  |
| 21 | 139                                    | 05.6 |                                                                                        | 215  | 33.4 <sup>133</sup>                                                                   | 17.7 <sup>107</sup>                 | 54      | 23            | 20 05                | 21 02   | 22 15    | 10 08 79       |       |                |  |
| 22 | 154                                    | 05.5 | -15 59.5                                                                               | 230  | 05.8 <sup>134</sup>                                                                   | +19 06.9 <sup>108</sup>             | 56      | 31            | 17                   | 21      | 34 12    | 9 56 82        |       |                |  |
| 23 | 169                                    | 05.5 | -16 00.2                                                                               | 244  | 38.2 <sup>134</sup>                                                                   | +18 56.0 <sup>109</sup>             | 58      | 40            | 30                   | 21 44   | 2 49 8   | 42 87          |       |                |  |
| 24 | 184                                    | 05.5 | -16 01.0                                                                               | 259  | 10.7 <sup>135</sup>                                                                   | +18 45.0 <sup>110</sup>             | 60 S    | 19 51         | 20 46                | 22 17   | 3 06 3   | 9 26 91        |       |                |  |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |     | JÚPITER                                          |         | SATURNO                                          |      |         |     |      |          |  |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|-----|--------------------------------------------------|---------|--------------------------------------------------|------|---------|-----|------|----------|--|
|     | PMG: 20 <sup>h</sup> 58 <sup>m</sup> 3 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 36 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 38 <sup>m</sup> |     | Mag: -1.7<br>PMG: 9 <sup>h</sup> 34 <sup>m</sup> |         | Mag: +0.1<br>PMG: 4 <sup>h</sup> 58 <sup>m</sup> |      |         |     |      |          |  |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec | hG ♃                                             | Dec     | hG ♄                                             | Dec  |         |     |      |          |  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '   | °                                                | '       | °                                                | '    |         |     |      |          |  |
| 0   | 44                                     | 33.7 | 216                                              | 08.1 | -1 48.8                                           | 200 | 19.5                                             | -9 23.0 | 216                                              | 15.9 | -2 21.2 | 285 | 11.3 | +20 35.3 |  |
| 1   | 59                                     | 36.1 | 231                                              | 07.7 | 50.0                                              | 215 | 20.4                                             | 23.6    | 231                                              | 17.9 | 21.4    | 300 | 13.7 | 35.3     |  |
| 2   | 74                                     | 38.6 | 246                                              | 07.4 | 51.2                                              | 230 | 21.3                                             | 24.2    | 246                                              | 19.9 | 21.6    | 315 | 16.2 | 35.3     |  |
| 3   | 89                                     | 41.1 | 261                                              | 07.0 | 52.3                                              | 245 | 22.2                                             | 24.9    | 261                                              | 21.9 | 21.7    | 330 | 18.6 | 35.3     |  |
| 4   | 104                                    | 43.5 | 276                                              | 06.7 | 53.5                                              | 260 | 23.1                                             | 25.5    | 276                                              | 23.9 | 21.9    | 345 | 21.1 | 35.3     |  |
| 5   | 119                                    | 46.0 | 291                                              | 06.3 | -1 54.6                                           | 275 | 24.0                                             | -9 26.1 | 291                                              | 26.0 | -2 22.1 | 0   | 23.5 | +20 35.3 |  |
| 6   | 134                                    | 48.4 | 306                                              | 06.0 | -1 55.8                                           | 290 | 24.9                                             | -9 26.7 | 306                                              | 28.0 | -2 22.3 | 15  | 26.0 | +20 35.3 |  |
| 7   | 149                                    | 50.9 | 321                                              | 05.6 | 56.9                                              | 305 | 25.9                                             | 27.3    | 321                                              | 30.0 | 22.5    | 30  | 28.4 | 35.3     |  |
| 8   | 164                                    | 53.4 | 336                                              | 05.3 | 58.1                                              | 320 | 26.8                                             | 27.9    | 336                                              | 32.0 | 22.7    | 45  | 30.9 | 35.3     |  |
| 9   | 179                                    | 55.8 | 351                                              | 04.9 | -1 59.2                                           | 335 | 27.7                                             | 28.6    | 351                                              | 34.0 | 22.9    | 60  | 33.3 | 35.3     |  |
| 10  | 194                                    | 58.3 | 6                                                | 04.6 | -2 00.4                                           | 350 | 28.6                                             | 29.2    | 6                                                | 36.0 | 23.1    | 75  | 35.8 | 35.3     |  |
| 11  | 210                                    | 00.8 | 21                                               | 04.2 | -2 01.5                                           | 5   | 29.5                                             | -9 29.8 | 21                                               | 38.0 | -2 23.2 | 90  | 38.2 | +20 35.3 |  |
| 12  | 225                                    | 03.2 | 36                                               | 03.8 | -2 02.7                                           | 20  | 30.4                                             | -9 30.4 | 36                                               | 40.0 | -2 23.4 | 105 | 40.7 | +20 35.3 |  |
| 13  | 240                                    | 05.7 | 51                                               | 03.5 | 03.8                                              | 35  | 31.3                                             | 31.0    | 51                                               | 42.1 | 23.6    | 120 | 43.1 | 35.3     |  |
| 14  | 255                                    | 08.2 | 66                                               | 03.1 | 05.0                                              | 50  | 32.2                                             | 31.6    | 66                                               | 44.1 | 23.8    | 135 | 45.6 | 35.3     |  |
| 15  | 270                                    | 10.6 | 81                                               | 02.8 | 06.1                                              | 65  | 33.1                                             | 32.3    | 81                                               | 46.1 | 24.0    | 150 | 48.0 | 35.3     |  |
| 16  | 285                                    | 13.1 | 96                                               | 02.4 | 07.3                                              | 80  | 34.0                                             | 32.9    | 96                                               | 48.1 | 24.2    | 165 | 50.5 | 35.3     |  |
| 17  | 300                                    | 15.6 | 111                                              | 02.1 | -2 08.5                                           | 95  | 34.9                                             | -9 33.5 | 111                                              | 50.1 | -2 24.4 | 180 | 52.9 | +20 35.3 |  |
| 18  | 315                                    | 18.0 | 126                                              | 01.7 | -2 09.6                                           | 110 | 35.8                                             | -9 34.1 | 126                                              | 52.1 | -2 24.6 | 195 | 55.4 | +20 35.3 |  |
| 19  | 330                                    | 20.5 | 141                                              | 01.4 | 10.8                                              | 125 | 36.7                                             | 34.7    | 141                                              | 54.1 | 24.8    | 210 | 57.8 | 35.3     |  |
| 20  | 345                                    | 22.9 | 156                                              | 01.0 | 11.9                                              | 140 | 37.6                                             | 35.3    | 156                                              | 56.1 | 24.9    | 226 | 00.3 | 35.3     |  |
| 21  | 0                                      | 25.4 | 171                                              | 00.7 | 13.1                                              | 155 | 38.5                                             | 35.9    | 171                                              | 58.2 | 25.1    | 241 | 02.7 | 35.3     |  |
| 22  | 15                                     | 27.9 | 186                                              | 00.3 | 14.2                                              | 170 | 39.5                                             | 36.6    | 187                                              | 00.2 | 25.3    | 256 | 05.2 | 35.4     |  |
| 23  | 30                                     | 30.3 | 200                                              | 59.9 | 15.4                                              | 185 | 40.4                                             | 37.2    | 202                                              | 02.2 | 25.5    | 271 | 07.6 | 35.4     |  |
| 24  | 45                                     | 32.8 | 215                                              | 59.6 | -2 16.5                                           | 200 | 41.3                                             | -9 37.8 | 217                                              | 04.2 | -2 25.7 | 286 | 10.1 | +20 35.4 |  |
| Dif | —                                      |      | -4                                               |      | -12                                               | +9  |                                                  | -6      | +20                                              |      | -2      | +24 |      | 0        |  |

| UT | SOL                                    |      |     |  LUNA |                                                                                                                           |                       | Latitud                 | Principio del crepúsculo            |       | Salida de Sol | Salida de Luna                   |    | Puesta de Luna |    |   |
|----|----------------------------------------|------|-----|----------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------|-------------------------------------|-------|---------------|----------------------------------|----|----------------|----|---|
|    | SD: 16 <sup>h</sup> 1                  |      |     | Edad: 22 <sup>d</sup> 9                                                                | PHE {<br>4 <sup>h</sup> : 55 <sup>h</sup> 1<br>12 <sup>h</sup> : 55 <sup>h</sup> 3<br>20 <sup>h</sup> : 55 <sup>h</sup> 5 |                       |                         |                                     |       |               |                                  |    |                |    |   |
|    | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 7 |      |     |                                                                                        |                                                                                                                           | SD: 15 <sup>h</sup> 0 |                         | PMG: 6 <sup>h</sup> 56 <sup>m</sup> |       |               | R <sup>o</sup> : 44 <sup>m</sup> |    |                |    |   |
|    | hG ☉                                   | Dec  |     | hG ☾                                                                                   | Dif                                                                                                                       | Dec                   | Dif                     | Náutico                             | Civil |               | Hora                             | R° | Hora           | R° |   |
| h  | o                                      | '    | o   | '                                                                                      | o                                                                                                                         | '                     | o                       | h                                   | m     | h             | m                                | h  | m              | h  | m |
| 0  | 184                                    | 05.5 | -16 | 01.0                                                                                   | 259                                                                                                                       | 10.7                  | +18 45.0                | 5 59                                | 6 49  | 7 36          | 23 45                            | 90 | 15 07          | 1  |   |
| 1  | 199                                    | 05.5 |     | 01.7                                                                                   | 273                                                                                                                       | 43.2 <sup>135</sup>   | 33.9 <sup>111</sup>     | 56                                  | 43    | 26            | 23 54                            | 86 | 14 58          | 4  |   |
| 2  | 214                                    | 05.4 |     | 02.4                                                                                   | 288                                                                                                                       | 15.8 <sup>136</sup>   | 22.8 <sup>111</sup>     | 56                                  | 53    | 38            | ** ** *                          | ** | 49             | 8  |   |
| 3  | 229                                    | 05.4 |     | 03.2                                                                                   | 302                                                                                                                       | 48.4 <sup>136</sup>   | 11.5 <sup>113</sup>     | 54                                  | 50    | 33            | ** ** *                          | ** | 41             | 1  |   |
| 4  | 244                                    | 05.4 |     | 03.9                                                                                   | 317                                                                                                                       | 21.0 <sup>136</sup>   | +18 00.2 <sup>113</sup> | 52                                  | 48    | 28            | ** ** *                          | ** | 35             | 13 |   |
| 5  | 259                                    | 05.4 | -16 | 04.7                                                                                   | 331                                                                                                                       | 53.7 <sup>137</sup>   | +17 48.8 <sup>114</sup> | 50                                  | 5 45  | 6 24          | ** ** *                          | ** | 14 28          | 16 |   |
| 6  | 274                                    | 05.3 | -16 | 05.4                                                                                   | 346                                                                                                                       | 26.4 <sup>137</sup>   | +17 37.3 <sup>115</sup> | 45                                  | 5 40  | 6 15          | ** ** *                          | ** | 14 15          | 20 |   |
| 7  | 289                                    | 05.3 |     | 06.2                                                                                   | 0                                                                                                                         | 59.1 <sup>137</sup>   | 25.7 <sup>116</sup>     | 40                                  | 34    | 07            | ** ** *                          | ** | 14 04          | 24 |   |
| 8  | 304                                    | 05.3 |     | 06.9                                                                                   | 15                                                                                                                        | 31.9 <sup>138</sup>   | 14.0 <sup>117</sup>     | 35                                  | 29    | 6 00          | ** ** *                          | ** | 13 55          | 27 |   |
| 9  | 319                                    | 05.2 |     | 07.7                                                                                   | 30                                                                                                                        | 04.7 <sup>138</sup>   | +17 02.2 <sup>118</sup> | 30                                  | 25    | 5 53          | ** ** *                          | ** | 46             | 31 |   |
| 10 | 334                                    | 05.2 |     | 08.4                                                                                   | 44                                                                                                                        | 37.6 <sup>139</sup>   | +16 50.4 <sup>118</sup> | 20                                  | 15    | 41            | 0 16                             | 53 | 32             | 35 |   |
| 11 | 349                                    | 05.2 | -16 | 09.1                                                                                   | 59                                                                                                                        | 10.4 <sup>138</sup>   | +16 38.5 <sup>119</sup> | 10 N                                | 5 05  | 5 30          | 0 31                             | 49 | 13 19          | 40 |   |
| 12 | 4                                      | 05.1 | -16 | 09.9                                                                                   | 73                                                                                                                        | 43.4 <sup>140</sup>   | +16 26.5 <sup>120</sup> | 0                                   | 4 54  | 5 19          | 0 45                             | 45 | 13 07          | 44 |   |
| 13 | 19                                     | 05.1 |     | 10.6                                                                                   | 88                                                                                                                        | 16.3 <sup>139</sup>   | 14.4 <sup>121</sup>     | 10 S                                | 41    | 5 07          | 0 59                             | 41 | 12 55          | 44 |   |
| 14 | 34                                     | 05.1 |     | 11.4                                                                                   | 102                                                                                                                       | 49.3 <sup>140</sup>   | +16 02.2 <sup>122</sup> | 20                                  | 25    | 4 53          | 1 14                             | 36 | 41             | 53 |   |
| 15 | 49                                     | 05.1 |     | 12.1                                                                                   | 117                                                                                                                       | 22.3 <sup>140</sup>   | +15 49.9 <sup>123</sup> | 30                                  | 4 05  | 36            | 31                               | 32 | 26             | 58 |   |
| 16 | 64                                     | 05.0 |     | 12.9                                                                                   | 131                                                                                                                       | 55.3 <sup>140</sup>   | 37.6 <sup>123</sup>     | 35                                  | 3 53  | 25            | 41                               | 29 | 18             | 61 |   |
| 17 | 79                                     | 05.0 | -16 | 13.6                                                                                   | 146                                                                                                                       | 28.4 <sup>141</sup>   | +15 25.2 <sup>124</sup> | 40                                  | 3 37  | 4 13          | 1 52                             | 26 | 12 08          | 64 |   |
| 18 | 94                                     | 05.0 | -16 | 14.3                                                                                   | 161                                                                                                                       | 01.5 <sup>141</sup>   | +15 12.7 <sup>125</sup> | 45                                  | 3 18  | 3 59          | 2 05                             | 22 | 11 56          | 68 |   |
| 19 | 109                                    | 04.9 |     | 15.1                                                                                   | 175                                                                                                                       | 34.6 <sup>141</sup>   | +15 00.2 <sup>125</sup> | 50                                  | 2 52  | 40            | 21                               | 17 | 41             | 74 |   |
| 20 | 124                                    | 04.9 |     | 15.8                                                                                   | 190                                                                                                                       | 07.7 <sup>141</sup>   | +14 47.5 <sup>127</sup> | 52                                  | 40    | 32            | 29                               | 14 | 34             | 77 |   |
| 21 | 139                                    | 04.9 |     | 16.6                                                                                   | 204                                                                                                                       | 40.9 <sup>142</sup>   | 34.8 <sup>127</sup>     | 54                                  | 24    | 21            | 37                               | 12 | 27             | 79 |   |
| 22 | 154                                    | 04.8 |     | 17.3                                                                                   | 219                                                                                                                       | 14.1 <sup>142</sup>   | 22.0 <sup>128</sup>     | 56                                  | 2 06  | 3 10          | 46                               | 9  | 18             | 83 |   |
| 23 | 169                                    | 04.8 |     | 18.0                                                                                   | 233                                                                                                                       | 47.3 <sup>142</sup>   | +14 09.2 <sup>128</sup> | 58                                  | 1 43  | 2 57          | 2 57                             | 5  | 11 09          | 86 |   |
| 24 | 184                                    | 04.7 | -16 | 18.8                                                                                   | 248                                                                                                                       | 20.6 <sup>143</sup>   | +13 56.3 <sup>129</sup> | 60 S                                | 1 10  | 2 41          | 3 09                             | 1  | 10 57          | 91 |   |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 20 <sup>h</sup> 54 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 36 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 37 <sup>m</sup> |      | Mag: -1.7<br>PMG: 9 <sup>h</sup> 30 <sup>m</sup> |      | Mag: +0.1<br>PMG: 4 <sup>h</sup> 55 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | o                                      | '    | o                                                | '    | o                                                 | '    | o                                                | '    | o                                                | '    |
| 0   | 45                                     | 32.8 | 215                                              | 59.6 | -2                                                | 16.5 | 200                                              | 41.3 | -9                                               | 37.8 |
| 1   | 60                                     | 35.3 | 230                                              | 59.2 |                                                   | 17.7 | 215                                              | 42.2 |                                                  | 38.4 |
| 2   | 75                                     | 37.7 | 245                                              | 58.9 |                                                   | 18.8 | 230                                              | 43.1 |                                                  | 39.0 |
| 3   | 90                                     | 40.2 | 260                                              | 58.5 |                                                   | 20.0 | 245                                              | 44.0 |                                                  | 39.6 |
| 4   | 105                                    | 42.7 | 275                                              | 58.2 |                                                   | 21.2 | 260                                              | 44.9 |                                                  | 40.2 |
| 5   | 120                                    | 45.1 | 290                                              | 57.8 | -2                                                | 22.3 | 275                                              | 45.8 | -9                                               | 40.9 |
| 6   | 135                                    | 47.6 | 305                                              | 57.4 | -2                                                | 23.5 | 290                                              | 46.7 | -9                                               | 41.5 |
| 7   | 150                                    | 50.1 | 320                                              | 57.1 |                                                   | 24.6 | 305                                              | 47.6 |                                                  | 42.1 |
| 8   | 165                                    | 52.5 | 335                                              | 56.7 |                                                   | 25.8 | 320                                              | 48.5 |                                                  | 42.7 |
| 9   | 180                                    | 55.0 | 350                                              | 56.4 |                                                   | 26.9 | 335                                              | 49.4 |                                                  | 43.3 |
| 10  | 195                                    | 57.4 | 5                                                | 56.0 |                                                   | 28.1 | 350                                              | 50.3 |                                                  | 43.9 |
| 11  | 210                                    | 59.9 | 20                                               | 55.7 | -2                                                | 29.2 | 5                                                | 51.2 | -9                                               | 44.5 |
| 12  | 226                                    | 02.4 | 35                                               | 55.3 | -2                                                | 30.4 | 20                                               | 52.1 | -9                                               | 45.1 |
| 13  | 241                                    | 04.8 | 50                                               | 54.9 |                                                   | 31.5 | 35                                               | 53.0 |                                                  | 45.8 |
| 14  | 256                                    | 07.3 | 65                                               | 54.6 |                                                   | 32.7 | 50                                               | 53.9 |                                                  | 46.4 |
| 15  | 271                                    | 09.8 | 80                                               | 54.2 |                                                   | 33.9 | 65                                               | 54.8 |                                                  | 47.0 |
| 16  | 286                                    | 12.2 | 95                                               | 53.9 |                                                   | 35.0 | 80                                               | 55.7 |                                                  | 47.6 |
| 17  | 301                                    | 14.7 | 110                                              | 53.5 | -2                                                | 36.2 | 95                                               | 56.6 | -9                                               | 48.2 |
| 18  | 316                                    | 17.2 | 125                                              | 53.1 | -2                                                | 37.3 | 110                                              | 57.5 | -9                                               | 48.8 |
| 19  | 331                                    | 19.6 | 140                                              | 52.8 |                                                   | 38.5 | 125                                              | 58.4 |                                                  | 49.4 |
| 20  | 346                                    | 22.1 | 155                                              | 52.4 |                                                   | 39.6 | 140                                              | 59.3 |                                                  | 50.1 |
| 21  | 1                                      | 24.5 | 170                                              | 52.1 |                                                   | 40.8 | 156                                              | 00.2 |                                                  | 50.7 |
| 22  | 16                                     | 27.0 | 185                                              | 51.7 |                                                   | 41.9 | 171                                              | 01.1 |                                                  | 51.3 |
| 23  | 31                                     | 29.5 | 200                                              | 51.3 |                                                   | 43.1 | 186                                              | 02.0 |                                                  | 51.9 |
| 24  | 46                                     | 31.9 | 215                                              | 51.0 | -2                                                | 44.2 | 201                                              | 02.9 | -9                                               | 52.5 |
| Dif | —                                      |      | -4                                               |      | -12                                               |      | +9                                               |      | -6                                               |      |
|     |                                        |      |                                                  |      |                                                   |      | +20                                              |      | -2                                               |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | +25                                              |      |

| UT | SOL                                                |      |     | ☾ LUNA                                                                           |     |                     | Latitud | Puesta de Sol       | Final del crepúsculo |       |         | Salida de Luna |         | Puesta de Luna |       |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------|-----|---------------------|---------|---------------------|----------------------|-------|---------|----------------|---------|----------------|-------|
|    | SD: 16:1<br>PMG: 11 <sup>h</sup> 43 <sup>m</sup> 7 |      |     | Edad: 23 <sup>d</sup> 9 PHE {<br>SD: 15:2<br>PMG: 7 <sup>h</sup> 40 <sup>m</sup> |     |                     |         |                     |                      |       |         |                |         |                |       |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                             | Dif | Dec                 |         |                     | Dif                  | Civil | Náutico | Hora           | Rº      | Hora           | Rº    |
| h  | °                                                  | '    | °   | '                                                                                | °   | '                   | °       | '                   | h m                  | h m   | h m     | h m m          | h m m   | h m m          |       |
| 0  | 184                                                | 04.7 | -16 | 18.8                                                                             | 248 | 20.6                | +13     | 56.3                | 60 N                 | 15 48 | 16 35   | 17 25          | ** ** * | 15 08          | 0     |
| 1  | 199                                                | 04.7 |     | 19.5                                                                             | 262 | 53.8 <sup>142</sup> |         | 43.3 <sup>130</sup> | 58                   | 15 58 | 41      | 29             | ** ** * | 15 02          | 3     |
| 2  | 214                                                | 04.7 |     | 20.2                                                                             | 277 | 27.1 <sup>143</sup> |         | 30.2 <sup>131</sup> | 56                   | 16 06 | 47      | 32             | 0 01    | 83             | 14 57 |
| 3  | 229                                                | 04.6 |     | 21.0                                                                             | 292 | 00.4 <sup>143</sup> |         | 17.0 <sup>132</sup> | 54                   | 14    | 52      | 35             | 08      | 79             | 52    |
| 4  | 244                                                | 04.6 |     | 21.7                                                                             | 306 | 33.8 <sup>144</sup> | +13     | 03.8 <sup>132</sup> | 52                   | 21    | 16 57   | 37             | 14      | 77             | 48    |
| 5  | 259                                                | 04.6 | -16 | 22.4                                                                             | 321 | 07.1 <sup>143</sup> | +12     | 50.5 <sup>133</sup> | 50                   | 16 27 | 17 01   | 17 40          | 0 19    | 75             | 14 44 |
| 6  | 274                                                | 04.5 | -16 | 23.2                                                                             | 335 | 40.5 <sup>144</sup> | +12     | 37.2 <sup>133</sup> | 45                   | 16 40 | 17 11   | 17 46          | 0 31    | 69             | 14 35 |
| 7  | 289                                                | 04.5 |     | 23.9                                                                             | 350 | 13.9 <sup>144</sup> |         | 23.8 <sup>134</sup> | 40                   | 16 51 | 19      | 52             | 41      | 65             | 28    |
| 8  | 304                                                | 04.5 |     | 24.6                                                                             | 4   | 47.3 <sup>144</sup> | +12     | 10.3 <sup>135</sup> | 35                   | 17 00 | 27      | 17 57          | 49      | 61             | 22    |
| 9  | 319                                                | 04.4 |     | 25.4                                                                             | 19  | 20.7 <sup>144</sup> | +11     | 56.7 <sup>136</sup> | 30                   | 08    | 33      | 18 02          | 0 56    | 58             | 17    |
| 10 | 334                                                | 04.4 |     | 26.1                                                                             | 33  | 54.1 <sup>144</sup> |         | 43.1 <sup>136</sup> | 20                   | 23    | 46      | 12             | 1 09    | 53             | 14 07 |
| 11 | 349                                                | 04.3 | -16 | 26.8                                                                             | 48  | 27.6 <sup>145</sup> | +11     | 29.4 <sup>137</sup> | 10 N                 | 17 35 | 17 57   | 18 22          | 1 20    | 48             | 13 59 |
| 12 | 4                                                  | 04.3 | -16 | 27.6                                                                             | 63  | 01.0 <sup>144</sup> | +11     | 15.7 <sup>137</sup> | 0                    | 17 47 | 18 09   | 18 34          | 1 30    | 44             | 13 51 |
| 13 | 19                                                 | 04.3 |     | 28.3                                                                             | 77  | 34.5 <sup>145</sup> | +11     | 01.9 <sup>138</sup> | 10 S                 | 17 59 | 21      | 18 47          | 40      | 39             | 43    |
| 14 | 34                                                 | 04.2 |     | 29.0                                                                             | 92  | 08.0 <sup>145</sup> | +10     | 48.0 <sup>139</sup> | 20                   | 18 12 | 36      | 19 03          | 1 50    | 35             | 34    |
| 15 | 49                                                 | 04.2 |     | 29.8                                                                             | 106 | 41.5 <sup>145</sup> |         | 34.1 <sup>139</sup> | 30                   | 27    | 18 53   | 24             | 2 03    | 29             | 24    |
| 16 | 64                                                 | 04.1 |     | 30.5                                                                             | 121 | 15.0 <sup>145</sup> |         | 20.1 <sup>140</sup> | 35                   | 36    | 19 04   | 37             | 10      | 26             | 19    |
| 17 | 79                                                 | 04.1 | -16 | 31.2                                                                             | 135 | 48.5 <sup>145</sup> | +10     | 06.0 <sup>141</sup> | 40                   | 18 46 | 19 16   | 19 52          | 2 18    | 23             | 13 12 |
| 18 | 94                                                 | 04.1 | -16 | 31.9                                                                             | 150 | 22.0 <sup>145</sup> | +9      | 51.9 <sup>141</sup> | 45                   | 18 58 | 19 31   | 20 12          | 2 27    | 19             | 13 04 |
| 19 | 109                                                | 04.0 |     | 32.7                                                                             | 164 | 55.5 <sup>145</sup> |         | 37.7 <sup>142</sup> | 50                   | 19 12 | 50      | 39             | 38      | 14             | 12 55 |
| 20 | 124                                                | 04.0 |     | 33.4                                                                             | 179 | 29.0 <sup>145</sup> |         | 23.5 <sup>142</sup> | 52                   | 19    | 19 59   | 20 52          | 43      | 12             | 51    |
| 21 | 139                                                | 03.9 |     | 34.1                                                                             | 194 | 02.6 <sup>146</sup> | +9      | 09.2 <sup>143</sup> | 54                   | 27    | 20 10   | 21 08          | 49      | 9              | 46    |
| 22 | 154                                                | 03.9 |     | 34.9                                                                             | 208 | 36.1 <sup>145</sup> | +8      | 54.8 <sup>144</sup> | 56                   | 35    | 22      | 28             | 2 55    | 7              | 41    |
| 23 | 169                                                | 03.8 |     | 35.6                                                                             | 223 | 09.6 <sup>145</sup> |         | 40.4 <sup>144</sup> | 58                   | 45    | 36      | 21 53          | 3 02    | 3              | 35    |
| 24 | 184                                                | 03.8 | -16 | 36.3                                                                             | 237 | 43.1 <sup>145</sup> | +8      | 26.0 <sup>144</sup> | 60 S                 | 19 56 | 20 52   | 22 31          | 3 10    | 0              | 12 28 |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 20 <sup>h</sup> 50 <sup>m</sup> 4 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 37 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 35 <sup>m</sup> |      | Mag: -1.7<br>PMG: 9 <sup>h</sup> 27 <sup>m</sup> |      | Mag: +0.1<br>PMG: 4 <sup>h</sup> 51 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♎                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                                | '    |
| 0   | 46                                     | 31.9 | 215                                              | 51.0 | -2                                                | 44.2 | 201                                              | 02.9 | -9                                               | 52.5 |
| 1   | 61                                     | 34.4 | 230                                              | 50.6 |                                                   | 45.4 | 216                                              | 03.9 |                                                  | 53.1 |
| 2   | 76                                     | 36.9 | 245                                              | 50.3 |                                                   | 46.6 | 231                                              | 04.8 |                                                  | 53.7 |
| 3   | 91                                     | 39.3 | 260                                              | 49.9 |                                                   | 47.7 | 246                                              | 05.7 |                                                  | 54.3 |
| 4   | 106                                    | 41.8 | 275                                              | 49.5 |                                                   | 48.9 | 261                                              | 06.6 |                                                  | 54.9 |
| 5   | 121                                    | 44.3 | 290                                              | 49.2 | -2                                                | 50.0 | 276                                              | 07.5 | -9                                               | 55.6 |
| 6   | 136                                    | 46.7 | 305                                              | 48.8 | -2                                                | 51.2 | 291                                              | 08.4 | -9                                               | 56.2 |
| 7   | 151                                    | 49.2 | 320                                              | 48.5 |                                                   | 52.3 | 306                                              | 09.3 |                                                  | 56.8 |
| 8   | 166                                    | 51.7 | 335                                              | 48.1 |                                                   | 53.5 | 321                                              | 10.2 |                                                  | 57.4 |
| 9   | 181                                    | 54.1 | 350                                              | 47.7 |                                                   | 54.6 | 336                                              | 11.1 |                                                  | 58.0 |
| 10  | 196                                    | 56.6 | 5                                                | 47.4 |                                                   | 55.8 | 351                                              | 12.0 |                                                  | 58.6 |
| 11  | 211                                    | 59.0 | 20                                               | 47.0 | -2                                                | 56.9 | 6                                                | 12.9 | -9                                               | 59.2 |
| 12  | 227                                    | 01.5 | 35                                               | 46.6 | -2                                                | 58.1 | 21                                               | 13.8 | -9                                               | 59.8 |
| 13  | 242                                    | 04.0 | 50                                               | 46.3 | -2                                                | 59.3 | 36                                               | 14.7 | -10                                              | 00.4 |
| 14  | 257                                    | 06.4 | 65                                               | 45.9 | -3                                                | 00.4 | 51                                               | 15.6 |                                                  | 01.1 |
| 15  | 272                                    | 08.9 | 80                                               | 45.6 |                                                   | 01.6 | 66                                               | 16.5 |                                                  | 01.7 |
| 16  | 287                                    | 11.4 | 95                                               | 45.2 |                                                   | 02.7 | 81                                               | 17.4 |                                                  | 02.3 |
| 17  | 302                                    | 13.8 | 110                                              | 44.8 | -3                                                | 03.9 | 96                                               | 18.3 | -10                                              | 02.9 |
| 18  | 317                                    | 16.3 | 125                                              | 44.5 | -3                                                | 05.0 | 111                                              | 19.2 | -10                                              | 03.5 |
| 19  | 332                                    | 18.8 | 140                                              | 44.1 |                                                   | 06.2 | 126                                              | 20.1 |                                                  | 04.1 |
| 20  | 347                                    | 21.2 | 155                                              | 43.7 |                                                   | 07.3 | 141                                              | 21.0 |                                                  | 04.7 |
| 21  | 2                                      | 23.7 | 170                                              | 43.4 |                                                   | 08.5 | 156                                              | 21.9 |                                                  | 05.3 |
| 22  | 17                                     | 26.2 | 185                                              | 43.0 |                                                   | 09.6 | 171                                              | 22.8 |                                                  | 05.9 |
| 23  | 32                                     | 28.6 | 200                                              | 42.6 |                                                   | 10.8 | 186                                              | 23.7 |                                                  | 06.5 |
| 24  | 47                                     | 31.1 | 215                                              | 42.3 | -3                                                | 12.0 | 201                                              | 24.5 | -10                                              | 07.2 |
| Dif | —                                      |      | -4                                               |      | -12                                               |      | +9                                               |      | -6                                               |      |
|     |                                        |      |                                                  |      |                                                   |      | +20                                              |      | -2                                               |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | +25                                              |      |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                                            |     |                                                   | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |      |       |      |     |      |  |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|------|-------|------|-----|------|--|
|     | SD: 16'1<br>PMG: 11 <sup>h</sup> 43 <sup>m</sup> 8 |      |                                                  | Edad: 24 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 56'5<br>12 <sup>h</sup> : 56'8<br>20 <sup>h</sup> : 57'1<br>SD: 15'4<br>PMG: 8 <sup>h</sup> 24 <sup>m</sup> R°: 44 <sup>m</sup> |     |                                                   |         |                          |                                                  |               |                |                                                  |                |      |       |      |     |      |  |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                              | Dif | Dec                                               |         | Dif                      | Náutico                                          |               | Civil          | Hora                                             | R°             | Hora | R°    |      |     |      |  |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                                 | °   | '                                                 | °       | '                        | h                                                | m             | h              | m                                                | h              | m    | h     | m    |     |      |  |
| 0   | 184                                                | 03.8 | -16                                              | 36.3                                                                                                                                                                              | 237 | 43.1                                              | +8      | 26.0                     | 60 N                                             | 6 03          | 6 54           | 7 41                                             | 1 15           | 91   | 15 08 | **   |     |      |  |
| 1   | 199                                                | 03.8 |                                                  | 37.0                                                                                                                                                                              | 252 | 16.7 <sup>146</sup>                               | +8      | 11.5 <sup>145</sup>      | 58                                               | 6 00          | 47             | 31                                               | 20             | 87   | 05    | 3    |     |      |  |
| 2   | 214                                                | 03.7 |                                                  | 37.8                                                                                                                                                                              | 266 | 50.2 <sup>145</sup>                               | +7      | 56.9 <sup>146</sup>      | 56                                               | 5 57          | 41             | 22                                               | 24             | 84   | 03    | 6    |     |      |  |
| 3   | 229                                                | 03.7 |                                                  | 38.5                                                                                                                                                                              | 281 | 23.7 <sup>145</sup>                               |         | 42.3 <sup>146</sup>      | 54                                               | 54            | 36             | 15                                               | 27             | 81   | 15    | 01   |     |      |  |
| 4   | 244                                                | 03.6 |                                                  | 39.2                                                                                                                                                                              | 295 | 57.2 <sup>145</sup>                               |         | 27.6 <sup>147</sup>      | 52                                               | 51            | 31             | 08                                               | 31             | 78   | 14    | 59   |     |      |  |
| 5   | 259                                                | 03.6 | -16                                              | 39.9                                                                                                                                                                              | 310 | 30.8 <sup>146</sup>                               | +7      | 12.9 <sup>147</sup>      | 50                                               | 5 48          | 6 27           | 7 02                                             | 1 34           | 75   | 14 57 | 14   |     |      |  |
| 6   | 274                                                | 03.5 | -16                                              | 40.6                                                                                                                                                                              | 325 | 04.3 <sup>145</sup>                               | +6      | 58.1 <sup>148</sup>      | 45                                               | 5 42          | 6 17           | 6 48                                             | 1 40           | 71   | 14 54 | 18   |     |      |  |
| 7   | 289                                                | 03.5 |                                                  | 41.4                                                                                                                                                                              | 339 | 37.8 <sup>145</sup>                               |         | 43.3 <sup>148</sup>      | 40                                               | 36            | 09             | 37                                               | 46             | 66   | 51    | 22   |     |      |  |
| 8   | 304                                                | 03.4 |                                                  | 42.1                                                                                                                                                                              | 354 | 11.3 <sup>145</sup>                               |         | 28.5 <sup>148</sup>      | 35                                               | 31            | 6 01           | 28                                               | 50             | 63   | 48    | 26   |     |      |  |
| 9   | 319                                                | 03.4 |                                                  | 42.8                                                                                                                                                                              | 8   | 44.7 <sup>144</sup>                               | +6      | 13.6 <sup>149</sup>      | 30                                               | 26            | 5 55           | 20                                               | 1 54           | 60   | 46    | 29   |     |      |  |
| 10  | 334                                                | 03.3 |                                                  | 43.5                                                                                                                                                                              | 23  | 18.2 <sup>145</sup>                               | +5      | 58.6 <sup>150</sup>      | 20                                               | 16            | 42             | 6 05                                             | 2 02           | 53   | 42    | 34   |     |      |  |
| 11  | 349                                                | 03.3 | -16                                              | 44.3                                                                                                                                                                              | 37  | 51.7 <sup>145</sup>                               | +5      | 43.6 <sup>150</sup>      | 10 N                                             | 5 05          | 5 30           | 5 52                                             | 2 08           | 48   | 14 38 | 40   |     |      |  |
| 12  | 4                                                  | 03.2 | -16                                              | 45.0                                                                                                                                                                              | 52  | 25.1 <sup>144</sup>                               | +5      | 28.6 <sup>150</sup>      | 0                                                | 4 54          | 5 19           | 5 40                                             | 2 14           | 43   | 14 34 | 45   |     |      |  |
| 13  | 19                                                 | 03.2 |                                                  | 45.7                                                                                                                                                                              | 66  | 58.6 <sup>145</sup>                               | +5      | 13.5 <sup>151</sup>      | 10 S                                             | 40            | 5 06           | 28                                               | 19             | 40   | 31    | 49   |     |      |  |
| 14  | 34                                                 | 03.1 |                                                  | 46.4                                                                                                                                                                              | 81  | 32.0 <sup>144</sup>                               | +4      | 58.3 <sup>152</sup>      | 20                                               | 24            | 4 52           | 15                                               | 25             | 35   | 27    | 54   |     |      |  |
| 15  | 49                                                 | 03.1 |                                                  | 47.1                                                                                                                                                                              | 96  | 05.4 <sup>144</sup>                               |         | 43.2 <sup>151</sup>      | 30                                               | 4 04          | 34             | 5 00                                             | 32             | 29   | 23    | 60   |     |      |  |
| 16  | 64                                                 | 03.0 |                                                  | 47.8                                                                                                                                                                              | 110 | 38.8 <sup>144</sup>                               |         | 28.0 <sup>152</sup>      | 35                                               | 3 50          | 24             | 4 51                                             | 36             | 26   | 20    | 63   |     |      |  |
| 17  | 79                                                 | 03.0 | -16                                              | 48.6                                                                                                                                                                              | 125 | 12.1 <sup>143</sup>                               | +4      | 12.7 <sup>153</sup>      | 40                                               | 3 35          | 4 11           | 4 41                                             | 2 41           | 22   | 14 17 | 67   |     |      |  |
| 18  | 94                                                 | 02.9 | -16                                              | 49.3                                                                                                                                                                              | 139 | 45.5 <sup>144</sup>                               | +3      | 57.4 <sup>153</sup>      | 45                                               | 3 15          | 3 56           | 4 29                                             | 2 46           | 18   | 14 14 | 71   |     |      |  |
| 19  | 109                                                | 02.9 |                                                  | 50.0                                                                                                                                                                              | 154 | 18.8 <sup>143</sup>                               |         | 42.1 <sup>153</sup>      | 50                                               | 2 48          | 37             | 14                                               | 52             | 14   | 10    | 76   |     |      |  |
| 20  | 124                                                | 02.8 |                                                  | 50.7                                                                                                                                                                              | 168 | 52.1 <sup>143</sup>                               |         | 26.7 <sup>154</sup>      | 52                                               | 35            | 28             | 08                                               | 55             | 11   | 08    | 79   |     |      |  |
| 21  | 139                                                | 02.8 |                                                  | 51.4                                                                                                                                                                              | 183 | 25.4 <sup>143</sup>                               | +3      | 11.3 <sup>154</sup>      | 54                                               | 2 19          | 17             | 4 00                                             | 2 58           | 9    | 06    | 82   |     |      |  |
| 22  | 154                                                | 02.7 |                                                  | 52.1                                                                                                                                                                              | 197 | 58.6 <sup>142</sup>                               | +2      | 55.9 <sup>154</sup>      | 56                                               | 1 59          | 3 05           | 3 51                                             | 3 02           | 6    | 04    | 84   |     |      |  |
| 23  | 169                                                | 02.7 |                                                  | 52.9                                                                                                                                                                              | 212 | 31.9 <sup>143</sup>                               |         | 40.4 <sup>155</sup>      | 58                                               | 1 34          | 2 51           | 42                                               | 05             | 4    | 14    | 01   |     |      |  |
| 24  | 184                                                | 02.6 | -16                                              | 53.6                                                                                                                                                                              | 227 | 05.1 <sup>142</sup>                               | +2      | 24.9 <sup>155</sup>      | 60 S                                             | 0 56          | 2 34           | 3 31                                             | 3 10           | **   | 13 58 | 92   |     |      |  |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                                   |     | MARTE                                             |         |                          | JÚPITER                                          |               |                | SATURNO                                          |                |      |       |      |     |      |  |
|     | PMG: 20 <sup>h</sup> 46 <sup>m</sup> 5             |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 37 <sup>m</sup> |                                                                                                                                                                                   |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 34 <sup>m</sup> |         |                          | Mag: -1.8<br>PMG: 9 <sup>h</sup> 24 <sup>m</sup> |               |                | Mag: +0.1<br>PMG: 4 <sup>h</sup> 47 <sup>m</sup> |                |      |       |      |     |      |  |
| h   | hG ♈                                               |      | hG ♀                                             |                                                                                                                                                                                   |     | hG ♂                                              |         |                          | hG ♊                                             |               |                | hG ♋                                             |                |      |       |      |     |      |  |
| 0   | 47                                                 | 31.1 | 215                                              | 42.3                                                                                                                                                                              | -3  | 12.0                                              | 201     | 24.5                     | -10                                              | 07.2          | 218            | 41.0                                             | -2             | 34.6 | 288   | 08.0 | +20 | 35.5 |  |
| 1   | 62                                                 | 33.5 | 230                                              | 41.9                                                                                                                                                                              |     | 13.1                                              | 216     | 25.4                     |                                                  | 07.8          | 233            | 43.0                                             |                | 34.8 | 303   | 10.5 |     | 35.5 |  |
| 2   | 77                                                 | 36.0 | 245                                              | 41.6                                                                                                                                                                              |     | 14.3                                              | 231     | 26.3                     |                                                  | 08.4          | 248            | 45.0                                             |                | 35.0 | 318   | 12.9 |     | 35.5 |  |
| 3   | 92                                                 | 38.5 | 260                                              | 41.2                                                                                                                                                                              |     | 15.4                                              | 246     | 27.2                     |                                                  | 09.0          | 263            | 47.0                                             |                | 35.2 | 333   | 15.4 |     | 35.5 |  |
| 4   | 107                                                | 40.9 | 275                                              | 40.8                                                                                                                                                                              |     | 16.6                                              | 261     | 28.1                     |                                                  | 09.6          | 278            | 49.0                                             |                | 35.4 | 348   | 17.9 |     | 35.5 |  |
| 5   | 122                                                | 43.4 | 290                                              | 40.5                                                                                                                                                                              | -3  | 17.7                                              | 276     | 29.0                     | -10                                              | 10.2          | 293            | 51.1                                             | -2             | 35.6 | 3     | 20.3 | +20 | 35.5 |  |
| 6   | 137                                                | 45.9 | 305                                              | 40.1                                                                                                                                                                              | -3  | 18.9                                              | 291     | 29.9                     | -10                                              | 10.8          | 308            | 53.1                                             | -2             | 35.7 | 18    | 22.8 | +20 | 35.5 |  |
| 7   | 152                                                | 48.3 | 320                                              | 39.7                                                                                                                                                                              |     | 20.0                                              | 306     | 30.8                     |                                                  | 11.4          | 323            | 55.1                                             |                | 35.9 | 33    | 25.3 |     | 35.5 |  |
| 8   | 167                                                | 50.8 | 335                                              | 39.4                                                                                                                                                                              |     | 21.2                                              | 321     | 31.7                     |                                                  | 12.0          | 338            | 57.1                                             |                | 36.1 | 48    | 27.7 |     | 35.5 |  |
| 9   | 182                                                | 53.3 | 350                                              | 39.0                                                                                                                                                                              |     | 22.3                                              | 336     | 32.6                     |                                                  | 12.6          | 353            | 59.1                                             |                | 36.3 | 63    | 30.2 |     | 35.5 |  |
| 10  | 197                                                | 55.7 | 5                                                | 38.6                                                                                                                                                                              |     | 23.5                                              | 351     | 33.5                     |                                                  | 13.2          | 9              | 01.2                                             |                | 36.5 | 78    | 32.6 |     | 35.5 |  |
| 11  | 212                                                | 58.2 | 20                                               | 38.3                                                                                                                                                                              | -3  | 24.6                                              | 6       | 34.4                     | -10                                              | 13.8          | 24             | 03.2                                             | -2             | 36.7 | 93    | 35.1 | +20 | 35.5 |  |
| 12  | 228                                                | 00.6 | 35                                               | 37.9                                                                                                                                                                              | -3  | 25.8                                              | 21      | 35.3                     | -10                                              | 14.5          | 39             | 05.2                                             | -2             | 36.8 | 108   | 37.6 | +20 | 35.5 |  |
| 13  | 243                                                | 03.1 | 50                                               | 37.5                                                                                                                                                                              |     | 27.0                                              | 36      | 36.2                     |                                                  | 15.1          | 54             | 07.2                                             |                | 37.0 | 123   | 40.0 |     | 35.5 |  |
| 14  | 258                                                | 05.6 | 65                                               | 37.2                                                                                                                                                                              |     | 28.1                                              | 51      | 37.1                     |                                                  | 15.7          | 69             | 09.2                                             |                | 37.2 | 138   | 42.5 |     | 35.5 |  |
| 15  | 273                                                | 08.0 | 80                                               | 36.8                                                                                                                                                                              |     | 29.3                                              | 66      | 38.0                     |                                                  | 16.3          | 84             | 11.3                                             |                | 37.4 | 153   | 45.0 |     | 35.5 |  |
| 16  | 288                                                | 10.5 | 95                                               | 36.4                                                                                                                                                                              |     | 30.4                                              | 81      | 38.9                     |                                                  | 16.9          | 99             | 13.3                                             |                | 37.6 | 168   | 47.4 |     | 35.5 |  |
| 17  | 303                                                | 13.0 | 110                                              | 36.1                                                                                                                                                                              | -3  | 31.6                                              | 96      | 39.8                     | -10                                              | 17.5          | 114            | 15.3                                             | -2             | 37.8 | 183   | 49.9 | +20 | 35.5 |  |
| 18  | 318                                                | 15.4 | 125                                              | 35.7                                                                                                                                                                              | -3  | 32.7                                              | 111     | 40.7                     | -10                                              | 18.1          | 129            | 17.3                                             | -2             | 38.0 | 198   | 52.4 | +20 | 35.5 |  |
| 19  | 333                                                | 17.9 | 140                                              | 35.3                                                                                                                                                                              |     | 33.9                                              | 126     | 41.6                     |                                                  | 18.7          | 144            | 19.3                                             |                | 38.1 | 213   | 54.8 |     | 35.5 |  |
| 20  | 348                                                | 20.4 | 155                                              | 34.9                                                                                                                                                                              |     | 35.0                                              | 141     | 42.5                     |                                                  | 19.3          | 159            | 21.4                                             |                | 38.3 | 228   | 57.3 |     | 35.5 |  |
| 21  | 3                                                  | 22.8 | 170                                              | 34.6                                                                                                                                                                              |     | 36.2                                              | 156     | 43.4                     |                                                  | 19.9          | 174            | 23.4                                             |                | 38.5 | 243   | 59.8 |     | 35.6 |  |
| 22  | 18                                                 | 25.3 | 185                                              | 34.2                                                                                                                                                                              |     | 37.3                                              | 171     | 44.3                     |                                                  | 20.5          | 189            | 25.4                                             |                | 38.7 | 259   | 02.2 |     | 35.6 |  |
| 23  | 33                                                 | 27.8 | 200                                              | 33.8                                                                                                                                                                              |     | 38.5                                              | 186     | 45.2                     |                                                  | 21.1          | 204            | 27.4                                             |                | 38.9 | 274   | 04.7 |     | 35.6 |  |
| 24  | 48                                                 | 30.2 | 215                                              | 33.5                                                                                                                                                                              | -3  | 39.7                                              | 201     | 46.1                     | -10                                              | 21.7          | 219            | 29.4                                             | -2             | 39.1 | 289   | 07.2 | +20 | 35.6 |  |
| Dif | —                                                  |      | -4                                               |                                                                                                                                                                                   |     | -12                                               | +9      |                          |                                                  | -6            | +20            |                                                  | -2             |      | +25   |      |     |      |  |

| UT  | SOL                                    |      |                                                  | ● LUNA                      |                                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |                                                  | Puesta de Luna |       |  |
|-----|----------------------------------------|------|--------------------------------------------------|-----------------------------|-------------------------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|---------|----------------|--------------------------------------------------|----------------|-------|--|
|     | SD: 16 <sup>h</sup> 1                  |      |                                                  | Edad: 25 <sup>d</sup> 9 PHE | SD: 15 <sup>h</sup> 6               |                                                   |         |               | R°: 46 <sup>m</sup>                              |         |                |                                                  |                |       |  |
|     | PMG: 11 <sup>h</sup> 43 <sup>m</sup> 9 |      |                                                  |                             | PMG: 9 <sup>h</sup> 08 <sup>m</sup> |                                                   |         |               |                                                  |         |                |                                                  |                |       |  |
|     | hG ☉                                   | Dec  |                                                  | hG ☾                        | Dif                                 | Dec                                               | Dif     |               | Civil                                            | Náutico | Hora           | R°                                               | Hora           | R°    |  |
| h   | °                                      | '    | °                                                | °                           | '                                   | °                                                 | '       | °             | h m                                              | h m     | h m            | h m m                                            | h m m          | h m m |  |
| 0   | 184                                    | 02.6 | -16 53.6                                         | 227                         | 05.1                                | +2 24.9                                           | 155     | 60 N          | 15 43                                            | 16 31   | 17 21          | 2 46 94                                          | 15 07 0        |       |  |
| 1   | 199                                    | 02.6 | 54.3                                             | 241                         | 38.2 <sup>141</sup>                 | +2 09.4 <sup>155</sup>                            | 155     | 58            | 15 54                                            | 38      | 25             | 47 90                                            | 08 3           |       |  |
| 2   | 214                                    | 02.5 | 55.0                                             | 256                         | 11.4 <sup>142</sup>                 | +1 53.8 <sup>156</sup>                            | 156     | 56            | 16 02                                            | 44      | 29             | 48 86                                            | 09 6           |       |  |
| 3   | 229                                    | 02.5 | 55.7                                             | 270                         | 44.5 <sup>141</sup>                 | 38.3 <sup>155</sup>                               | 155     | 54            | 10                                               | 49      | 32             | 48 84                                            | 10 9           |       |  |
| 4   | 244                                    | 02.4 | 56.4                                             | 285                         | 17.6 <sup>141</sup>                 | 22.6 <sup>157</sup>                               | 157     | 52            | 17                                               | 54      | 35             | 49 81                                            | 10 12          |       |  |
| 5   | 259                                    | 02.4 | -16 57.1                                         | 299                         | 50.6 <sup>140</sup>                 | +1 07.0 <sup>156</sup>                            | 156     | 50            | 16 24                                            | 16 59   | 17 37          | 2 49 79                                          | 15 11 14       |       |  |
| 6   | 274                                    | 02.3 | -16 57.8                                         | 314                         | 23.6 <sup>140</sup>                 | +0 51.3 <sup>157</sup>                            | 157     | 45            | 16 37                                            | 17 09   | 17 44          | 2 51 73                                          | 15 12 19       |       |  |
| 7   | 289                                    | 02.2 | 58.5                                             | 328                         | 56.6 <sup>140</sup>                 | 35.6 <sup>157</sup>                               | 157     | 40            | 49                                               | 17      | 50             | 52 68                                            | 13 24          |       |  |
| 8   | 304                                    | 02.2 | -16 59.3                                         | 343                         | 29.5 <sup>139</sup>                 | 19.9 <sup>157</sup>                               | 157     | 35            | 16 59                                            | 25      | 17 55          | 53 64                                            | 14 28          |       |  |
| 9   | 319                                    | 02.1 | -17 00.0                                         | 358                         | 02.4 <sup>139</sup>                 | +0 04.2 <sup>157</sup>                            | 157     | 30            | 17 07                                            | 32      | 18 01          | 54 61                                            | 15 31          |       |  |
| 10  | 334                                    | 02.1 | -17 00.7                                         | 12                          | 35.3 <sup>139</sup>                 | -0 11.6 <sup>158</sup>                            | 158     | 20            | 22                                               | 45      | 11             | 55 55                                            | 16 37          |       |  |
| 11  | 349                                    | 02.0 | -17 01.4                                         | 27                          | 08.1 <sup>138</sup>                 | -0 27.4 <sup>158</sup>                            | 158     | 10 N          | 17 35                                            | 17 57   | 18 22          | 2 56 50                                          | 15 18 41       |       |  |
| 12  | 4                                      | 02.0 | -17 02.1                                         | 41                          | 40.9 <sup>138</sup>                 | -0 43.2 <sup>158</sup>                            | 158     | 0             | 17 47                                            | 18 09   | 18 34          | 2 57 46                                          | 15 19 46       |       |  |
| 13  | 19                                     | 01.9 | 02.8                                             | 56                          | 13.6 <sup>137</sup>                 | -0 59.0 <sup>158</sup>                            | 158     | 10 S          | 18 00                                            | 22      | 18 48          | 2 59 40                                          | 20 51          |       |  |
| 14  | 34                                     | 01.8 | 03.5                                             | 70                          | 46.3 <sup>137</sup>                 | -1 14.9 <sup>159</sup>                            | 159     | 20            | 13                                               | 37      | 19 04          | 3 00 36                                          | 21 57          |       |  |
| 15  | 49                                     | 01.8 | 04.2                                             | 85                          | 18.9 <sup>136</sup>                 | 30.7 <sup>158</sup>                               | 158     | 30            | 29                                               | 18 55   | 26             | 01 30                                            | 23 62          |       |  |
| 16  | 64                                     | 01.7 | 04.9                                             | 99                          | 51.5 <sup>136</sup>                 | -1 46.6 <sup>159</sup>                            | 159     | 35            | 38                                               | 19 06   | 39             | 02 27                                            | 23 66          |       |  |
| 17  | 79                                     | 01.7 | -17 05.6                                         | 114                         | 24.1 <sup>136</sup>                 | -2 02.5 <sup>159</sup>                            | 159     | 40            | 18 49                                            | 19 19   | 19 55          | 3 03 23                                          | 15 24 70       |       |  |
| 18  | 94                                     | 01.6 | -17 06.3                                         | 128                         | 56.6 <sup>135</sup>                 | -2 18.4 <sup>159</sup>                            | 159     | 45            | 19 01                                            | 19 34   | 20 16          | 3 04 19                                          | 15 25 75       |       |  |
| 19  | 109                                    | 01.5 | 07.0                                             | 143                         | 29.0 <sup>134</sup>                 | 34.3 <sup>159</sup>                               | 159     | 50            | 16                                               | 19 54   | 44             | 06 13                                            | 26 80          |       |  |
| 20  | 124                                    | 01.5 | 07.7                                             | 158                         | 01.4 <sup>134</sup>                 | -2 50.2 <sup>159</sup>                            | 159     | 52            | 23                                               | 20 04   | 20 58          | 06 12                                            | 27 83          |       |  |
| 21  | 139                                    | 01.4 | 08.4                                             | 172                         | 33.7 <sup>133</sup>                 | -3 06.1 <sup>159</sup>                            | 159     | 54            | 31                                               | 14      | 21 14          | 07 9                                             | 28 85          |       |  |
| 22  | 154                                    | 01.4 | 09.1                                             | 187                         | 06.0 <sup>133</sup>                 | 22.0 <sup>159</sup>                               | 159     | 56            | 40                                               | 27      | 21 35          | 08 6                                             | 28 89          |       |  |
| 23  | 169                                    | 01.3 | 09.8                                             | 201                         | 38.2 <sup>132</sup>                 | 38.0 <sup>160</sup>                               | 160     | 58            | 19 50                                            | 42      | 22 03          | 09 3                                             | 29 92          |       |  |
| 24  | 184                                    | 01.2 | -17 10.5                                         | 216                         | 10.4 <sup>132</sup>                 | -3 53.9 <sup>159</sup>                            | 159     | 60 S          | 20 01                                            | 20 59   | 22 48          | 3 09 0                                           | 15 30 96       |       |  |
| UT  | ARIES                                  |      | VENUS                                            |                             |                                     | MARTE                                             |         |               | JÚPITER                                          |         |                | SATURNO                                          |                |       |  |
|     | PMG: 20 <sup>h</sup> 42 <sup>m</sup> 6 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 38 <sup>m</sup> |                             |                                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 32 <sup>m</sup> |         |               | Mag: -1.8<br>PMG: 9 <sup>h</sup> 21 <sup>m</sup> |         |                | Mag: +0.1<br>PMG: 4 <sup>h</sup> 43 <sup>m</sup> |                |       |  |
|     | hG ♈                                   |      | hG ♀                                             | Dec                         |                                     | hG ♂                                              | Dec     |               | hG ♃                                             | Dec     |                | hG ♄                                             | Dec            |       |  |
| h   | °                                      | '    | °                                                | '                           | °                                   | '                                                 | °       | '             | °                                                | '       | °              | '                                                | °              | '     |  |
| 0   | 48                                     | 30.2 | 215                                              | 33.5                        | -3                                  | 39.7                                              | 201     | 46.1          | -10                                              | 21.7    | 219            | 29.4                                             | -2             | 39.1  |  |
| 1   | 63                                     | 32.7 | 230                                              | 33.1                        |                                     | 40.8                                              | 216     | 47.0          |                                                  | 22.3    | 234            | 31.5                                             |                | 39.2  |  |
| 2   | 78                                     | 35.1 | 245                                              | 32.7                        |                                     | 42.0                                              | 231     | 47.9          |                                                  | 23.0    | 249            | 33.5                                             |                | 39.4  |  |
| 3   | 93                                     | 37.6 | 260                                              | 32.4                        |                                     | 43.1                                              | 246     | 48.7          |                                                  | 23.6    | 264            | 35.5                                             |                | 39.6  |  |
| 4   | 108                                    | 40.1 | 275                                              | 32.0                        |                                     | 44.3                                              | 261     | 49.6          |                                                  | 24.2    | 279            | 37.5                                             |                | 39.8  |  |
| 5   | 123                                    | 42.5 | 290                                              | 31.6                        | -3                                  | 45.4                                              | 276     | 50.5          | -10                                              | 24.8    | 294            | 39.5                                             | -2             | 40.0  |  |
| 6   | 138                                    | 45.0 | 305                                              | 31.3                        | -3                                  | 46.6                                              | 291     | 51.4          | -10                                              | 25.4    | 309            | 41.6                                             | -2             | 40.2  |  |
| 7   | 153                                    | 47.5 | 320                                              | 30.9                        |                                     | 47.7                                              | 306     | 52.3          |                                                  | 26.0    | 324            | 43.6                                             |                | 40.3  |  |
| 8   | 168                                    | 49.9 | 335                                              | 30.5                        |                                     | 48.9                                              | 321     | 53.2          |                                                  | 26.6    | 339            | 45.6                                             |                | 40.5  |  |
| 9   | 183                                    | 52.4 | 350                                              | 30.1                        |                                     | 50.0                                              | 336     | 54.1          |                                                  | 27.2    | 354            | 47.6                                             |                | 40.7  |  |
| 10  | 198                                    | 54.9 | 5                                                | 29.8                        |                                     | 51.2                                              | 351     | 55.0          |                                                  | 27.8    | 9              | 49.6                                             |                | 40.9  |  |
| 11  | 213                                    | 57.3 | 20                                               | 29.4                        | -3                                  | 52.3                                              | 6       | 55.9          | -10                                              | 28.4    | 24             | 51.7                                             | -2             | 41.1  |  |
| 12  | 228                                    | 59.8 | 35                                               | 29.0                        | -3                                  | 53.5                                              | 21      | 56.8          | -10                                              | 29.0    | 39             | 53.7                                             | -2             | 41.3  |  |
| 13  | 244                                    | 02.2 | 50                                               | 28.6                        |                                     | 54.6                                              | 36      | 57.7          |                                                  | 29.6    | 54             | 55.7                                             |                | 41.4  |  |
| 14  | 259                                    | 04.7 | 65                                               | 28.3                        |                                     | 55.8                                              | 51      | 58.6          |                                                  | 30.2    | 69             | 57.7                                             |                | 41.6  |  |
| 15  | 274                                    | 07.2 | 80                                               | 27.9                        |                                     | 57.0                                              | 66      | 59.5          |                                                  | 30.8    | 84             | 59.8                                             |                | 41.8  |  |
| 16  | 289                                    | 09.6 | 95                                               | 27.5                        |                                     | 58.1                                              | 82      | 00.4          |                                                  | 31.4    | 100            | 01.8                                             |                | 42.0  |  |
| 17  | 304                                    | 12.1 | 110                                              | 27.2                        | -3                                  | 59.3                                              | 97      | 01.3          | -10                                              | 32.0    | 115            | 03.8                                             | -2             | 42.2  |  |
| 18  | 319                                    | 14.6 | 125                                              | 26.8                        | -4                                  | 00.4                                              | 112     | 02.1          | -10                                              | 32.6    | 130            | 05.8                                             | -2             | 42.4  |  |
| 19  | 334                                    | 17.0 | 140                                              | 26.4                        |                                     | 01.6                                              | 127     | 03.0          |                                                  | 33.2    | 145            | 07.8                                             |                | 42.5  |  |
| 20  | 349                                    | 19.5 | 155                                              | 26.0                        |                                     | 02.7                                              | 142     | 03.9          |                                                  | 33.8    | 160            | 09.9                                             |                | 42.7  |  |
| 21  | 4                                      | 22.0 | 170                                              | 25.7                        |                                     | 03.9                                              | 157     | 04.8          |                                                  | 34.5    | 175            | 11.9                                             |                | 42.9  |  |
| 22  | 19                                     | 24.4 | 185                                              | 25.3                        |                                     | 05.0                                              | 172     | 05.7          |                                                  | 35.1    | 190            | 13.9                                             |                | 43.1  |  |
| 23  | 34                                     | 26.9 | 200                                              | 24.9                        |                                     | 06.2                                              | 187     | 06.6          |                                                  | 35.7    | 205            | 15.9                                             |                | 43.3  |  |
| 24  | 49                                     | 29.4 | 215                                              | 24.5                        | -4                                  | 07.3                                              | 202     | 07.5          | -10                                              | 36.3    | 220            | 18.0                                             | -2             | 43.5  |  |
| Dif | —                                      |      | -4                                               | -12                         |                                     | +9                                                | -6      |               | +20                                              | -2      |                | +25                                              |                | 0     |  |

| UT  | SOL                                                |      |     | ● LUNA                                                                                                                                                                            |     |                     | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna                                   |       |       |       |     |      |
|-----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|------|--------------------------------------------------|-------|-------|-------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 0 |      |     | Edad: 26 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'6<br>20 <sup>h</sup> : 58'8<br>SD: 15'8<br>PMG: 9 <sup>h</sup> 54 <sup>m</sup> R°: 49 <sup>m</sup> |     |                     |                                                   |                          |         |                                                  |                |      |                                                  |       |       |       |     |      |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec                 |                                                   | Dif                      | Náutico |                                                  | Civil          | Hora | R°                                               | Hora  | R°    |       |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | '                        | h       | m                                                | h              | m    | h                                                | m     | h     | m     |     |      |
| 0   | 184                                                | 01.2 | -17 | 10.5                                                                                                                                                                              | 216 | 10.4                | -3                                                | 53.9                     | 60 N    | 6 07                                             | 6 58           | 7 46 | 4 20                                             | 99    | 15 07 | 0     |     |      |
| 1   | 199                                                | 01.2 |     | 11.2                                                                                                                                                                              | 230 | 42.5 <sup>131</sup> | -4                                                | 09.8 <sup>159</sup>      | 58      | 04                                               | 52             | 36   | 17 95                                            |       | 11 5  |       |     |      |
| 2   | 214                                                | 01.1 |     | 11.9                                                                                                                                                                              | 245 | 14.6 <sup>131</sup> |                                                   | 25.8 <sup>160</sup>      | 56      | 6 00                                             | 45             | 27   | 14 91                                            |       | 15 8  |       |     |      |
| 3   | 229                                                | 01.1 |     | 12.6                                                                                                                                                                              | 259 | 46.6 <sup>130</sup> |                                                   | 41.7 <sup>159</sup>      | 54      | 5 57                                             | 40             | 19   | 12 88                                            |       | 19 11 |       |     |      |
| 4   | 244                                                | 01.0 |     | 13.3                                                                                                                                                                              | 274 | 18.5 <sup>129</sup> | -4                                                | 57.7 <sup>160</sup>      | 52      |                                                  | 54             | 35   | 12                                               | 10 85 |       | 22 14 |     |      |
| 5   | 259                                                | 00.9 | -17 | 14.0                                                                                                                                                                              | 288 | 50.3 <sup>128</sup> | -5                                                | 13.6 <sup>159</sup>      | 50      | 5 51                                             | 6 30           | 7 05 | 4 08                                             | 82    | 15 25 | 17    |     |      |
| 6   | 274                                                | 00.9 | -17 | 14.7                                                                                                                                                                              | 303 | 22.1 <sup>128</sup> | -5                                                | 29.5 <sup>159</sup>      | 45      | 5 45                                             | 6 20           | 6 51 | 4 04                                             | 76    | 15 31 | 23    |     |      |
| 7   | 289                                                | 00.8 |     | 15.4                                                                                                                                                                              | 317 | 53.8 <sup>127</sup> | -5                                                | 45.5 <sup>160</sup>      | 40      | 38                                               | 11             | 40   | 4 00                                             | 72    | 37    | 27    |     |      |
| 8   | 304                                                | 00.7 |     | 16.1                                                                                                                                                                              | 332 | 25.5 <sup>127</sup> | -6                                                | 01.4 <sup>159</sup>      | 35      | 33                                               | 6 03           | 30   | 3 57                                             | 68    | 42    | 30    |     |      |
| 9   | 319                                                | 00.7 |     | 16.8                                                                                                                                                                              | 346 | 57.1 <sup>126</sup> |                                                   | 17.3 <sup>159</sup>      | 30      | 27                                               | 5 56           | 21   | 55                                               | 64    | 46    | 34    |     |      |
| 10  | 334                                                | 00.6 |     | 17.5                                                                                                                                                                              | 1   | 28.6 <sup>125</sup> |                                                   | 33.2 <sup>159</sup>      | 20      | 17                                               | 43             | 6 06 | 50                                               | 58    | 53    | 40    |     |      |
| 11  | 349                                                | 00.5 | -17 | 18.2                                                                                                                                                                              | 16  | 00.0 <sup>124</sup> | -6                                                | 49.1 <sup>159</sup>      | 10 N    | 5 06                                             | 5 31           | 5 53 | 3 46                                             | 53    | 15 59 | 45    |     |      |
| 12  | 4                                                  | 00.5 | -17 | 18.9                                                                                                                                                                              | 30  | 31.4 <sup>124</sup> | -7                                                | 05.0 <sup>159</sup>      | 0       | 4 54                                             | 5 19           | 5 40 | 3 43                                             | 48    | 16 05 | 50    |     |      |
| 13  | 19                                                 | 00.4 |     | 19.6                                                                                                                                                                              | 45  | 02.7 <sup>123</sup> |                                                   | 20.8 <sup>158</sup>      | 10 S    | 40                                               | 5 06           | 28   | 39                                               | 43    | 11    | 55    |     |      |
| 14  | 34                                                 | 00.3 |     | 20.3                                                                                                                                                                              | 59  | 33.9 <sup>122</sup> |                                                   | 36.7 <sup>159</sup>      | 20      | 23                                               | 4 51           | 5 14 | 36                                               | 38    | 18    | 59    |     |      |
| 15  | 49                                                 | 00.3 |     | 21.0                                                                                                                                                                              | 74  | 05.1 <sup>122</sup> | -7                                                | 52.5 <sup>158</sup>      | 30      | 4 02                                             | 33             | 4 59 | 31                                               | 33    | 25    | 66    |     |      |
| 16  | 64                                                 | 00.2 |     | 21.7                                                                                                                                                                              | 88  | 36.1 <sup>120</sup> | -8                                                | 08.3 <sup>158</sup>      | 35      | 3 48                                             | 22             | 49   | 29                                               | 29    | 29    | 70    |     |      |
| 17  | 79                                                 | 00.1 | -17 | 22.4                                                                                                                                                                              | 103 | 07.1 <sup>120</sup> | -8                                                | 24.1 <sup>158</sup>      | 40      | 3 32                                             | 4 09           | 4 39 | 3 26                                             | 25    | 16 34 | 74    |     |      |
| 18  | 94                                                 | 00.1 | -17 | 23.1                                                                                                                                                                              | 117 | 38.0 <sup>119</sup> | -8                                                | 39.9 <sup>158</sup>      | 45      | 3 11                                             | 3 53           | 4 26 | 3 23                                             | 21    | 16 40 | 78    |     |      |
| 19  | 109                                                | 00.0 |     | 23.8                                                                                                                                                                              | 132 | 08.8 <sup>118</sup> | -8                                                | 55.6 <sup>157</sup>      | 50      | 2 44                                             | 33             | 11   | 19                                               | 16    | 46    | 85    |     |      |
| 20  | 123                                                | 59.9 |     | 24.5                                                                                                                                                                              | 146 | 39.6 <sup>118</sup> | -9                                                | 11.3 <sup>157</sup>      | 52      | 30                                               | 24             | 4 04 | 18                                               | 13    | 50    | 87    |     |      |
| 21  | 138                                                | 59.9 |     | 25.2                                                                                                                                                                              | 161 | 10.2 <sup>116</sup> |                                                   | 27.0 <sup>157</sup>      | 54      | 2 13                                             | 13             | 3 56 | 16                                               | 10    | 53    | 90    |     |      |
| 22  | 153                                                | 59.8 |     | 25.8                                                                                                                                                                              | 175 | 40.8 <sup>116</sup> |                                                   | 42.7 <sup>157</sup>      | 56      | 1 52                                             | 3 00           | 47   | 14                                               | 7     | 16 57 | 94    |     |      |
| 23  | 168                                                | 59.7 |     | 26.5                                                                                                                                                                              | 190 | 11.3 <sup>115</sup> | -9                                                | 58.3 <sup>156</sup>      | 58      | 1 24                                             | 2 46           | 37   | 12                                               | 4     | 17 01 | 98    |     |      |
| 24  | 183                                                | 59.6 | -17 | 27.2                                                                                                                                                                              | 204 | 41.6 <sup>113</sup> | -10                                               | 13.9 <sup>156</sup>      | 60 S    | 0 39                                             | 2 28           | 3 26 | 3 09                                             | 1     | 17 06 | 103   |     |      |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                                                                             |     |                     | MARTE                                             |                          |         | JÚPITER                                          |                |      | SATURNO                                          |       |       |       |     |      |
|     | PMG: 20 <sup>h</sup> 38 <sup>m</sup> 7             |      |     | Mag: -4.0<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup>                                                                                                                                  |     |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 31 <sup>m</sup> |                          |         | Mag: -1.8<br>PMG: 9 <sup>h</sup> 18 <sup>m</sup> |                |      | Mag: +0.1<br>PMG: 4 <sup>h</sup> 39 <sup>m</sup> |       |       |       |     |      |
|     | hG ♈                                               |      | Dec | hG ♀                                                                                                                                                                              | Dec | hG ♂                | Dec                                               | hG ♃                     | Dec     | hG ♄                                             | Dec            | hG ♅ | Dec                                              |       |       |       |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '                   | °                                                 | '                        | °       | '                                                | °              | '    | °                                                | '     |       |       |     |      |
| 0   | 49                                                 | 29.4 | 215 | 24.5                                                                                                                                                                              | -4  | 07.3                | 202                                               | 07.5                     | -10     | 36.3                                             | 220            | 18.0 | -2                                               | 43.5  | 290   | 06.4  | +20 | 35.7 |
| 1   | 64                                                 | 31.8 | 230 | 24.2                                                                                                                                                                              |     | 08.5                | 217                                               | 08.4                     |         | 36.9                                             | 235            | 20.0 |                                                  | 43.6  | 305   | 08.9  |     | 35.7 |
| 2   | 79                                                 | 34.3 | 245 | 23.8                                                                                                                                                                              |     | 09.6                | 232                                               | 09.3                     |         | 37.5                                             | 250            | 22.0 |                                                  | 43.8  | 320   | 11.4  |     | 35.7 |
| 3   | 94                                                 | 36.7 | 260 | 23.4                                                                                                                                                                              |     | 10.8                | 247                                               | 10.2                     |         | 38.1                                             | 265            | 24.0 |                                                  | 44.0  | 335   | 13.8  |     | 35.7 |
| 4   | 109                                                | 39.2 | 275 | 23.0                                                                                                                                                                              |     | 11.9                | 262                                               | 11.1                     |         | 38.7                                             | 280            | 26.0 |                                                  | 44.2  | 350   | 16.3  |     | 35.7 |
| 5   | 124                                                | 41.7 | 290 | 22.7                                                                                                                                                                              | -4  | 13.1                | 277                                               | 11.9                     | -10     | 39.3                                             | 295            | 28.1 | -2                                               | 44.4  | 5     | 18.8  | +20 | 35.7 |
| 6   | 139                                                | 44.1 | 305 | 22.3                                                                                                                                                                              | -4  | 14.2                | 292                                               | 12.8                     | -10     | 39.9                                             | 310            | 30.1 | -2                                               | 44.5  | 20    | 21.3  | +20 | 35.7 |
| 7   | 154                                                | 46.6 | 320 | 21.9                                                                                                                                                                              |     | 15.4                | 307                                               | 13.7                     |         | 40.5                                             | 325            | 32.1 |                                                  | 44.7  | 35    | 23.7  |     | 35.7 |
| 8   | 169                                                | 49.1 | 335 | 21.5                                                                                                                                                                              |     | 16.5                | 322                                               | 14.6                     |         | 41.1                                             | 340            | 34.1 |                                                  | 44.9  | 50    | 26.2  |     | 35.7 |
| 9   | 184                                                | 51.5 | 350 | 21.2                                                                                                                                                                              |     | 17.7                | 337                                               | 15.5                     |         | 41.7                                             | 355            | 36.2 |                                                  | 45.1  | 65    | 28.7  |     | 35.7 |
| 10  | 199                                                | 54.0 | 5   | 20.8                                                                                                                                                                              |     | 18.8                | 352                                               | 16.4                     |         | 42.3                                             | 10             | 38.2 |                                                  | 45.3  | 80    | 31.2  |     | 35.7 |
| 11  | 214                                                | 56.5 | 20  | 20.4                                                                                                                                                                              | -4  | 20.0                | 7                                                 | 17.3                     | -10     | 42.9                                             | 25             | 40.2 | -2                                               | 45.5  | 95    | 33.6  | +20 | 35.7 |
| 12  | 229                                                | 58.9 | 35  | 20.0                                                                                                                                                                              | -4  | 21.2                | 22                                                | 18.2                     | -10     | 43.5                                             | 40             | 42.2 | -2                                               | 45.6  | 110   | 36.1  | +20 | 35.7 |
| 13  | 245                                                | 01.4 | 50  | 19.7                                                                                                                                                                              |     | 22.3                | 37                                                | 19.1                     |         | 44.1                                             | 55             | 44.3 |                                                  | 45.8  | 125   | 38.6  |     | 35.7 |
| 14  | 260                                                | 03.9 | 65  | 19.3                                                                                                                                                                              |     | 23.5                | 52                                                | 20.0                     |         | 44.7                                             | 70             | 46.3 |                                                  | 46.0  | 140   | 41.0  |     | 35.8 |
| 15  | 275                                                | 06.3 | 80  | 18.9                                                                                                                                                                              |     | 24.6                | 67                                                | 20.8                     |         | 45.3                                             | 85             | 48.3 |                                                  | 46.2  | 155   | 43.5  |     | 35.8 |
| 16  | 290                                                | 08.8 | 95  | 18.5                                                                                                                                                                              |     | 25.8                | 82                                                | 21.7                     |         | 45.9                                             | 100            | 50.3 |                                                  | 46.4  | 170   | 46.0  |     | 35.8 |
| 17  | 305                                                | 11.2 | 110 | 18.1                                                                                                                                                                              | -4  | 26.9                | 97                                                | 22.6                     | -10     | 46.5                                             | 115            | 52.4 | -2                                               | 46.5  | 185   | 48.5  | +20 | 35.8 |
| 18  | 320                                                | 13.7 | 125 | 17.8                                                                                                                                                                              | -4  | 28.1                | 112                                               | 23.5                     | -10     | 47.1                                             | 130            | 54.4 | -2                                               | 46.7  | 200   | 50.9  | +20 | 35.8 |
| 19  | 335                                                | 16.2 | 140 | 17.4                                                                                                                                                                              |     | 29.2                | 127                                               | 24.4                     |         | 47.7                                             | 145            | 56.4 |                                                  | 46.9  | 215   | 53.4  |     | 35.8 |
| 20  | 350                                                | 18.6 | 155 | 17.0                                                                                                                                                                              |     | 30.4                | 142                                               | 25.3                     |         | 48.3                                             | 160            | 58.4 |                                                  | 47.1  | 230   | 55.9  |     | 35.8 |
| 21  | 5                                                  | 21.1 | 170 | 16.6                                                                                                                                                                              |     | 31.5                | 157                                               | 26.2                     |         | 48.9                                             | 176            | 00.5 |                                                  | 47.3  | 245   | 58.4  |     | 35.8 |
| 22  | 20                                                 | 23.6 | 185 | 16.3                                                                                                                                                                              |     | 32.7                | 172                                               | 27.1                     |         | 49.5                                             | 191            | 02.5 |                                                  | 47.5  | 261   | 00.9  |     | 35.8 |
| 23  | 35                                                 | 26.0 | 200 | 15.9                                                                                                                                                                              |     | 33.8                | 187                                               | 27.9                     |         | 50.1                                             | 206            | 04.5 |                                                  | 47.6  | 276   | 03.3  |     | 35.8 |
| 24  | 50                                                 | 28.5 | 215 | 15.5                                                                                                                                                                              | -4  | 35.0                | 202                                               | 28.8                     | -10     | 50.7                                             | 221            | 06.5 | -2                                               | 47.8  | 291   | 05.8  | +20 | 35.8 |
| Dif | —                                                  |      | -4  |                                                                                                                                                                                   | -12 |                     | +9                                                |                          | -6      |                                                  | +20            |      | -2                                               |       | +25   |       | 0   |      |

| UT  | SOL                                                |      |     | ● LUNA                                                                                                                         |     |                     | Latitud                                           | Puesta de Sol       | Final del crepúsculo |                                                  |         | Salida de Luna |                                                 |       | Puesta de Luna |      |     |      |
|-----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------------------------------------------------|---------------------|----------------------|--------------------------------------------------|---------|----------------|-------------------------------------------------|-------|----------------|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 1 |      |     | Edad: 27 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59'1<br>12 <sup>h</sup> : 59'3<br>20 <sup>h</sup> : 59'6<br>R°: 53 <sup>m</sup> |     |                     |                                                   |                     |                      |                                                  |         |                |                                                 |       |                |      |     |      |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                           | Dif | Dec                 |                                                   |                     | Dif                  | Civil                                            | Náutico | Hora           | R°                                              | Hora  | R°             |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '                   | °                                                 | '                   | h m                  | h m                                              | h m     | h m m          | h m m                                           | h m m | h m m          |      |     |      |
| 0   | 183                                                | 59.6 | -17 | 27.2                                                                                                                           | 204 | 41.6                | -10                                               | 13.9                | 60 N                 | 15 39                                            | 16 27   | 17 18          | 5 59                                            | 107   | 15 07          | 2    |     |      |
| 1   | 198                                                | 59.6 |     | 27.9                                                                                                                           | 219 | 11.9 <sup>113</sup> |                                                   | 29.5 <sup>156</sup> | 58                   | 49                                               | 34      | 22             | 52                                              | 102   | 16             | 7    |     |      |
| 2   | 213                                                | 59.5 |     | 28.6                                                                                                                           | 233 | 42.1 <sup>112</sup> | -10                                               | 45.0 <sup>155</sup> | 56                   | 15 59                                            | 40      | 25             | 45                                              | 98    | 23             | 12   |     |      |
| 3   | 228                                                | 59.4 |     | 29.3                                                                                                                           | 248 | 12.3 <sup>112</sup> | -11                                               | 00.5 <sup>155</sup> | 54                   | 16 07                                            | 46      | 29             | 40                                              | 93    | 30             | 15   |     |      |
| 4   | 243                                                | 59.4 |     | 30.0                                                                                                                           | 262 | 42.3 <sup>110</sup> |                                                   | 15.9 <sup>154</sup> | 52                   | 14                                               | 51      | 32             | 35                                              | 90    | 36             | 19   |     |      |
| 5   | 258                                                | 59.3 | -17 | 30.7                                                                                                                           | 277 | 12.2 <sup>109</sup> | -11                                               | 31.3 <sup>154</sup> | 50                   | 16 21                                            | 16 56   | 17 35          | 5 30                                            | 87    | 15 42          | 21   |     |      |
| 6   | 273                                                | 59.2 | -17 | 31.3                                                                                                                           | 291 | 42.0 <sup>108</sup> | -11                                               | 46.7 <sup>154</sup> | 45                   | 16 35                                            | 17 07   | 17 42          | 5 20                                            | 81    | 15 54          | 27   |     |      |
| 7   | 288                                                | 59.1 |     | 32.0                                                                                                                           | 306 | 11.8 <sup>108</sup> | -12                                               | 02.0 <sup>153</sup> | 40                   | 47                                               | 16      | 48             | 12                                              | 76    | 16 04          | 31   |     |      |
| 8   | 303                                                | 59.1 |     | 32.7                                                                                                                           | 320 | 41.4 <sup>106</sup> |                                                   | 17.3 <sup>153</sup> | 35                   | 16 57                                            | 24      | 17 54          | 5 05                                            | 72    | 12             | 36   |     |      |
| 9   | 318                                                | 59.0 |     | 33.4                                                                                                                           | 335 | 10.9 <sup>105</sup> |                                                   | 32.5 <sup>152</sup> | 30                   | 17 06                                            | 31      | 18 00          | 4 59                                            | 68    | 20             | 39   |     |      |
| 10  | 333                                                | 58.9 |     | 34.1                                                                                                                           | 349 | 40.4 <sup>105</sup> | -12                                               | 47.7 <sup>152</sup> | 20                   | 21                                               | 44      | 11             | 48                                              | 62    | 33             | 44   |     |      |
| 11  | 348                                                | 58.8 | -17 | 34.8                                                                                                                           | 4   | 09.7 <sup>103</sup> | -13                                               | 02.8 <sup>151</sup> | 10 N                 | 17 35                                            | 17 57   | 18 22          | 4 39                                            | 57    | 16 44          | 50   |     |      |
| 12  | 3                                                  | 58.8 | -17 | 35.5                                                                                                                           | 18  | 38.9 <sup>102</sup> | -13                                               | 17.9 <sup>151</sup> | 0                    | 17 48                                            | 18 09   | 18 35          | 4 31                                            | 52    | 16 55          | 54   |     |      |
| 13  | 18                                                 | 58.7 |     | 36.1                                                                                                                           | 33  | 08.1 <sup>102</sup> |                                                   | 32.9 <sup>150</sup> | 10 S                 | 18 01                                            | 23      | 18 49          | 22                                              | 48    | 17 06          | 59   |     |      |
| 14  | 33                                                 | 58.6 |     | 36.8                                                                                                                           | 47  | 37.1 <sup>100</sup> | -13                                               | 47.8 <sup>149</sup> | 20                   | 14                                               | 38      | 19 06          | 14                                              | 42    | 17             | 64   |     |      |
| 15  | 48                                                 | 58.5 |     | 37.5                                                                                                                           | 62  | 06.0 <sup>99</sup>  | -14                                               | 02.7 <sup>149</sup> | 30                   | 31                                               | 18 57   | 28             | 4 04                                            | 36    | 31             | 70   |     |      |
| 16  | 63                                                 | 58.5 |     | 38.2                                                                                                                           | 76  | 34.8 <sup>98</sup>  |                                                   | 17.5 <sup>148</sup> | 35                   | 40                                               | 19 08   | 41             | 3 58                                            | 33    | 39             | 73   |     |      |
| 17  | 78                                                 | 58.4 | -17 | 38.9                                                                                                                           | 91  | 03.5 <sup>97</sup>  | -14                                               | 32.3 <sup>148</sup> | 40                   | 18 51                                            | 19 21   | 19 58          | 3 51                                            | 29    | 17 48          | 77   |     |      |
| 18  | 93                                                 | 58.3 | -17 | 39.5                                                                                                                           | 105 | 32.1 <sup>96</sup>  | -14                                               | 47.0 <sup>147</sup> | 45                   | 19 04                                            | 19 37   | 20 20          | 3 44                                            | 24    | 17 58          | 82   |     |      |
| 19  | 108                                                | 58.2 |     | 40.2                                                                                                                           | 120 | 00.6 <sup>95</sup>  | -15                                               | 01.6 <sup>146</sup> | 50                   | 19                                               | 19 58   | 20 48          | 35                                              | 19    | 18 11          | 88   |     |      |
| 20  | 123                                                | 58.1 |     | 40.9                                                                                                                           | 134 | 29.0 <sup>94</sup>  |                                                   | 16.1 <sup>145</sup> | 52                   | 27                                               | 20 08   | 21 03          | 31                                              | 16    | 17             | 91   |     |      |
| 21  | 138                                                | 58.1 |     | 41.6                                                                                                                           | 148 | 57.2 <sup>92</sup>  |                                                   | 30.6 <sup>145</sup> | 54                   | 35                                               | 19      | 21             | 26                                              | 14    | 23             | 95   |     |      |
| 22  | 153                                                | 58.0 |     | 42.3                                                                                                                           | 163 | 25.4 <sup>92</sup>  |                                                   | 45.0 <sup>144</sup> | 56                   | 44                                               | 32      | 21 43          | 21                                              | 10    | 31             | 99   |     |      |
| 23  | 168                                                | 57.9 |     | 42.9                                                                                                                           | 177 | 53.4 <sup>90</sup>  | -15                                               | 59.4 <sup>144</sup> | 58                   | 19 55                                            | 20 48   | 22 13          | 16                                              | 6     | 39             | 104  |     |      |
| 24  | 183                                                | 57.8 | -17 | 43.6                                                                                                                           | 192 | 21.4 <sup>90</sup>  | -16                                               | 13.6 <sup>142</sup> | 60 S                 | 20 07                                            | 21 06   | 23 12          | 3 10                                            | 1     | 18 49          | 110  |     |      |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                          |     |                     | MARTE                                             |                     |                      | JÚPITER                                          |         |                | SATURNO                                         |       |                |      |     |      |
|     | PMG: 20 <sup>h</sup> 34 <sup>m</sup> 7             |      |     | Mag: -4.0<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup>                                                                               |     |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 29 <sup>m</sup> |                     |                      | Mag: -1.8<br>PMG: 9 <sup>h</sup> 14 <sup>m</sup> |         |                | Mag: 0.0<br>PMG: 4 <sup>h</sup> 35 <sup>m</sup> |       |                |      |     |      |
|     | hG ♈                                               |      |     | hG ♀                                                                                                                           |     | Dec                 | hG ♂                                              |                     | Dec                  | hG ♊                                             |         | Dec            | hG ♉                                            |       | Dec            |      |     |      |
| h   | °                                                  | '    | °   | '                                                                                                                              | °   | '                   | °                                                 | '                   | °                    | '                                                | °       | '              | °                                               | '     | °              | '    |     |      |
| 0   | 50                                                 | 28.5 | 215 | 15.5                                                                                                                           | -4  | 35.0                | 202                                               | 28.8                | -10                  | 50.7                                             | 221     | 06.5           | -2                                              | 47.8  | 291            | 05.8 | +20 | 35.8 |
| 1   | 65                                                 | 31.0 | 230 | 15.1                                                                                                                           |     | 36.1                | 217                                               | 29.7                |                      | 51.3                                             | 236     | 08.6           |                                                 | 48.0  | 306            | 08.3 |     | 35.8 |
| 2   | 80                                                 | 33.4 | 245 | 14.7                                                                                                                           |     | 37.3                | 232                                               | 30.6                |                      | 51.9                                             | 251     | 10.6           |                                                 | 48.2  | 321            | 10.8 |     | 35.8 |
| 3   | 95                                                 | 35.9 | 260 | 14.4                                                                                                                           |     | 38.4                | 247                                               | 31.5                |                      | 52.5                                             | 266     | 12.6           |                                                 | 48.4  | 336            | 13.2 |     | 35.8 |
| 4   | 110                                                | 38.3 | 275 | 14.0                                                                                                                           |     | 39.6                | 262                                               | 32.4                |                      | 53.1                                             | 281     | 14.6           |                                                 | 48.5  | 351            | 15.7 |     | 35.8 |
| 5   | 125                                                | 40.8 | 290 | 13.6                                                                                                                           | -4  | 40.7                | 277                                               | 33.3                | -10                  | 53.7                                             | 296     | 16.7           | -2                                              | 48.7  | 6              | 18.2 | +20 | 35.8 |
| 6   | 140                                                | 43.3 | 305 | 13.2                                                                                                                           | -4  | 41.9                | 292                                               | 34.2                | -10                  | 54.3                                             | 311     | 18.7           | -2                                              | 48.9  | 21             | 20.7 | +20 | 35.9 |
| 7   | 155                                                | 45.7 | 320 | 12.8                                                                                                                           |     | 43.0                | 307                                               | 35.0                |                      | 54.9                                             | 326     | 20.7           |                                                 | 49.1  | 36             | 23.1 |     | 35.9 |
| 8   | 170                                                | 48.2 | 335 | 12.4                                                                                                                           |     | 44.2                | 322                                               | 35.9                |                      | 55.5                                             | 341     | 22.7           |                                                 | 49.3  | 51             | 25.6 |     | 35.9 |
| 9   | 185                                                | 50.7 | 350 | 12.1                                                                                                                           |     | 45.3                | 337                                               | 36.8                |                      | 56.1                                             | 356     | 24.8           |                                                 | 49.4  | 66             | 28.1 |     | 35.9 |
| 10  | 200                                                | 53.1 | 5   | 11.7                                                                                                                           |     | 46.5                | 352                                               | 37.7                |                      | 56.7                                             | 11      | 26.8           |                                                 | 49.6  | 81             | 30.6 |     | 35.9 |
| 11  | 215                                                | 55.6 | 20  | 11.3                                                                                                                           | -4  | 47.6                | 7                                                 | 38.6                | -10                  | 57.3                                             | 26      | 28.8           | -2                                              | 49.8  | 96             | 33.1 | +20 | 35.9 |
| 12  | 230                                                | 58.1 | 35  | 10.9                                                                                                                           | -4  | 48.8                | 22                                                | 39.5                | -10                  | 57.9                                             | 41      | 30.8           | -2                                              | 50.0  | 111            | 35.5 | +20 | 35.9 |
| 13  | 246                                                | 00.5 | 50  | 10.5                                                                                                                           |     | 49.9                | 37                                                | 40.4                |                      | 58.5                                             | 56      | 32.9           |                                                 | 50.2  | 126            | 38.0 |     | 35.9 |
| 14  | 261                                                | 03.0 | 65  | 10.2                                                                                                                           |     | 51.1                | 52                                                | 41.2                |                      | 59.1                                             | 71      | 34.9           |                                                 | 50.4  | 141            | 40.5 |     | 35.9 |
| 15  | 276                                                | 05.5 | 80  | 09.8                                                                                                                           |     | 52.2                | 67                                                | 42.1                | -10                  | 59.7                                             | 86      | 36.9           |                                                 | 50.5  | 156            | 43.0 |     | 35.9 |
| 16  | 291                                                | 07.9 | 95  | 09.4                                                                                                                           |     | 53.4                | 82                                                | 43.0                | -11                  | 00.3                                             | 101     | 39.0           |                                                 | 50.7  | 171            | 45.5 |     | 35.9 |
| 17  | 306                                                | 10.4 | 110 | 09.0                                                                                                                           | -4  | 54.5                | 97                                                | 43.9                | -11                  | 00.9                                             | 116     | 41.0           | -2                                              | 50.9  | 186            | 47.9 | +20 | 35.9 |
| 18  | 321                                                | 12.8 | 125 | 08.6                                                                                                                           | -4  | 55.7                | 112                                               | 44.8                | -11                  | 01.5                                             | 131     | 43.0           | -2                                              | 51.1  | 201            | 50.4 | +20 | 35.9 |
| 19  | 336                                                | 15.3 | 140 | 08.2                                                                                                                           |     | 56.8                | 127                                               | 45.7                |                      | 02.1                                             | 146     | 45.0           |                                                 | 51.3  | 216            | 52.9 |     | 35.9 |
| 20  | 351                                                | 17.8 | 155 | 07.8                                                                                                                           |     | 58.0                | 142                                               | 46.6                |                      | 02.7                                             | 161     | 47.1           |                                                 | 51.4  | 231            | 55.4 |     | 35.9 |
| 21  | 6                                                  | 20.2 | 170 | 07.5                                                                                                                           | -4  | 59.1                | 157                                               | 47.4                |                      | 03.3                                             | 176     | 49.1           |                                                 | 51.6  | 246            | 57.9 |     | 36.0 |
| 22  | 21                                                 | 22.7 | 185 | 07.1                                                                                                                           | -5  | 00.3                | 172                                               | 48.3                |                      | 03.9                                             | 191     | 51.1           |                                                 | 51.8  | 262            | 00.3 |     | 36.0 |
| 23  | 36                                                 | 25.2 | 200 | 06.7                                                                                                                           |     | 01.4                | 187                                               | 49.2                |                      | 04.5                                             | 206     | 53.1           |                                                 | 52.0  | 277            | 02.8 |     | 36.0 |
| 24  | 51                                                 | 27.6 | 215 | 06.3                                                                                                                           | -5  | 02.6                | 202                                               | 50.1                | -11                  | 05.1                                             | 221     | 55.2           | -2                                              | 52.2  | 292            | 05.3 | +20 | 36.0 |
| Dif | —                                                  |      | -4  |                                                                                                                                | -11 |                     | +9                                                |                     | -6                   |                                                  | +20     |                | -2                                              |       | +25            |      | 0   |      |

| UT  | SOL                                                |      |                                                  | ● LUNA                                                                                                                            |     |                                                   | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |                                                 | Puesta de Luna |      |        |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|-------------------------------------------------|----------------|------|--------|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 2 |      |                                                  | Edad: 28 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 59'8<br>12 <sup>h</sup> : 60'0<br>20 <sup>h</sup> : 60'1<br>Rº: 58 <sup>m</sup> |     |                                                   |         |                          |                                                  |               |                |                                                 |                |      |        |      |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                              | Dif | Dec                                               |         | Dif                      | Náutico                                          |               | Civil          | Hora                                            | Rº             | Hora | Rº     |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                 | °   | '                                                 | °       | '                        | h                                                | m             | h              | m                                               | h              | m    | h      | m    |     |      |
| 0   | 183                                                | 57.8 | -17                                              | 43.6                                                                                                                              | 192 | 21.4                                              | -16     | 13.6                     | 60 N                                             | 6 12          | 7 03           | 7 51                                            | 7 46           | 115  | 15 09  | 6    |     |      |
| 1   | 198                                                | 57.7 |                                                  | 44.3                                                                                                                              | 206 | 49.2                                              | 88      | 27.8                     | 58                                               | 08            | 6 56           | 40                                              | 34             | 107  | 23 13  |      |     |      |
| 2   | 213                                                | 57.7 |                                                  | 45.0                                                                                                                              | 221 | 16.9                                              | 87      | 41.9                     | 56                                               | 04            | 49             | 31                                              | 23             | 101  | 35 18  |      |     |      |
| 3   | 228                                                | 57.6 |                                                  | 45.6                                                                                                                              | 235 | 44.5                                              | 86      | -16 55.9                 | 54                                               | 6 00          | 43             | 23                                              | 13             | 97   | 45 22  |      |     |      |
| 4   | 243                                                | 57.5 |                                                  | 46.3                                                                                                                              | 250 | 11.9                                              | 84      | -17 09.8                 | 52                                               | 5 57          | 38             | 15                                              | 7 05           | 93   | 15 55  | 26   |     |      |
| 5   | 258                                                | 57.4 | -17                                              | 47.0                                                                                                                              | 264 | 39.3                                              | 84      | -17 23.6                 | 50                                               | 5 54          | 6 33           | 7 08                                            | 6 57           | 90   | 16 03  | 29   |     |      |
| 6   | 273                                                | 57.3 | -17                                              | 47.7                                                                                                                              | 279 | 06.5                                              | 82      | -17 37.4                 | 45                                               | 5 47          | 6 22           | 6 54                                            | 6 41           | 84   | 16 21  | 35   |     |      |
| 7   | 288                                                | 57.3 |                                                  | 48.3                                                                                                                              | 293 | 33.6                                              | 81      | -17 51.0                 | 40                                               | 41            | 13             | 42                                              | 28             | 79   | 35 40  |      |     |      |
| 8   | 303                                                | 57.2 |                                                  | 49.0                                                                                                                              | 308 | 00.6                                              | 80      | -18 04.5                 | 35                                               | 35            | 6 05           | 32                                              | 17             | 75   | 48 43  |      |     |      |
| 9   | 318                                                | 57.1 |                                                  | 49.7                                                                                                                              | 322 | 27.5                                              | 79      | 18.0                     | 30                                               | 29            | 5 58           | 23                                              | 6 07           | 72   | 16 59  | 46   |     |      |
| 10  | 333                                                | 57.0 |                                                  | 50.3                                                                                                                              | 336 | 54.2                                              | 77      | 31.3                     | 20                                               | 18            | 44             | 6 07                                            | 5 50           | 67   | 17 17  | 52   |     |      |
| 11  | 348                                                | 56.9 | -17                                              | 51.0                                                                                                                              | 351 | 20.9                                              | 77      | -18 44.6                 | 10 N                                             | 5 06          | 5 32           | 5 54                                            | 5 36           | 62   | 17 34  | 55   |     |      |
| 12  | 3                                                  | 56.8 | -17                                              | 51.7                                                                                                                              | 5   | 47.4                                              | 75      | -18 57.7                 | 0                                                | 4 54          | 5 19           | 5 41                                            | 5 23           | 57   | 17 49  | 60   |     |      |
| 13  | 18                                                 | 56.8 |                                                  | 52.4                                                                                                                              | 20  | 13.8                                              | 74      | -19 10.8                 | 10 S                                             | 40            | 5 05           | 28                                              | 5 10           | 52   | 18 05  | 63   |     |      |
| 14  | 33                                                 | 56.7 |                                                  | 53.0                                                                                                                              | 34  | 40.1                                              | 73      | 23.7                     | 20                                               | 22            | 4 50           | 5 14                                            | 4 56           | 48   | 21 68  |      |     |      |
| 15  | 48                                                 | 56.6 |                                                  | 53.7                                                                                                                              | 49  | 06.2                                              | 71      | 36.5                     | 30                                               | 4 00          | 31             | 4 57                                            | 40             | 43   | 41 72  |      |     |      |
| 16  | 63                                                 | 56.5 |                                                  | 54.4                                                                                                                              | 63  | 32.2                                              | 70      | -19 49.2                 | 35                                               | 3 47          | 20             | 48                                              | 31             | 39   | 18 52  | 76   |     |      |
| 17  | 78                                                 | 56.4 | -17                                              | 55.0                                                                                                                              | 77  | 58.2                                              | 70      | -20 01.8                 | 40                                               | 3 30          | 4 07           | 4 37                                            | 4 20           | 36   | 19 05  | 79   |     |      |
| 18  | 93                                                 | 56.3 | -17                                              | 55.7                                                                                                                              | 92  | 23.9                                              | 67      | -20 14.3                 | 45                                               | 3 08          | 3 51           | 4 24                                            | 4 08           | 31   | 19 20  | 84   |     |      |
| 19  | 108                                                | 56.2 |                                                  | 56.4                                                                                                                              | 106 | 49.6                                              | 67      | 26.6                     | 50                                               | 2 40          | 30             | 08                                              | 3 54           | 25   | 39 90  |      |     |      |
| 20  | 123                                                | 56.1 |                                                  | 57.0                                                                                                                              | 121 | 15.2                                              | 66      | 38.8                     | 52                                               | 25            | 20             | 4 01                                            | 47             | 22   | 48 93  |      |     |      |
| 21  | 138                                                | 56.1 |                                                  | 57.7                                                                                                                              | 135 | 40.6                                              | 64      | -20 50.9                 | 54                                               | 2 07          | 3 09           | 3 53                                            | 40             | 18   | 19 58  | 97   |     |      |
| 22  | 153                                                | 56.0 |                                                  | 58.4                                                                                                                              | 150 | 05.9                                              | 63      | -21 02.9                 | 56                                               | 1 45          | 2 56           | 44                                              | 31             | 15   | 20 10  | 101  |     |      |
| 23  | 168                                                | 55.9 |                                                  | 59.0                                                                                                                              | 164 | 31.1                                              | 62      | 14.8                     | 58                                               | 1 14          | 40             | 33                                              | 22             | 10   | 23 107 |      |     |      |
| 24  | 183                                                | 55.8 | -17                                              | 59.7                                                                                                                              | 178 | 56.1                                              | 60      | -21 26.5                 | 60 S                                             | 0 16          | 2 21           | 3 21                                            | 3 11           | 4    | 20 39  | 116  |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                   |     | MARTE                                             |         |                          | JÚPITER                                          |               |                | SATURNO                                         |                |      |        |      |     |      |
|     | PMG: 20 <sup>h</sup> 30 <sup>m</sup> 8             |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 40 <sup>m</sup> |                                                                                                                                   |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 28 <sup>m</sup> |         |                          | Mag: -1.8<br>PMG: 9 <sup>h</sup> 11 <sup>m</sup> |               |                | Mag: 0.0<br>PMG: 4 <sup>h</sup> 31 <sup>m</sup> |                |      |        |      |     |      |
|     | hG ♈                                               |      | hG ♀ Dec                                         |                                                                                                                                   |     | hG ♂ Dec                                          |         |                          | hG ♃ Dec                                         |               |                | hG ♄ Dec                                        |                |      |        |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                                 | °   | '                                                 | °       | '                        | °                                                | '             | °              | '                                               | °              | '    | °      | '    |     |      |
| 0   | 51                                                 | 27.6 | 215                                              | 06.3                                                                                                                              | -5  | 02.6                                              | 202     | 50.1                     | -11                                              | 05.1          | 221            | 55.2                                            | -2             | 52.2 | 292    | 05.3 | +20 | 36.0 |
| 1   | 66                                                 | 30.1 | 230                                              | 05.9                                                                                                                              |     | 03.7                                              | 217     | 51.0                     |                                                  | 05.7          | 236            | 57.2                                            |                | 52.3 | 307    | 07.8 |     | 36.0 |
| 2   | 81                                                 | 32.6 | 245                                              | 05.5                                                                                                                              |     | 04.9                                              | 232     | 51.9                     |                                                  | 06.3          | 251            | 59.2                                            |                | 52.5 | 322    | 10.3 |     | 36.0 |
| 3   | 96                                                 | 35.0 | 260                                              | 05.2                                                                                                                              |     | 06.0                                              | 247     | 52.7                     |                                                  | 06.9          | 267            | 01.3                                            |                | 52.7 | 337    | 12.8 |     | 36.0 |
| 4   | 111                                                | 37.5 | 275                                              | 04.8                                                                                                                              |     | 07.2                                              | 262     | 53.6                     |                                                  | 07.5          | 282            | 03.3                                            |                | 52.9 | 352    | 15.2 |     | 36.0 |
| 5   | 126                                                | 40.0 | 290                                              | 04.4                                                                                                                              | -5  | 08.3                                              | 277     | 54.5                     | -11                                              | 08.1          | 297            | 05.3                                            | -2             | 53.1 | 7      | 17.7 | +20 | 36.0 |
| 6   | 141                                                | 42.4 | 305                                              | 04.0                                                                                                                              | -5  | 09.5                                              | 292     | 55.4                     | -11                                              | 08.7          | 312            | 07.3                                            | -2             | 53.2 | 22     | 20.2 | +20 | 36.0 |
| 7   | 156                                                | 44.9 | 320                                              | 03.6                                                                                                                              |     | 10.6                                              | 307     | 56.3                     |                                                  | 09.3          | 327            | 09.4                                            |                | 53.4 | 37     | 22.7 |     | 36.0 |
| 8   | 171                                                | 47.3 | 335                                              | 03.2                                                                                                                              |     | 11.7                                              | 322     | 57.2                     |                                                  | 09.9          | 342            | 11.4                                            |                | 53.6 | 52     | 25.2 |     | 36.0 |
| 9   | 186                                                | 49.8 | 350                                              | 02.8                                                                                                                              |     | 12.9                                              | 337     | 58.0                     |                                                  | 10.5          | 357            | 13.4                                            |                | 53.8 | 67     | 27.6 |     | 36.0 |
| 10  | 201                                                | 52.3 | 5                                                | 02.4                                                                                                                              |     | 14.0                                              | 352     | 58.9                     |                                                  | 11.1          | 12             | 15.5                                            |                | 54.0 | 82     | 30.1 |     | 36.0 |
| 11  | 216                                                | 54.7 | 20                                               | 02.1                                                                                                                              | -5  | 15.2                                              | 7       | 59.8                     | -11                                              | 11.7          | 27             | 17.5                                            | -2             | 54.1 | 97     | 32.6 | +20 | 36.1 |
| 12  | 231                                                | 57.2 | 35                                               | 01.7                                                                                                                              | -5  | 16.3                                              | 23      | 00.7                     | -11                                              | 12.3          | 42             | 19.5                                            | -2             | 54.3 | 112    | 35.1 | +20 | 36.1 |
| 13  | 246                                                | 59.7 | 50                                               | 01.3                                                                                                                              |     | 17.5                                              | 38      | 01.6                     |                                                  | 12.9          | 57             | 21.5                                            |                | 54.5 | 127    | 37.6 |     | 36.1 |
| 14  | 262                                                | 02.1 | 65                                               | 00.9                                                                                                                              |     | 18.6                                              | 53      | 02.4                     |                                                  | 13.5          | 72             | 23.6                                            |                | 54.7 | 142    | 40.1 |     | 36.1 |
| 15  | 277                                                | 04.6 | 80                                               | 00.5                                                                                                                              |     | 19.8                                              | 68      | 03.3                     |                                                  | 14.1          | 87             | 25.6                                            |                | 54.8 | 157    | 42.6 |     | 36.1 |
| 16  | 292                                                | 07.1 | 95                                               | 00.1                                                                                                                              |     | 20.9                                              | 83      | 04.2                     |                                                  | 14.7          | 102            | 27.6                                            |                | 55.0 | 172    | 45.0 |     | 36.1 |
| 17  | 307                                                | 09.5 | 109                                              | 59.7                                                                                                                              | -5  | 22.1                                              | 98      | 05.1                     | -11                                              | 15.3          | 117            | 29.7                                            | -2             | 55.2 | 187    | 47.5 | +20 | 36.1 |
| 18  | 322                                                | 12.0 | 124                                              | 59.3                                                                                                                              | -5  | 23.2                                              | 113     | 06.0                     | -11                                              | 15.9          | 132            | 31.7                                            | -2             | 55.4 | 202    | 50.0 | +20 | 36.1 |
| 19  | 337                                                | 14.4 | 139                                              | 58.9                                                                                                                              |     | 24.4                                              | 128     | 06.9                     |                                                  | 16.4          | 147            | 33.7                                            |                | 55.6 | 217    | 52.5 |     | 36.1 |
| 20  | 352                                                | 16.9 | 154                                              | 58.6                                                                                                                              |     | 25.5                                              | 143     | 07.7                     |                                                  | 17.0          | 162            | 35.8                                            |                | 55.7 | 232    | 55.0 |     | 36.1 |
| 21  | 7                                                  | 19.4 | 169                                              | 58.2                                                                                                                              |     | 26.7                                              | 158     | 08.6                     |                                                  | 17.6          | 177            | 37.8                                            |                | 55.9 | 247    | 57.5 |     | 36.1 |
| 22  | 22                                                 | 21.8 | 184                                              | 57.8                                                                                                                              |     | 27.8                                              | 173     | 09.5                     |                                                  | 18.2          | 192            | 39.8                                            |                | 56.1 | 263    | 00.0 |     | 36.1 |
| 23  | 37                                                 | 24.3 | 199                                              | 57.4                                                                                                                              |     | 28.9                                              | 188     | 10.4                     |                                                  | 18.8          | 207            | 41.8                                            |                | 56.3 | 278    | 02.4 |     | 36.1 |
| 24  | 52                                                 | 26.8 | 214                                              | 57.0                                                                                                                              | -5  | 30.1                                              | 203     | 11.3                     | -11                                              | 19.4          | 222            | 43.9                                            | -2             | 56.5 | 293    | 04.9 | +20 | 36.2 |
| Dif | —                                                  |      | -4                                               |                                                                                                                                   |     | -11                                               | +9      |                          |                                                  | -6            | +20            |                                                 | -2             |      | +25    |      |     | 0    |



| UT  | SOL                                                |      | ● LUNA                                                                                                                            |      |                                                   |      | Latitud                                          | Puesta de Sol | Final del crepúsculo                            |         | Salida de Luna |          | Puesta de Luna |           |     |      |     |      |
|-----|----------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|---------------|-------------------------------------------------|---------|----------------|----------|----------------|-----------|-----|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 4 |      | Edad: 29 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 60'3<br>12 <sup>h</sup> : 60'4<br>20 <sup>h</sup> : 60'4<br>R°: 63 <sup>m</sup> |      |                                                   |      |                                                  |               |                                                 |         |                |          |                |           |     |      |     |      |
|     | hG ☉                                               | Dec  | hG ☾                                                                                                                              | Dif  | Dec                                               | Dif  |                                                  |               | Civil                                           | Náutico | Hora           | R°       | Hora           | R°        |     |      |     |      |
| h   | °                                                  | '    | °                                                                                                                                 | '    | °                                                 | '    | °                                                | h m           | h m                                             | h m     | h m m          | h m m    | h m m          | h m m     |     |      |     |      |
| 0   | 183                                                | 55.8 | -17                                                                                                                               | 59.7 | 178                                               | 56.1 | -21 26.5                                         | 60 N          | 15 34                                           | 16 23   | 17 14          | 9 41 116 | 15 15 15       | 15 15 15  |     |      |     |      |
| 1   | 198                                                | 55.7 | -18                                                                                                                               | 00.3 | 193                                               | 21.1 | 60                                               | 58            | 45                                              | 30      | 19             | 21 106   | 36 25          | 36 25     |     |      |     |      |
| 2   | 213                                                | 55.6 |                                                                                                                                   | 01.0 | 207                                               | 45.9 | 58                                               | 56            | 15 55                                           | 37      | 22             | 9 04 100 | 15 53 32       | 15 53 32  |     |      |     |      |
| 3   | 228                                                | 55.5 |                                                                                                                                   | 01.7 | 222                                               | 10.6 | 57                                               | 54            | 16 04                                           | 43      | 26             | 8 50 95  | 16 08 36       | 16 08 36  |     |      |     |      |
| 4   | 243                                                | 55.4 |                                                                                                                                   | 02.3 | 236                                               | 35.2 | 56                                               | 52            | 11                                              | 48      | 29             | 38 91    | 21 39          | 21 39     |     |      |     |      |
| 5   | 258                                                | 55.3 | -18                                                                                                                               | 03.0 | 250                                               | 59.7 | 55                                               | 50            | 16 18                                           | 16 54   | 17 33          | 8 27 88  | 16 32 42       | 16 32 42  |     |      |     |      |
| 6   | 273                                                | 55.3 | -18                                                                                                                               | 03.7 | 265                                               | 24.0 | 53                                               | 45            | 16 33                                           | 17 05   | 17 40          | 8 05 82  | 16 56 47       | 16 56 47  |     |      |     |      |
| 7   | 288                                                | 55.2 |                                                                                                                                   | 04.3 | 279                                               | 48.3 | 53                                               | 40            | 45                                              | 14      | 47             | 7 47 78  | 17 15 50       | 17 15 50  |     |      |     |      |
| 8   | 303                                                | 55.1 |                                                                                                                                   | 05.0 | 294                                               | 12.4 | 51                                               | 35            | 16 56                                           | 22      | 53             | 32 75    | 31 53          | 31 53     |     |      |     |      |
| 9   | 318                                                | 55.0 |                                                                                                                                   | 05.6 | 308                                               | 36.4 | 50                                               | 30            | 17 05                                           | 30      | 17 59          | 7 19 73  | 17 45 55       | 17 45 55  |     |      |     |      |
| 10  | 333                                                | 54.9 |                                                                                                                                   | 06.3 | 323                                               | 00.3 | 49                                               | 20            | 21                                              | 44      | 18 10          | 6 57 68  | 18 09 58       | 18 09 58  |     |      |     |      |
| 11  | 348                                                | 54.8 | -18                                                                                                                               | 06.9 | 337                                               | 24.0 | 47                                               | 10 N          | 17 35                                           | 17 57   | 18 22          | 6 38 65  | 18 29 62       | 18 29 62  |     |      |     |      |
| 12  | 3                                                  | 54.7 | -18                                                                                                                               | 07.6 | 351                                               | 47.7 | 47                                               | 0             | 17 48                                           | 18 10   | 18 35          | 6 20 62  | 18 49 64       | 18 49 64  |     |      |     |      |
| 13  | 18                                                 | 54.6 |                                                                                                                                   | 08.3 | 6                                                 | 11.2 | 45                                               | 10 S          | 18 01                                           | 23      | 18 49          | 6 02 59  | 19 08 67       | 19 08 67  |     |      |     |      |
| 14  | 33                                                 | 54.5 |                                                                                                                                   | 08.9 | 20                                                | 34.7 | 45                                               | 20            | 16                                              | 39      | 19 07          | 5 44 55  | 29 69          | 29 69     |     |      |     |      |
| 15  | 48                                                 | 54.4 |                                                                                                                                   | 09.6 | 34                                                | 58.0 | 43                                               | 30            | 32                                              | 18 58   | 29             | 23 50    | 19 53 72       | 19 53 72  |     |      |     |      |
| 16  | 63                                                 | 54.3 |                                                                                                                                   | 10.2 | 49                                                | 21.2 | 42                                               | 35            | 42                                              | 19 10   | 19 44          | 5 10 48  | 20 08 74       | 20 08 74  |     |      |     |      |
| 17  | 78                                                 | 54.2 | -18                                                                                                                               | 10.9 | 63                                                | 44.3 | 41                                               | 40            | 18 53                                           | 19 24   | 20 01          | 4 56 45  | 20 24 76       | 20 24 76  |     |      |     |      |
| 18  | 93                                                 | 54.1 | -18                                                                                                                               | 11.5 | 78                                                | 07.4 | 41                                               | 45            | 19 06                                           | 19 40   | 20 23          | 4 39 41  | 20 44 79       | 20 44 79  |     |      |     |      |
| 19  | 108                                                | 54.0 |                                                                                                                                   | 12.2 | 92                                                | 30.3 | 39                                               | 50            | 23                                              | 20 02   | 20 53          | 19 35    | 21 09 83       | 21 09 83  |     |      |     |      |
| 20  | 123                                                | 53.9 |                                                                                                                                   | 12.8 | 106                                               | 53.1 | 38                                               | 52            | 30                                              | 12      | 21 08          | 4 09 33  | 21 86          | 21 86     |     |      |     |      |
| 21  | 138                                                | 53.8 |                                                                                                                                   | 13.5 | 121                                               | 15.8 | 37                                               | 54            | 39                                              | 24      | 27             | 3 58 29  | 35 89          | 35 89     |     |      |     |      |
| 22  | 153                                                | 53.8 |                                                                                                                                   | 14.1 | 135                                               | 38.4 | 36                                               | 56            | 48                                              | 37      | 21 51          | 46 25    | 21 51 92       | 21 51 92  |     |      |     |      |
| 23  | 168                                                | 53.7 |                                                                                                                                   | 14.8 | 150                                               | 00.9 | 35                                               | 58            | 19 59                                           | 20 53   | 22 25          | 32 19    | 22 10 98       | 22 10 98  |     |      |     |      |
| 24  | 183                                                | 53.6 | -18                                                                                                                               | 15.4 | 164                                               | 23.3 | 34                                               | 60 S          | 20 12                                           | 21 13   | ** **          | 3 15 11  | 22 35 107      | 22 35 107 |     |      |     |      |
| UT  | ARIES                                              |      | VENUS                                                                                                                             |      | MARTE                                             |      | JÚPITER                                          |               | SATURNO                                         |         |                |          |                |           |     |      |     |      |
|     | PMG: 20 <sup>h</sup> 26 <sup>m</sup> 9             |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 40 <sup>m</sup>                                                                                  |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 27 <sup>m</sup> |      | Mag: -1.8<br>PMG: 9 <sup>h</sup> 08 <sup>m</sup> |               | Mag: 0.0<br>PMG: 4 <sup>h</sup> 27 <sup>m</sup> |         |                |          |                |           |     |      |     |      |
|     | hG ♈                                               | Dec  | hG ♀                                                                                                                              | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec           | hG ♄                                            | Dec     |                |          |                |           |     |      |     |      |
| h   | °                                                  | '    | °                                                                                                                                 | '    | °                                                 | '    | °                                                | '             | °                                               | '       |                |          |                |           |     |      |     |      |
| 0   | 52                                                 | 26.8 | 214                                                                                                                               | 57.0 | -5                                                | 30.1 | 203                                              | 11.3          | -11                                             | 19.4    | 222            | 43.9     | -2             | 56.5      | 293 | 04.9 | +20 | 36.2 |
| 1   | 67                                                 | 29.2 | 229                                                                                                                               | 56.6 |                                                   | 31.2 | 218                                              | 12.1          |                                                 | 20.0    | 237            | 45.9     |                | 56.6      | 308 | 07.4 |     | 36.2 |
| 2   | 82                                                 | 31.7 | 244                                                                                                                               | 56.2 |                                                   | 32.4 | 233                                              | 13.0          |                                                 | 20.6    | 252            | 47.9     |                | 56.8      | 323 | 09.9 |     | 36.2 |
| 3   | 97                                                 | 34.2 | 259                                                                                                                               | 55.8 |                                                   | 33.5 | 248                                              | 13.9          |                                                 | 21.2    | 267            | 50.0     |                | 57.0      | 338 | 12.4 |     | 36.2 |
| 4   | 112                                                | 36.6 | 274                                                                                                                               | 55.4 |                                                   | 34.7 | 263                                              | 14.8          |                                                 | 21.8    | 282            | 52.0     |                | 57.2      | 353 | 14.9 |     | 36.2 |
| 5   | 127                                                | 39.1 | 289                                                                                                                               | 55.0 | -5                                                | 35.8 | 278                                              | 15.7          | -11                                             | 22.4    | 297            | 54.0     | -2             | 57.4      | 8   | 17.4 | +20 | 36.2 |
| 6   | 142                                                | 41.6 | 304                                                                                                                               | 54.6 | -5                                                | 37.0 | 293                                              | 16.5          | -11                                             | 23.0    | 312            | 56.1     | -2             | 57.5      | 23  | 19.8 | +20 | 36.2 |
| 7   | 157                                                | 44.0 | 319                                                                                                                               | 54.2 |                                                   | 38.1 | 308                                              | 17.4          |                                                 | 23.6    | 327            | 58.1     |                | 57.7      | 38  | 22.3 |     | 36.2 |
| 8   | 172                                                | 46.5 | 334                                                                                                                               | 53.8 |                                                   | 39.3 | 323                                              | 18.3          |                                                 | 24.2    | 343            | 00.1     |                | 57.9      | 53  | 24.8 |     | 36.2 |
| 9   | 187                                                | 48.9 | 349                                                                                                                               | 53.5 |                                                   | 40.4 | 338                                              | 19.2          |                                                 | 24.8    | 358            | 02.2     |                | 58.1      | 68  | 27.3 |     | 36.2 |
| 10  | 202                                                | 51.4 | 4                                                                                                                                 | 53.1 |                                                   | 41.5 | 353                                              | 20.0          |                                                 | 25.4    | 13             | 04.2     |                | 58.2      | 83  | 29.8 |     | 36.2 |
| 11  | 217                                                | 53.9 | 19                                                                                                                                | 52.7 | -5                                                | 42.7 | 8                                                | 20.9          | -11                                             | 26.0    | 28             | 06.2     | -2             | 58.4      | 98  | 32.3 | +20 | 36.2 |
| 12  | 232                                                | 56.3 | 34                                                                                                                                | 52.3 | -5                                                | 43.8 | 23                                               | 21.8          | -11                                             | 26.6    | 43             | 08.2     | -2             | 58.6      | 113 | 34.8 | +20 | 36.3 |
| 13  | 247                                                | 58.8 | 49                                                                                                                                | 51.9 |                                                   | 45.0 | 38                                               | 22.7          |                                                 | 27.1    | 58             | 10.3     |                | 58.8      | 128 | 37.3 |     | 36.3 |
| 14  | 263                                                | 01.3 | 64                                                                                                                                | 51.5 |                                                   | 46.1 | 53                                               | 23.6          |                                                 | 27.7    | 73             | 12.3     |                | 59.0      | 143 | 39.8 |     | 36.3 |
| 15  | 278                                                | 03.7 | 79                                                                                                                                | 51.1 |                                                   | 47.3 | 68                                               | 24.4          |                                                 | 28.3    | 88             | 14.3     |                | 59.1      | 158 | 42.2 |     | 36.3 |
| 16  | 293                                                | 06.2 | 94                                                                                                                                | 50.7 |                                                   | 48.4 | 83                                               | 25.3          |                                                 | 28.9    | 103            | 16.4     |                | 59.3      | 173 | 44.7 |     | 36.3 |
| 17  | 308                                                | 08.7 | 109                                                                                                                               | 50.3 | -5                                                | 49.6 | 98                                               | 26.2          | -11                                             | 29.5    | 118            | 18.4     | -2             | 59.5      | 188 | 47.2 | +20 | 36.3 |
| 18  | 323                                                | 11.1 | 124                                                                                                                               | 49.9 | -5                                                | 50.7 | 113                                              | 27.1          | -11                                             | 30.1    | 133            | 20.4     | -2             | 59.7      | 203 | 49.7 | +20 | 36.3 |
| 19  | 338                                                | 13.6 | 139                                                                                                                               | 49.5 |                                                   | 51.8 | 128                                              | 27.9          |                                                 | 30.7    | 148            | 22.5     | -2             | 59.8      | 218 | 52.2 |     | 36.3 |
| 20  | 353                                                | 16.1 | 154                                                                                                                               | 49.1 |                                                   | 53.0 | 143                                              | 28.8          |                                                 | 31.3    | 163            | 24.5     | -3             | 00.0      | 233 | 54.7 |     | 36.3 |
| 21  | 8                                                  | 18.5 | 169                                                                                                                               | 48.7 |                                                   | 54.1 | 158                                              | 29.7          |                                                 | 31.9    | 178            | 26.5     | -3             | 00.2      | 248 | 57.2 |     | 36.3 |
| 22  | 23                                                 | 21.0 | 184                                                                                                                               | 48.3 |                                                   | 55.3 | 173                                              | 30.6          |                                                 | 32.5    | 193            | 28.6     |                | 00.4      | 263 | 59.7 |     | 36.3 |
| 23  | 38                                                 | 23.4 | 199                                                                                                                               | 47.9 |                                                   | 56.4 | 188                                              | 31.5          |                                                 | 33.1    | 208            | 30.6     |                | 00.6      | 279 | 02.2 |     | 36.3 |
| 24  | 53                                                 | 25.9 | 214                                                                                                                               | 47.5 | -5                                                | 57.6 | 203                                              | 32.3          | -11                                             | 33.7    | 223            | 32.6     | -3             | 00.7      | 294 | 04.7 | +20 | 36.4 |
| Dif | —                                                  |      | -4                                                                                                                                |      | -11                                               |      | +9                                               |               | -6                                              |         | +20            |          | -2             |           | +25 |      | 0   |      |

| UT | SOL                                                |      |     |      | ● LUNA                                                                                                                           |      |     |      | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |    |    |    |       |       |    |
|----|----------------------------------------------------|------|-----|------|----------------------------------------------------------------------------------------------------------------------------------|------|-----|------|---------|--------------------------|------|---------------|----------------|----|----------------|----|----|----|----|----|-------|-------|----|
|    | SD: 16'2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 5 |      |     |      | Edad: 1 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 60'5<br>12 <sup>h</sup> : 60'5<br>20 <sup>h</sup> : 60'5<br>Rº: 66 <sup>m</sup> |      |     |      |         |                          |      |               |                |    |                |    |    |    |    |    |       |       |    |
|    | hG ☉                                               |      | Dec |      | hG ☾                                                                                                                             |      | Dif |      |         | Dec                      |      |               | Dif            |    | Hora           |    | Rº |    |    |    |       |       |    |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                | '    | °   | '    | °       | '                        | °    | '             | h              | m  | h              | m  | h  | m  | h  | m  | m     |       |    |
| 0  | 183                                                | 53.6 | -18 | 15.4 | 164                                                                                                                              | 23.3 | -25 | 23.1 | 78      | 58                       | 60 N | 6             | 16             | 7  | 07             | 7  | 56 | 11 | 37 | 94 | 15    | 30    | 44 |
| 1  | 198                                                | 53.5 |     | 16.1 | 178                                                                                                                              | 45.6 | 33  | 30.9 | 78      | 58                       |      | 11            | 7              | 00 | 45             |    |    | 11 | 07 | 86 | 16    | 01    | 51 |
| 2  | 213                                                | 53.4 |     | 16.7 | 193                                                                                                                              | 07.8 | 32  | 38.5 | 76      | 56                       |      | 07            | 6              | 53 | 35             |    |    | 10 | 44 | 82 |       | 25    | 54 |
| 3  | 228                                                | 53.3 |     | 17.4 | 207                                                                                                                              | 30.0 | 32  | 45.9 | 74      | 54                       |      | 04            |                | 47 | 26             |    |    |    | 25 | 80 | 16    | 44    | 56 |
| 4  | 243                                                | 53.2 |     | 18.0 | 221                                                                                                                              | 52.0 | 30  | -25  | 53.2    | 73                       | 52   | 6             | 00             | 41 | 19             |    |    | 10 | 09 | 78 | 17    | 00    | 58 |
| 5  | 258                                                | 53.1 | -18 | 18.7 | 236                                                                                                                              | 14.0 | 30  | -26  | 00.2    | 70                       | 50   | 5             | 57             | 6  | 36             | 7  | 12 | 9  | 55 | 77 | 17    | 14    | 59 |
| 6  | 273                                                | 53.0 | -18 | 19.3 | 250                                                                                                                              | 35.8 | 28  | -26  | 07.1    | 69                       | 45   | 5             | 49             | 6  | 25             | 6  | 57 | 9  | 27 | 75 | 17    | 43    | 61 |
| 7  | 288                                                | 52.9 |     | 20.0 | 264                                                                                                                              | 57.6 | 28  |      | 13.8    | 67                       | 40   | 43            |                | 15 | 44             |    |    | 9  | 05 | 73 | 18    | 05    | 62 |
| 8  | 303                                                | 52.8 |     | 20.6 | 279                                                                                                                              | 19.4 | 28  |      | 20.2    | 64                       | 35   | 36            | 6              | 07 | 34             |    |    | 8  | 47 | 72 |       | 24    | 63 |
| 9  | 318                                                | 52.7 |     | 21.3 | 293                                                                                                                              | 41.0 | 26  |      | 26.5    | 63                       | 30   | 30            | 5              | 59 | 24             |    |    |    | 32 | 70 | 18    | 40    | 63 |
| 10 | 333                                                | 52.6 |     | 21.9 | 308                                                                                                                              | 02.6 | 26  |      | 32.6    | 61                       | 20   | 19            |                | 45 | 6              | 08 |    | 8  | 05 | 69 | 19    | 07    | 65 |
| 11 | 348                                                | 52.5 | -18 | 22.6 | 322                                                                                                                              | 24.1 | 25  | -26  | 38.5    | 59                       | 10 N | 5             | 07             | 5  | 32             | 5  | 54 | 7  | 43 | 66 | 19    | 31    | 65 |
| 12 | 3                                                  | 52.4 | -18 | 23.2 | 336                                                                                                                              | 45.5 | 24  | -26  | 44.2    | 57                       | 0    | 4             | 54             | 5  | 19             | 5  | 41 | 7  | 22 | 65 | 19    | 53    | 65 |
| 13 | 18                                                 | 52.3 |     | 23.9 | 351                                                                                                                              | 06.9 | 24  |      | 49.7    | 55                       | 10 S | 39            | 5              | 05 | 28             |    |    | 7  | 01 | 64 | 20    | 15    | 66 |
| 14 | 33                                                 | 52.2 |     | 24.5 | 5                                                                                                                                | 28.2 | 23  | -26  | 55.0    | 53                       | 20   | 4             | 22             | 4  | 49             | 5  | 13 | 6  | 39 | 62 | 20    | 38    | 67 |
| 15 | 48                                                 | 52.0 |     | 25.1 | 19                                                                                                                               | 49.4 | 22  | -27  | 00.1    | 51                       | 30   | 3             | 59             | 30 | 4              | 56 |    | 6  | 13 | 60 | 21    | 05    | 68 |
| 16 | 63                                                 | 51.9 |     | 25.8 | 34                                                                                                                               | 10.6 | 22  |      | 05.0    | 49                       | 35   | 45            |                | 19 | 46             |    |    | 5  | 58 | 58 |       | 22    | 67 |
| 17 | 78                                                 | 51.8 | -18 | 26.4 | 48                                                                                                                               | 31.7 | 21  | -27  | 09.8    | 48                       | 40   | 3             | 27             | 4  | 05             | 4  | 35 | 5  | 41 | 56 | 21    | 40    | 68 |
| 18 | 93                                                 | 51.7 | -18 | 27.1 | 62                                                                                                                               | 52.8 | 21  | -27  | 14.3    | 45                       | 45   | 3             | 05             | 3  | 48             | 4  | 22 | 5  | 20 | 54 | 22    | 03    | 68 |
| 19 | 108                                                | 51.6 |     | 27.7 | 77                                                                                                                               | 13.8 | 20  |      | 18.6    | 43                       | 50   | 2             | 35             | 27 | 4              | 06 |    | 4  | 54 | 50 |       | 32    | 69 |
| 20 | 123                                                | 51.5 |     | 28.3 | 91                                                                                                                               | 34.8 | 20  |      | 22.7    | 41                       | 52   | 20            |                | 16 | 3              | 58 |    | 4  | 42 | 48 | 22    | 47    | 69 |
| 21 | 138                                                | 51.4 |     | 29.0 | 105                                                                                                                              | 55.7 | 19  |      | 26.5    | 38                       | 54   | 2             | 01             | 3  | 05             | 49 |    | 2  | 7  | 46 | 23    | 04    | 68 |
| 22 | 153                                                | 51.3 |     | 29.6 | 120                                                                                                                              | 16.6 | 19  |      | 30.2    | 37                       | 56   | 1             | 37             | 2  | 51             | 40 |    | 4  | 11 | 42 |       | 23    | 70 |
| 23 | 168                                                | 51.2 |     | 30.3 | 134                                                                                                                              | 37.5 | 19  |      | 33.7    | 35                       | 58   | 1             | 03             | 35 | 29             |    |    | 3  | 51 | 37 | 23    | 48    | 70 |
| 24 | 183                                                | 51.1 | -18 | 30.9 | 148                                                                                                                              | 58.3 | 18  | -27  | 37.0    | 33                       | 60 S | ** **         | 2              | 15 | 3              | 16 |    | 3  | 26 | 28 | ** ** | ** ** | ** |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                         |      |     |      |    |      |     |      |     |      |  |  |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|--|--|
|     | PMG: 20 <sup>h</sup> 22 <sup>m</sup> 9 |      | Mag: -4.0<br>PMG: 9 <sup>h</sup> 41 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 25 <sup>m</sup> |      | Mag: -1.8<br>PMG: 9 <sup>h</sup> 05 <sup>m</sup> |      | Mag: 0.0<br>PMG: 4 <sup>h</sup> 23 <sup>m</sup> |      |     |      |    |      |     |      |     |      |  |  |
|     | hG ♂                                   |      | hG ♀                                             |      | hG ♂                                              |      | hG ♀                                             |      | hG ♀                                            |      |     |      |    |      |     |      |     |      |  |  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                               | '    |     |      |    |      |     |      |     |      |  |  |
| 0   | 53                                     | 25.9 | 214                                              | 47.5 | -5                                                | 57.6 | 203                                              | 32.3 | -11                                             | 33.7 | 223 | 32.6 | -3 | 00.7 | 294 | 04.7 | +20 | 36.4 |  |  |
| 1   | 68                                     | 28.4 | 229                                              | 47.1 |                                                   | 58.7 | 218                                              | 33.2 |                                                 | 34.3 | 238 | 34.7 |    | 00.9 | 309 | 07.2 |     | 36.4 |  |  |
| 2   | 83                                     | 30.8 | 244                                              | 46.7 | -5                                                | 59.8 | 233                                              | 34.1 |                                                 | 34.9 | 253 | 36.7 |    | 01.1 | 324 | 09.6 |     | 36.4 |  |  |
| 3   | 98                                     | 33.3 | 259                                              | 46.3 | -6                                                | 01.0 | 248                                              | 35.0 |                                                 | 35.4 | 268 | 38.7 |    | 01.3 | 339 | 12.1 |     | 36.4 |  |  |
| 4   | 113                                    | 35.8 | 274                                              | 45.9 |                                                   | 02.1 | 263                                              | 35.8 |                                                 | 36.0 | 283 | 40.8 |    | 01.4 | 354 | 14.6 |     | 36.4 |  |  |
| 5   | 128                                    | 38.2 | 289                                              | 45.5 | -6                                                | 03.3 | 278                                              | 36.7 | -11                                             | 36.6 | 298 | 42.8 | -3 | 01.6 | 9   | 17.1 | +20 | 36.4 |  |  |
| 6   | 143                                    | 40.7 | 304                                              | 45.1 | -6                                                | 04.4 | 293                                              | 37.6 | -11                                             | 37.2 | 313 | 44.8 | -3 | 01.8 | 24  | 19.6 | +20 | 36.4 |  |  |
| 7   | 158                                    | 43.2 | 319                                              | 44.7 |                                                   | 05.5 | 308                                              | 38.5 |                                                 | 37.8 | 328 | 46.9 |    | 02.0 | 39  | 22.1 |     | 36.4 |  |  |
| 8   | 173                                    | 45.6 | 334                                              | 44.3 |                                                   | 06.7 | 323                                              | 39.3 |                                                 | 38.4 | 343 | 48.9 |    | 02.1 | 54  | 24.6 |     | 36.4 |  |  |
| 9   | 188                                    | 48.1 | 349                                              | 43.9 |                                                   | 07.8 | 338                                              | 40.2 |                                                 | 39.0 | 358 | 50.9 |    | 02.3 | 69  | 27.1 |     | 36.4 |  |  |
| 10  | 203                                    | 50.6 | 4                                                | 43.5 |                                                   | 09.0 | 353                                              | 41.1 |                                                 | 39.6 | 13  | 53.0 |    | 02.5 | 84  | 29.6 |     | 36.4 |  |  |
| 11  | 218                                    | 53.0 | 19                                               | 43.1 | -6                                                | 10.1 | 8                                                | 42.0 | -11                                             | 40.2 | 28  | 55.0 | -3 | 02.7 | 99  | 32.1 | +20 | 36.5 |  |  |
| 12  | 233                                    | 55.5 | 34                                               | 42.7 | -6                                                | 11.2 | 23                                               | 42.8 | -11                                             | 40.8 | 43  | 57.0 | -3 | 02.9 | 114 | 34.6 | +20 | 36.5 |  |  |
| 13  | 248                                    | 57.9 | 49                                               | 42.3 |                                                   | 12.4 | 38                                               | 43.7 |                                                 | 41.4 | 58  | 59.1 |    | 03.0 | 129 | 37.1 |     | 36.5 |  |  |
| 14  | 264                                    | 00.4 | 64                                               | 41.9 |                                                   | 13.5 | 53                                               | 44.6 |                                                 | 41.9 | 74  | 01.1 |    | 03.2 | 144 | 39.6 |     | 36.5 |  |  |
| 15  | 279                                    | 02.9 | 79                                               | 41.5 |                                                   | 14.7 | 68                                               | 45.5 |                                                 | 42.5 | 89  | 03.2 |    | 03.4 | 159 | 42.1 |     | 36.5 |  |  |
| 16  | 294                                    | 05.3 | 94                                               | 41.1 |                                                   | 15.8 | 83                                               | 46.3 |                                                 | 43.1 | 104 | 05.2 |    | 03.6 | 174 | 44.5 |     | 36.5 |  |  |
| 17  | 309                                    | 07.8 | 109                                              | 40.7 | -6                                                | 16.9 | 98                                               | 47.2 | -11                                             | 43.7 | 119 | 07.2 | -3 | 03.7 | 189 | 47.0 | +20 | 36.5 |  |  |
| 18  | 324                                    | 10.3 | 124                                              | 40.3 | -6                                                | 18.1 | 113                                              | 48.1 | -11                                             | 44.3 | 134 | 09.3 | -3 | 03.9 | 204 | 49.5 | +20 | 36.5 |  |  |
| 19  | 339                                    | 12.7 | 139                                              | 39.9 |                                                   | 19.2 | 128                                              | 49.0 |                                                 | 44.9 | 149 | 11.3 |    | 04.1 | 219 | 52.0 |     | 36.5 |  |  |
| 20  | 354                                    | 15.2 | 154                                              | 39.5 |                                                   | 20.4 | 143                                              | 49.8 |                                                 | 45.5 | 164 | 13.3 |    | 04.3 | 234 | 54.5 |     | 36.5 |  |  |
| 21  | 9                                      | 17.7 | 169                                              | 39.1 |                                                   | 21.5 | 158                                              | 50.7 |                                                 | 46.1 | 179 | 15.4 |    | 04.4 | 249 | 57.0 |     | 36.6 |  |  |
| 22  | 24                                     | 20.1 | 184                                              | 38.7 |                                                   | 22.6 | 173                                              | 51.6 |                                                 | 46.7 | 194 | 17.4 |    | 04.6 | 264 | 59.5 |     | 36.6 |  |  |
| 23  | 39                                     | 22.6 | 199                                              | 38.3 |                                                   | 23.8 | 188                                              | 52.4 |                                                 | 47.2 | 209 | 19.4 |    | 04.8 | 280 | 02.0 |     | 36.6 |  |  |
| 24  | 54                                     | 25.1 | 214                                              | 37.9 | -6                                                | 24.9 | 203                                              | 53.3 | -11                                             | 47.8 | 224 | 21.5 | -3 | 05.0 | 295 | 04.5 | +20 | 36.6 |  |  |
| Dif | —                                      |      | -4                                               |      | -11                                               |      | +9                                               |      | -6                                              |      | +20 |      | -2 |      | +25 |      |     |      |  |  |

| UT  | SOL                                    |          |                                                  | ● LUNA                     |                                      |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |                                                 | Puesta de Luna |          |  |
|-----|----------------------------------------|----------|--------------------------------------------------|----------------------------|--------------------------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|---------|----------------|-------------------------------------------------|----------------|----------|--|
|     | SD: 16'2                               |          |                                                  | Edad: 2 <sup>d</sup> 4 PHE | SD: 16'5                             |                                                   |         |               | R°: 65 <sup>m</sup>                              |         |                |                                                 |                |          |  |
|     | PMG: 11 <sup>h</sup> 44 <sup>m</sup> 7 |          |                                                  |                            | PMG: 14 <sup>h</sup> 43 <sup>m</sup> |                                                   |         |               |                                                  |         |                |                                                 |                |          |  |
|     | hG ☉                                   | Dec      |                                                  | hG ☾                       | Dif                                  | Dec                                               | Dif     |               | Civil                                            | Náutico | Hora           | R°                                              | Hora           | R°       |  |
| h   | ° ' "                                  | ° ' "    |                                                  | ° ' "                      |                                      | ° ' "                                             |         | °             | h m                                              | h m     | h m            |                                                 | h m m          | h m m    |  |
| 0   | 183 51.1                               | -18 30.9 |                                                  | 148 58.3                   | 18                                   | -27 37.0                                          | 30      | 60 N          | 15 30                                            | 16 19   | 17 11          |                                                 | 13 11 45       | 16 14 92 |  |
| 1   | 198 51.0                               | 31.5     |                                                  | 163 19.1                   | 17                                   | 40.0                                              | 29      | 58            | 41                                               | 27      | 15             |                                                 | 12 33 52       | 16 52 85 |  |
| 2   | 213 50.9                               | 32.2     |                                                  | 177 39.8                   | 17                                   | 42.9                                              | 26      | 56            | 15 52                                            | 34      | 20             |                                                 | 12 06 55       | 17 19 81 |  |
| 3   | 228 50.8                               | 32.8     |                                                  | 192 00.6                   | 18                                   | 45.5                                              | 25      | 54            | 16 00                                            | 40      | 24             |                                                 | 11 45 57       | 40 79    |  |
| 4   | 243 50.7                               | 33.4     |                                                  | 206 21.3                   | 17                                   | 48.0                                              | 22      | 52            | 08                                               | 46      | 27             |                                                 | 27 58          | 17 58 77 |  |
| 5   | 258 50.6                               | -18 34.1 |                                                  | 220 42.0                   | 17                                   | -27 50.2                                          | 20      | 50            | 16 16                                            | 16 51   | 17 31          |                                                 | 11 12 59       | 18 13 76 |  |
| 6   | 273 50.5                               | -18 34.7 |                                                  | 235 02.7                   | 17                                   | -27 52.2                                          | 18      | 45            | 16 31                                            | 17 03   | 17 38          |                                                 | 10 42 61       | 18 44 73 |  |
| 7   | 288 50.4                               | 35.3     |                                                  | 249 23.3                   | 16                                   | 54.0                                              | 16      | 40            | 44                                               | 13      | 45             |                                                 | 10 18 62       | 19 07 72 |  |
| 8   | 303 50.2                               | 36.0     |                                                  | 263 44.0                   | 17                                   | 55.6                                              | 14      | 35            | 16 54                                            | 21      | 52             |                                                 | 9 59 62        | 27 70    |  |
| 9   | 318 50.1                               | 36.6     |                                                  | 278 04.6                   | 16                                   | 57.0                                              | 11      | 30            | 17 04                                            | 29      | 17 58          |                                                 | 42 63          | 19 43 70 |  |
| 10  | 333 50.0                               | 37.2     |                                                  | 292 25.3                   | 17                                   | 58.1                                              | 10      | 20            | 20                                               | 43      | 18 10          |                                                 | 9 14 64        | 20 12 67 |  |
| 11  | 348 49.9                               | -18 37.9 |                                                  | 306 45.9                   | 16                                   | -27 59.1                                          | 7       | 10 N          | 17 35                                            | 17 57   | 18 22          |                                                 | 8 49 65        | 20 36 66 |  |
| 12  | 3 49.8                                 | -18 38.5 |                                                  | 321 06.6                   | 17                                   | -27 59.8                                          | 6       | 0             | 17 48                                            | 18 10   | 18 35          |                                                 | 8 27 65        | 20 58 64 |  |
| 13  | 18 49.7                                | 39.1     |                                                  | 335 27.3                   | 17                                   | -28 00.4                                          | 3       | 10 S          | 18 02                                            | 24      | 18 50          |                                                 | 8 05 65        | 21 21 62 |  |
| 14  | 33 49.6                                | 39.7     |                                                  | 349 47.9                   | 16                                   | 00.7                                              | 1       | 20            | 17                                               | 18 40   | 19 08          |                                                 | 7 41 66        | 21 45 61 |  |
| 15  | 48 49.5                                | 40.4     |                                                  | 4 08.6                     | 17                                   | 00.8                                              | 1       | 30            | 34                                               | 19 00   | 31             |                                                 | 7 13 66        | 22 13 58 |  |
| 16  | 63 49.4                                | 41.0     |                                                  | 18 29.3                    | 17                                   | 00.7                                              | 3       | 35            | 44                                               | 12      | 19 46          |                                                 | 6 56 67        | 29 58    |  |
| 17  | 78 49.2                                | -18 41.6 |                                                  | 32 50.0                    | 17                                   | -28 00.4                                          | 5       | 40            | 18 56                                            | 19 26   | 20 04          |                                                 | 6 37 67        | 22 48 56 |  |
| 18  | 93 49.1                                | -18 42.3 |                                                  | 47 10.8                    | 18                                   | -27 59.9                                          | 8       | 45            | 19 09                                            | 19 43   | 20 27          |                                                 | 6 14 67        | 23 11 54 |  |
| 19  | 108 49.0                               | 42.9     |                                                  | 61 31.6                    | 18                                   | 59.1                                              | 9       | 50            | 26                                               | 20 05   | 20 58          |                                                 | 5 44 68        | 41 50    |  |
| 20  | 123 48.9                               | 43.5     |                                                  | 75 52.4                    | 18                                   | 58.2                                              | 11      | 52            | 34                                               | 16      | 21 14          |                                                 | 30 68          | 23 56 48 |  |
| 21  | 138 48.8                               | 44.1     |                                                  | 90 13.2                    | 18                                   | 57.1                                              | 14      | 54            | 43                                               | 28      | 34             |                                                 | 5 13 68        | ** ** ** |  |
| 22  | 153 48.7                               | 44.8     |                                                  | 104 34.1                   | 19                                   | 55.7                                              | 15      | 56            | 19 53                                            | 43      | 21 59          |                                                 | 4 53 68        | ** ** ** |  |
| 23  | 168 48.6                               | 45.4     |                                                  | 118 55.0                   | 19                                   | 54.2                                              | 18      | 58            | 20 04                                            | 20 59   | 22 38          |                                                 | 4 28 68        | ** ** ** |  |
| 24  | 183 48.4                               | -18 46.0 |                                                  | 133 16.0                   | 20                                   | -27 52.4                                          |         | 60 S          | 20 17                                            | 21 20   | ** **          |                                                 | 3 54 68        | 0 22 70  |  |
| UT  | ARIES                                  |          | VENUS                                            |                            |                                      | MARTE                                             |         |               | JÚPITER                                          |         |                | SATURNO                                         |                |          |  |
|     | PMG: 20 <sup>h</sup> 19 <sup>m</sup> 0 |          | Mag: -3.9<br>PMG: 9 <sup>h</sup> 42 <sup>m</sup> |                            |                                      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 24 <sup>m</sup> |         |               | Mag: -1.8<br>PMG: 9 <sup>h</sup> 01 <sup>m</sup> |         |                | Mag: 0.0<br>PMG: 4 <sup>h</sup> 19 <sup>m</sup> |                |          |  |
|     | hG ♈                                   |          | hG ♀                                             | Dec                        |                                      | hG ♂                                              | Dec     |               | hG ♃                                             |         | Dec            |                                                 | hG ♄           | Dec      |  |
| h   | ° ' "                                  | ° ' "    | ° ' "                                            | ° ' "                      |                                      | ° ' "                                             | ° ' "   |               | ° ' "                                            | ° ' "   | ° ' "          |                                                 | ° ' "          | ° ' "    |  |
| 0   | 54 25.1                                | 214 37.9 | -6 24.9                                          | 203 53.3                   | -11 47.8                             | 224 21.5                                          | -3 05.0 | 295 04.5      | +20 36.6                                         |         |                |                                                 | 295 04.5       | +20 36.6 |  |
| 1   | 69 27.5                                | 229 37.5 | 26.1                                             | 218 54.2                   | 48.4                                 | 239 23.5                                          | 05.1    | 310 07.0      | 36.6                                             |         |                |                                                 | 310 07.0       | 36.6     |  |
| 2   | 84 30.0                                | 244 37.1 | 27.2                                             | 233 55.1                   | 49.0                                 | 254 25.5                                          | 05.3    | 325 09.5      | 36.6                                             |         |                |                                                 | 325 09.5       | 36.6     |  |
| 3   | 99 32.4                                | 259 36.7 | 28.3                                             | 248 55.9                   | 49.6                                 | 269 27.6                                          | 05.5    | 340 12.0      | 36.6                                             |         |                |                                                 | 340 12.0       | 36.6     |  |
| 4   | 114 34.9                               | 274 36.3 | 29.5                                             | 263 56.8                   | 50.2                                 | 284 29.6                                          | 05.7    | 355 14.5      | 36.6                                             |         |                |                                                 | 355 14.5       | 36.6     |  |
| 5   | 129 37.4                               | 289 35.9 | -6 30.6                                          | 278 57.7                   | -11 50.8                             | 299 31.7                                          | -3 05.9 | 10 17.0       | +20 36.6                                         |         |                |                                                 | 10 17.0        | +20 36.6 |  |
| 6   | 144 39.8                               | 304 35.5 | -6 31.8                                          | 293 58.6                   | -11 51.4                             | 314 33.7                                          | -3 06.0 | 25 19.5       | +20 36.6                                         |         |                |                                                 | 25 19.5        | +20 36.6 |  |
| 7   | 159 42.3                               | 319 35.1 | 32.9                                             | 308 59.4                   | 52.0                                 | 329 35.7                                          | 06.2    | 40 22.0       | 36.7                                             |         |                |                                                 | 40 22.0        | 36.7     |  |
| 8   | 174 44.8                               | 334 34.7 | 34.0                                             | 324 00.3                   | 52.5                                 | 344 37.8                                          | 06.4    | 55 24.5       | 36.7                                             |         |                |                                                 | 55 24.5        | 36.7     |  |
| 9   | 189 47.2                               | 349 34.3 | 35.2                                             | 339 01.2                   | 53.1                                 | 359 39.8                                          | 06.6    | 70 27.0       | 36.7                                             |         |                |                                                 | 70 27.0        | 36.7     |  |
| 10  | 204 49.7                               | 4 33.8   | 36.3                                             | 354 02.0                   | 53.7                                 | 14 41.8                                           | 06.7    | 85 29.5       | 36.7                                             |         |                |                                                 | 85 29.5        | 36.7     |  |
| 11  | 219 52.2                               | 19 33.4  | -6 37.4                                          | 9 02.9                     | -11 54.3                             | 29 43.9                                           | -3 06.9 | 100 32.0      | +20 36.7                                         |         |                |                                                 | 100 32.0       | +20 36.7 |  |
| 12  | 234 54.6                               | 34 33.0  | -6 38.6                                          | 24 03.8                    | -11 54.9                             | 44 45.9                                           | -3 07.1 | 115 34.5      | +20 36.7                                         |         |                |                                                 | 115 34.5       | +20 36.7 |  |
| 13  | 249 57.1                               | 49 32.6  | 39.7                                             | 39 04.6                    | 55.5                                 | 59 47.9                                           | 07.3    | 130 37.0      | 36.7                                             |         |                |                                                 | 130 37.0       | 36.7     |  |
| 14  | 264 59.6                               | 64 32.2  | 40.8                                             | 54 05.5                    | 56.1                                 | 74 50.0                                           | 07.4    | 145 39.5      | 36.7                                             |         |                |                                                 | 145 39.5       | 36.7     |  |
| 15  | 280 02.0                               | 79 31.8  | 42.0                                             | 69 06.4                    | 56.7                                 | 89 52.0                                           | 07.6    | 160 42.0      | 36.7                                             |         |                |                                                 | 160 42.0       | 36.7     |  |
| 16  | 295 04.5                               | 94 31.4  | 43.1                                             | 84 07.3                    | 57.2                                 | 104 54.1                                          | 07.8    | 175 44.5      | 36.7                                             |         |                |                                                 | 175 44.5       | 36.7     |  |
| 17  | 310 06.9                               | 109 31.0 | -6 44.3                                          | 99 08.1                    | -11 57.8                             | 119 56.1                                          | -3 08.0 | 190 47.0      | +20 36.8                                         |         |                |                                                 | 190 47.0       | +20 36.8 |  |
| 18  | 325 09.4                               | 124 30.6 | -6 45.4                                          | 114 09.0                   | -11 58.4                             | 134 58.1                                          | -3 08.1 | 205 49.5      | +20 36.8                                         |         |                |                                                 | 205 49.5       | +20 36.8 |  |
| 19  | 340 11.9                               | 139 30.2 | 46.5                                             | 129 09.9                   | 59.0                                 | 150 00.2                                          | 08.3    | 220 52.0      | 36.8                                             |         |                |                                                 | 220 52.0       | 36.8     |  |
| 20  | 355 14.3                               | 154 29.8 | 47.7                                             | 144 10.7                   | -11 59.6                             | 165 02.2                                          | 08.5    | 235 54.5      | 36.8                                             |         |                |                                                 | 235 54.5       | 36.8     |  |
| 21  | 10 16.8                                | 169 29.4 | 48.8                                             | 159 11.6                   | -12 00.2                             | 180 04.3                                          | 08.7    | 250 57.0      | 36.8                                             |         |                |                                                 | 250 57.0       | 36.8     |  |
| 22  | 25 19.3                                | 184 28.9 | 49.9                                             | 174 12.5                   | 00.8                                 | 195 06.3                                          | 08.8    | 265 59.5      | 36.8                                             |         |                |                                                 | 265 59.5       | 36.8     |  |
| 23  | 40 21.7                                | 199 28.5 | 51.1                                             | 189 13.3                   | 01.3                                 | 210 08.3                                          | 09.0    | 281 02.0      | 36.8                                             |         |                |                                                 | 281 02.0       | 36.8     |  |
| 24  | 55 24.2                                | 214 28.1 | -6 52.2                                          | 204 14.2                   | -12 01.9                             | 225 10.4                                          | -3 09.2 | 296 04.5      | +20 36.8                                         |         |                |                                                 | 296 04.5       | +20 36.8 |  |
| Dif | —                                      | -4       | -11                                              | +9                         | -6                                   | +20                                               | -2      | +25           | 0                                                |         |                |                                                 |                |          |  |

| UT  | SOL                                                |      |     | ● LUNA                                                                                                                           |     |      | Latitud                                           | Principio del crepúsculo |         | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna                                  |      |        |      |          |
|-----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|-----|------|---------------------------------------------------|--------------------------|---------|--------------------------------------------------|----------------|------|-------------------------------------------------|------|--------|------|----------|
|     | SD: 16/2<br>PMG: 11 <sup>h</sup> 44 <sup>m</sup> 9 |      |     | Edad: 3 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 60/2<br>12 <sup>h</sup> : 60/1<br>20 <sup>h</sup> : 60/0<br>R°: 61 <sup>m</sup> |     |      |                                                   |                          |         |                                                  |                |      |                                                 |      |        |      |          |
|     | hG ☉                                               | Dec  |     | hG ☾                                                                                                                             | Dif | Dec  |                                                   | Dif                      | Náutico |                                                  | Civil          | Hora | R°                                              | Hora | R°     |      |          |
| h   | °                                                  | '    | °   | '                                                                                                                                | °   | '    | °                                                 | '                        | h       | m                                                | h              | m    | h                                               | m    | h      | m    | m        |
| 0   | 183                                                | 48.4 | -18 | 46.0                                                                                                                             | 133 | 16.0 | -27                                               | 52.4                     | 60 N    | 6 20                                             | 7 12           | 8 01 | 13 56                                           | 15   | 17 46  | 112  |          |
| 1   | 198                                                | 48.3 |     | 46.6                                                                                                                             | 147 | 37.0 | 20                                                | 50.4                     | 58      | 15                                               | 7 04           | 7 49 | 25 25                                           |      | 18 17  | 101  |          |
| 2   | 213                                                | 48.2 |     | 47.2                                                                                                                             | 161 | 58.0 | 20                                                | 48.2                     | 56      | 11                                               | 6 57           | 39   | 13 01                                           | 31   | 40 95  |      |          |
| 3   | 228                                                | 48.1 |     | 47.9                                                                                                                             | 176 | 19.1 | 21                                                | 45.9                     | 54      | 07                                               | 50             | 30   | 12 42                                           | 35   | 18 59  | 91   |          |
| 4   | 243                                                | 48.0 |     | 48.5                                                                                                                             | 190 | 40.3 | 22                                                | 43.3                     | 52      | 03                                               | 44             | 22   | 25 39                                           |      | 19 15  | 87   |          |
| 5   | 258                                                | 47.9 | -18 | 49.1                                                                                                                             | 205 | 01.5 | 22                                                | -27 40.5                 | 50      | 6 00                                             | 6 39           | 7 15 | 12 11                                           | 42   | 19 29  | 84   |          |
| 6   | 273                                                | 47.8 | -18 | 49.7                                                                                                                             | 219 | 22.8 | 23                                                | -27 37.5                 | 45      | 5 52                                             | 6 27           | 6 59 | 11 43                                           | 46   | 19 57  | 79   |          |
| 7   | 288                                                | 47.6 |     | 50.3                                                                                                                             | 233 | 44.1 | 23                                                | 34.3                     | 40      | 45                                               | 17             | 47   | 20 49                                           |      | 20 19  | 76   |          |
| 8   | 303                                                | 47.5 |     | 51.0                                                                                                                             | 248 | 05.5 | 24                                                | 30.9                     | 35      | 38                                               | 09             | 36   | 11 01                                           | 52   | 37 73  |      |          |
| 9   | 318                                                | 47.4 |     | 51.6                                                                                                                             | 262 | 27.0 | 25                                                | 27.3                     | 30      | 32                                               | 6 01           | 26   | 10 45                                           | 54   | 20 53  | 70   |          |
| 10  | 333                                                | 47.3 |     | 52.2                                                                                                                             | 276 | 48.5 | 25                                                | 23.5                     | 20      | 20                                               | 5 46           | 6 10 | 10 18                                           | 57   | 21 19  | 66   |          |
| 11  | 348                                                | 47.2 | -18 | 52.8                                                                                                                             | 291 | 10.1 | 26                                                | -27 19.5                 | 10 N    | 5 07                                             | 5 33           | 5 55 | 9 54                                            | 60   | 21 42  | 63   |          |
| 12  | 3                                                  | 47.0 | -18 | 53.4                                                                                                                             | 305 | 31.8 | 27                                                | -27 15.4                 | 0       | 4 54                                             | 5 19           | 5 41 | 9 32                                            | 63   | 22 02  | 61   |          |
| 13  | 18                                                 | 46.9 |     | 54.1                                                                                                                             | 319 | 53.6 | 28                                                | 11.0                     | 10 S    | 39                                               | 5 05           | 27   | 9 10                                            | 65   | 23 57  |      |          |
| 14  | 33                                                 | 46.8 |     | 54.7                                                                                                                             | 334 | 15.4 | 28                                                | 06.4                     | 20      | 4 21                                             | 4 49           | 5 13 | 8 47                                            | 67   | 22 46  | 53   |          |
| 15  | 48                                                 | 46.7 |     | 55.3                                                                                                                             | 348 | 37.4 | 30                                                | -27 01.7                 | 30      | 3 58                                             | 29             | 4 55 | 19 71                                           |      | 23 11  | 50   |          |
| 16  | 63                                                 | 46.6 |     | 55.9                                                                                                                             | 2   | 59.4 | 30                                                | -26 56.7                 | 35      | 43                                               | 17             | 45   | 8 03                                            | 72   | 27 46  |      |          |
| 17  | 78                                                 | 46.4 | -18 | 56.5                                                                                                                             | 17  | 21.5 | 31                                                | -26 51.6                 | 40      | 3 25                                             | 4 03           | 4 34 | 7 44                                            | 75   | 23 44  | 44   |          |
| 18  | 93                                                 | 46.3 | -18 | 57.1                                                                                                                             | 31  | 43.7 | 32                                                | -26 46.3                 | 45      | 3 02                                             | 3 46           | 4 20 | 7 21                                            | 77   | *** ** | ***  |          |
| 19  | 108                                                | 46.2 |     | 57.7                                                                                                                             | 46  | 06.0 | 33                                                | 40.8                     | 50      | 2 31                                             | 24             | 4 03 | 6 52                                            | 81   | *** ** | ***  |          |
| 20  | 123                                                | 46.1 |     | 58.3                                                                                                                             | 60  | 28.3 | 33                                                | 35.1                     | 52      | 2 15                                             | 13             | 3 55 | 38 83                                           |      | *** ** | ***  |          |
| 21  | 138                                                | 46.0 |     | 59.0                                                                                                                             | 74  | 50.8 | 35                                                | 29.2                     | 54      | 1 55                                             | 3 01           | 46   | 21 86                                           |      | 0 12   | 46   |          |
| 22  | 153                                                | 45.8 | -18 | 59.6                                                                                                                             | 89  | 13.4 | 36                                                | 23.1                     | 56      | 1 30                                             | 2 46           | 36   | 6 01                                            | 90   | 33 42  |      |          |
| 23  | 168                                                | 45.7 | -19 | 00.2                                                                                                                             | 103 | 36.1 | 37                                                | 16.9                     | 58      | 0 51                                             | 29             | 25   | 5 36                                            | 95   | 0 58   | 37   |          |
| 24  | 183                                                | 45.6 | -19 | 00.8                                                                                                                             | 117 | 58.8 | 37                                                | -26 10.5                 | 60 S    | ** **                                            | 2 08           | 3 11 | 5 02                                            | 104  | 1 32   | 28   |          |
| UT  | ARIES                                              |      |     | VENUS                                                                                                                            |     |      | MARTE                                             |                          |         | JÚPITER                                          |                |      | SATURNO                                         |      |        |      |          |
|     | PMG: 20 <sup>h</sup> 15 <sup>m</sup> 1             |      |     | Mag: -3.9<br>PMG: 9 <sup>h</sup> 42 <sup>m</sup>                                                                                 |     |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 22 <sup>m</sup> |                          |         | Mag: -1.8<br>PMG: 8 <sup>h</sup> 58 <sup>m</sup> |                |      | Mag: 0.0<br>PMG: 4 <sup>h</sup> 15 <sup>m</sup> |      |        |      |          |
|     | hG ♈                                               |      | Dec | hG ♀                                                                                                                             |     | Dec  | hG ♂                                              |                          | Dec     | hG ♃                                             |                | Dec  | hG ♄                                            |      | Dec    |      |          |
| h   | °                                                  | '    | °   | '                                                                                                                                | °   | '    | °                                                 | '                        | °       | '                                                | °              | '    | °                                               | '    | °      | '    | °        |
| 0   | 55                                                 | 24.2 | 214 | 28.1                                                                                                                             | -6  | 52.2 | 204                                               | 14.2                     | -12     | 01.9                                             | 225            | 10.4 | -3                                              | 09.2 | 296    | 04.5 | +20 36.8 |
| 1   | 70                                                 | 26.7 | 229 | 27.7                                                                                                                             |     | 53.3 | 219                                               | 15.1                     |         | 02.5                                             | 240            | 12.4 |                                                 | 09.4 | 311    | 07.0 | 36.8     |
| 2   | 85                                                 | 29.1 | 244 | 27.3                                                                                                                             |     | 54.5 | 234                                               | 16.0                     |         | 03.1                                             | 255            | 14.4 |                                                 | 09.5 | 326    | 09.5 | 36.9     |
| 3   | 100                                                | 31.6 | 259 | 26.9                                                                                                                             |     | 55.6 | 249                                               | 16.8                     |         | 03.7                                             | 270            | 16.5 |                                                 | 09.7 | 341    | 12.0 | 36.9     |
| 4   | 115                                                | 34.1 | 274 | 26.5                                                                                                                             |     | 56.7 | 264                                               | 17.7                     |         | 04.3                                             | 285            | 18.5 |                                                 | 09.9 | 356    | 14.5 | 36.9     |
| 5   | 130                                                | 36.5 | 289 | 26.1                                                                                                                             | -6  | 57.9 | 279                                               | 18.6                     | -12     | 04.9                                             | 300            | 20.6 | -3                                              | 10.1 | 11     | 17.0 | +20 36.9 |
| 6   | 145                                                | 39.0 | 304 | 25.7                                                                                                                             | -6  | 59.0 | 294                                               | 19.4                     | -12     | 05.4                                             | 315            | 22.6 | -3                                              | 10.2 | 26     | 19.5 | +20 36.9 |
| 7   | 160                                                | 41.4 | 319 | 25.2                                                                                                                             | -7  | 00.1 | 309                                               | 20.3                     |         | 06.0                                             | 330            | 24.6 |                                                 | 10.4 | 41     | 22.0 | 36.9     |
| 8   | 175                                                | 43.9 | 334 | 24.8                                                                                                                             |     | 01.3 | 324                                               | 21.2                     |         | 06.6                                             | 345            | 26.7 |                                                 | 10.6 | 56     | 24.5 | 36.9     |
| 9   | 190                                                | 46.4 | 349 | 24.4                                                                                                                             |     | 02.4 | 339                                               | 22.0                     |         | 07.2                                             | 0              | 28.7 |                                                 | 10.7 | 71     | 27.0 | 36.9     |
| 10  | 205                                                | 48.8 | 4   | 24.0                                                                                                                             |     | 03.5 | 354                                               | 22.9                     |         | 07.8                                             | 15             | 30.8 |                                                 | 10.9 | 86     | 29.5 | 36.9     |
| 11  | 220                                                | 51.3 | 19  | 23.6                                                                                                                             | -7  | 04.7 | 9                                                 | 23.8                     | -12     | 08.4                                             | 30             | 32.8 | -3                                              | 11.1 | 101    | 32.0 | +20 37.0 |
| 12  | 235                                                | 53.8 | 34  | 23.2                                                                                                                             | -7  | 05.8 | 24                                                | 24.6                     | -12     | 08.9                                             | 45             | 34.8 | -3                                              | 11.3 | 116    | 34.5 | +20 37.0 |
| 13  | 250                                                | 56.2 | 49  | 22.8                                                                                                                             |     | 06.9 | 39                                                | 25.5                     |         | 09.5                                             | 60             | 36.9 |                                                 | 11.4 | 131    | 37.0 | 37.0     |
| 14  | 265                                                | 58.7 | 64  | 22.3                                                                                                                             |     | 08.1 | 54                                                | 26.4                     |         | 10.1                                             | 75             | 38.9 |                                                 | 11.6 | 146    | 39.5 | 37.0     |
| 15  | 281                                                | 01.2 | 79  | 21.9                                                                                                                             |     | 09.2 | 69                                                | 27.2                     |         | 10.7                                             | 90             | 41.0 |                                                 | 11.8 | 161    | 42.0 | 37.0     |
| 16  | 296                                                | 03.6 | 94  | 21.5                                                                                                                             |     | 10.3 | 84                                                | 28.1                     |         | 11.3                                             | 105            | 43.0 |                                                 | 12.0 | 176    | 44.5 | 37.0     |
| 17  | 311                                                | 06.1 | 109 | 21.1                                                                                                                             | -7  | 11.4 | 99                                                | 29.0                     | -12     | 11.9                                             | 120            | 45.0 | -3                                              | 12.1 | 191    | 47.0 | +20 37.0 |
| 18  | 326                                                | 08.6 | 124 | 20.7                                                                                                                             | -7  | 12.6 | 114                                               | 29.8                     | -12     | 12.4                                             | 135            | 47.1 | -3                                              | 12.3 | 206    | 49.5 | +20 37.0 |
| 19  | 341                                                | 11.0 | 139 | 20.3                                                                                                                             |     | 13.7 | 129                                               | 30.7                     |         | 13.0                                             | 150            | 49.1 |                                                 | 12.5 | 221    | 52.0 | 37.0     |
| 20  | 356                                                | 13.5 | 154 | 19.9                                                                                                                             |     | 14.8 | 144                                               | 31.6                     |         | 13.6                                             | 165            | 51.2 |                                                 | 12.7 | 236    | 54.6 | 37.1     |
| 21  | 11                                                 | 15.9 | 169 | 19.4                                                                                                                             |     | 16.0 | 159                                               | 32.4                     |         | 14.2                                             | 180            | 53.2 |                                                 | 12.8 | 251    | 57.1 | 37.1     |
| 22  | 26                                                 | 18.4 | 184 | 19.0                                                                                                                             |     | 17.1 | 174                                               | 33.3                     |         | 14.8                                             | 195            | 55.2 |                                                 | 13.0 | 266    | 59.6 | 37.1     |
| 23  | 41                                                 | 20.9 | 199 | 18.6                                                                                                                             |     | 18.2 | 189                                               | 34.2                     |         | 15.4                                             | 210            | 57.3 |                                                 | 13.2 | 282    | 02.1 | 37.1     |
| 24  | 56                                                 | 23.3 | 214 | 18.2                                                                                                                             | -7  | 19.4 | 204                                               | 35.0                     | -12     | 15.9                                             | 225            | 59.3 | -3                                              | 13.4 | 297    | 04.6 | +20 37.1 |
| Dif | —                                                  |      |     | -4                                                                                                                               | -11 |      | +9 -6                                             |                          |         | +20 -2                                           |                |      | +25 0                                           |      |        |      |          |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                                             |          |                                                   | Latitud  | Puesta de Sol | Final del crepúsculo                             |          | Salida de Luna |                                                 | Puesta de Luna |       |
|-----|----------------------------------------------------|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------|----------|---------------|--------------------------------------------------|----------|----------------|-------------------------------------------------|----------------|-------|
|     | SD: 16/2<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 1 |      |                                                  | Edad: 4 <sup>d</sup> 4 PHE<br>SD: 16/3<br>PMG: 16 <sup>h</sup> 49 <sup>m</sup><br>R°: 56 <sup>m</sup><br>4 <sup>h</sup> : 59/8<br>12 <sup>h</sup> : 59/6<br>20 <sup>h</sup> : 59/4 |          |                                                   |          |               |                                                  |          |                |                                                 |                |       |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                               | Dif      | Dec                                               |          |               | Dif                                              | Civil    | Náutico        | Hora                                            | R°             | Hora  |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                                  | '        | °                                                 | '        | °             | h m                                              | h m      | h m            | h m m                                           | h m m          | h m m |
| 0   | 183                                                | 45.6 | -19 00.8                                         | 117                                                                                                                                                                                | 58.8     | -26 10.5                                          | 66       | 60 N          | 15 26                                            | 16 16    | 17 08          | 14 11 6                                         | 19 38 110      |       |
| 1   | 198                                                | 45.5 | 01.4                                             | 132                                                                                                                                                                                | 21.7     | -26 03.9                                          | 66       | 58            | 38                                               | 24       | 13             | 13 50 13                                        | 19 58 103      |       |
| 2   | 213                                                | 45.3 | 02.0                                             | 146                                                                                                                                                                                | 44.7     | -25 57.1                                          | 68       | 56            | 48                                               | 31       | 17             | 32 18                                           | 20 15 98       |       |
| 3   | 228                                                | 45.2 | 02.6                                             | 161                                                                                                                                                                                | 07.8     | 50.2                                              | 69       | 54            | 15 58                                            | 38       | 21             | 17 22                                           | 30 93          |       |
| 4   | 243                                                | 45.1 | 03.2                                             | 175                                                                                                                                                                                | 31.0     | 43.1                                              | 71       | 52            | 16 06                                            | 44       | 25             | 13 04 26                                        | 42 89          |       |
| 5   | 258                                                | 45.0 | -19 03.8                                         | 189                                                                                                                                                                                | 54.3     | -25 35.8                                          | 73       | 50            | 16 13                                            | 16 49    | 17 29          | 12 53 28                                        | 20 53 86       |       |
| 6   | 273                                                | 44.8 | -19 04.4                                         | 204                                                                                                                                                                                | 17.7     | -25 28.4                                          | 74       | 45            | 16 29                                            | 17 01    | 17 37          | 12 29 34                                        | 21 16 80       |       |
| 7   | 288                                                | 44.7 | 05.0                                             | 218                                                                                                                                                                                | 41.2     | 20.7                                              | 77       | 40            | 42                                               | 11       | 44             | 12 09 39                                        | 35 75          |       |
| 8   | 303                                                | 44.6 | 05.6                                             | 233                                                                                                                                                                                | 04.9     | 13.0                                              | 77       | 35            | 16 53                                            | 20       | 51             | 11 53 42                                        | 21 50 71       |       |
| 9   | 318                                                | 44.5 | 06.2                                             | 247                                                                                                                                                                                | 28.6     | -25 05.0                                          | 80       | 30            | 17 03                                            | 28       | 17 57          | 39 45                                           | 22 03 69       |       |
| 10  | 333                                                | 44.3 | 06.8                                             | 261                                                                                                                                                                                | 52.5     | -24 56.9                                          | 81       | 20            | 20                                               | 43       | 18 10          | 11 15 50                                        | 25 64          |       |
| 11  | 348                                                | 44.2 | -19 07.4                                         | 276                                                                                                                                                                                | 16.5     | -24 48.7                                          | 82       | 10 N          | 17 35                                            | 17 57    | 18 22          | 10 54 54                                        | 22 45 59       |       |
| 12  | 3                                                  | 44.1 | -19 08.0                                         | 290                                                                                                                                                                                | 40.6     | -24 40.3                                          | 84       | 0             | 17 49                                            | 18 11    | 18 36          | 10 35 57                                        | 23 03 54       |       |
| 13  | 18                                                 | 43.9 | 08.6                                             | 305                                                                                                                                                                                | 04.8     | 31.7                                              | 86       | 10 S          | 18 03                                            | 25       | 18 51          | 10 15 61                                        | 20 51          |       |
| 14  | 33                                                 | 43.8 | 09.2                                             | 319                                                                                                                                                                                | 29.1     | 23.0                                              | 87       | 20            | 18                                               | 18 42    | 19 10          | 9 54 65                                         | 23 39 47       |       |
| 15  | 48                                                 | 43.7 | 09.8                                             | 333                                                                                                                                                                                | 53.6     | 14.1                                              | 89       | 30            | 36                                               | 19 02    | 33             | 30 69                                           | *** ** *       |       |
| 16  | 63                                                 | 43.6 | 10.4                                             | 348                                                                                                                                                                                | 18.2     | -24 05.1                                          | 90       | 35            | 46                                               | 14       | 19 49          | 9 15 73                                         | *** ** *       |       |
| 17  | 78                                                 | 43.4 | -19 11.0                                         | 2                                                                                                                                                                                  | 42.9     | -23 55.9                                          | 92       | 40            | 18 58                                            | 19 29    | 20 07          | 8 59 75                                         | *** ** *       |       |
| 18  | 93                                                 | 43.3 | -19 11.6                                         | 17                                                                                                                                                                                 | 07.7     | -23 46.6                                          | 93       | 45            | 19 12                                            | 19 46    | 20 30          | 8 38 81                                         | 0 05 40        |       |
| 19  | 108                                                | 43.2 | 12.2                                             | 31                                                                                                                                                                                 | 32.7     | 37.1                                              | 95       | 50            | 29                                               | 20 09    | 21 02          | 13 86                                           | 31 35          |       |
| 20  | 123                                                | 43.0 | 12.8                                             | 45                                                                                                                                                                                 | 57.7     | 27.5                                              | 96       | 52            | 38                                               | 20       | 19             | 8 01 89                                         | 44 32          |       |
| 21  | 138                                                | 42.9 | 13.4                                             | 60                                                                                                                                                                                 | 22.9     | 17.8                                              | 97       | 54            | 47                                               | 33       | 21 40          | 7 47 92                                         | 0 58 29        |       |
| 22  | 153                                                | 42.8 | 14.0                                             | 74                                                                                                                                                                                 | 48.2     | -23 07.9                                          | 99       | 56            | 19 57                                            | 20 48    | 22 08          | 31 96                                           | 1 15 24        |       |
| 23  | 168                                                | 42.6 | 14.6                                             | 89                                                                                                                                                                                 | 13.7     | -22 57.9                                          | 100      | 58            | 20 09                                            | 21 05    | 22 53          | 7 11 103                                        | 1 35 19        |       |
| 24  | 183                                                | 42.5 | -19 15.2                                         | 103                                                                                                                                                                                | 39.2     | -22 47.7                                          | 102      | 60 S          | 20 23                                            | 21 28    | ** ** *        | 6 46 111                                        | 2 00 11        |       |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                                    |          | MARTE                                             |          |               | JÚPITER                                          |          |                | SATURNO                                         |                |       |
|     | PMG: 20 <sup>h</sup> 11 <sup>m</sup> 1             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 43 <sup>m</sup> |                                                                                                                                                                                    |          | Mag: +1.7<br>PMG: 10 <sup>h</sup> 21 <sup>m</sup> |          |               | Mag: -1.8<br>PMG: 8 <sup>h</sup> 55 <sup>m</sup> |          |                | Mag: 0.0<br>PMG: 4 <sup>h</sup> 11 <sup>m</sup> |                |       |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                                |          | hG ♂                                              | Dec      |               | hG ♃                                             | Dec      |                | hG ♄                                            | Dec            |       |
| h   | °                                                  | '    | °                                                | °                                                                                                                                                                                  | '        | °                                                 | '        | °             | °                                                | '        | °              | °                                               | '              |       |
| 0   | 56                                                 | 23.3 | 214 18.2                                         | -7 19.4                                                                                                                                                                            | 204 35.0 | -12 15.9                                          | 225 59.3 | -3 13.4       | 297 04.6                                         | +20 37.1 |                |                                                 |                |       |
| 1   | 71                                                 | 25.8 | 229 17.8                                         | 20.5                                                                                                                                                                               | 219 35.9 | 16.5                                              | 241 01.4 | 13.5          | 312 07.1                                         | 37.1     |                |                                                 |                |       |
| 2   | 86                                                 | 28.3 | 244 17.3                                         | 21.6                                                                                                                                                                               | 234 36.7 | 17.1                                              | 256 03.4 | 13.7          | 327 09.6                                         | 37.1     |                |                                                 |                |       |
| 3   | 101                                                | 30.7 | 259 16.9                                         | 22.7                                                                                                                                                                               | 249 37.6 | 17.7                                              | 271 05.5 | 13.9          | 342 12.1                                         | 37.1     |                |                                                 |                |       |
| 4   | 116                                                | 33.2 | 274 16.5                                         | 23.9                                                                                                                                                                               | 264 38.5 | 18.3                                              | 286 07.5 | 14.0          | 357 14.6                                         | 37.1     |                |                                                 |                |       |
| 5   | 131                                                | 35.7 | 289 16.1                                         | -7 25.0                                                                                                                                                                            | 279 39.3 | -12 18.9                                          | 301 09.5 | -3 14.2       | 12 17.1                                          | +20 37.2 |                |                                                 |                |       |
| 6   | 146                                                | 38.1 | 304 15.7                                         | -7 26.1                                                                                                                                                                            | 294 40.2 | -12 19.4                                          | 316 11.6 | -3 14.4       | 27 19.6                                          | +20 37.2 |                |                                                 |                |       |
| 7   | 161                                                | 40.6 | 319 15.2                                         | 27.3                                                                                                                                                                               | 309 41.1 | 20.0                                              | 331 13.6 | 14.6          | 42 22.1                                          | 37.2     |                |                                                 |                |       |
| 8   | 176                                                | 43.0 | 334 14.8                                         | 28.4                                                                                                                                                                               | 324 41.9 | 20.6                                              | 346 15.7 | 14.7          | 57 24.6                                          | 37.2     |                |                                                 |                |       |
| 9   | 191                                                | 45.5 | 349 14.4                                         | 29.5                                                                                                                                                                               | 339 42.8 | 21.2                                              | 1 17.7   | 14.9          | 72 27.1                                          | 37.2     |                |                                                 |                |       |
| 10  | 206                                                | 48.0 | 4 14.0                                           | 30.6                                                                                                                                                                               | 354 43.7 | 21.8                                              | 16 19.8  | 15.1          | 87 29.6                                          | 37.2     |                |                                                 |                |       |
| 11  | 221                                                | 50.4 | 19 13.6                                          | -7 31.8                                                                                                                                                                            | 9 44.5   | -12 22.3                                          | 31 21.8  | -3 15.3       | 102 32.2                                         | +20 37.2 |                |                                                 |                |       |
| 12  | 236                                                | 52.9 | 34 13.1                                          | -7 32.9                                                                                                                                                                            | 24 45.4  | -12 22.9                                          | 46 23.8  | -3 15.4       | 117 34.7                                         | +20 37.2 |                |                                                 |                |       |
| 13  | 251                                                | 55.4 | 49 12.7                                          | 34.0                                                                                                                                                                               | 39 46.2  | 23.5                                              | 61 25.9  | 15.6          | 132 37.2                                         | 37.3     |                |                                                 |                |       |
| 14  | 266                                                | 57.8 | 64 12.3                                          | 35.1                                                                                                                                                                               | 54 47.1  | 24.1                                              | 76 27.9  | 15.8          | 147 39.7                                         | 37.3     |                |                                                 |                |       |
| 15  | 282                                                | 00.3 | 79 11.9                                          | 36.3                                                                                                                                                                               | 69 48.0  | 24.7                                              | 91 30.0  | 15.9          | 162 42.2                                         | 37.3     |                |                                                 |                |       |
| 16  | 297                                                | 02.8 | 94 11.5                                          | 37.4                                                                                                                                                                               | 84 48.8  | 25.2                                              | 106 32.0 | 16.1          | 177 44.7                                         | 37.3     |                |                                                 |                |       |
| 17  | 312                                                | 05.2 | 109 11.0                                         | -7 38.5                                                                                                                                                                            | 99 49.7  | -12 25.8                                          | 121 34.1 | -3 16.3       | 192 47.2                                         | +20 37.3 |                |                                                 |                |       |
| 18  | 327                                                | 07.7 | 124 10.6                                         | -7 39.6                                                                                                                                                                            | 114 50.6 | -12 26.4                                          | 136 36.1 | -3 16.5       | 207 49.7                                         | +20 37.3 |                |                                                 |                |       |
| 19  | 342                                                | 10.2 | 139 10.2                                         | 40.8                                                                                                                                                                               | 129 51.4 | 27.0                                              | 151 38.1 | 16.6          | 222 52.2                                         | 37.3     |                |                                                 |                |       |
| 20  | 357                                                | 12.6 | 154 09.8                                         | 41.9                                                                                                                                                                               | 144 52.3 | 27.6                                              | 166 40.2 | 16.8          | 237 54.7                                         | 37.3     |                |                                                 |                |       |
| 21  | 12                                                 | 15.1 | 169 09.3                                         | 43.0                                                                                                                                                                               | 159 53.1 | 28.1                                              | 181 42.2 | 17.0          | 252 57.2                                         | 37.4     |                |                                                 |                |       |
| 22  | 27                                                 | 17.5 | 184 08.9                                         | 44.1                                                                                                                                                                               | 174 54.0 | 28.7                                              | 196 44.3 | 17.1          | 267 59.8                                         | 37.4     |                |                                                 |                |       |
| 23  | 42                                                 | 20.0 | 199 08.5                                         | 45.3                                                                                                                                                                               | 189 54.9 | 29.3                                              | 211 46.3 | 17.3          | 283 02.3                                         | 37.4     |                |                                                 |                |       |
| 24  | 57                                                 | 22.5 | 214 08.1                                         | -7 46.4                                                                                                                                                                            | 204 55.7 | -12 29.9                                          | 226 48.4 | -3 17.5       | 298 04.8                                         | +20 37.4 |                |                                                 |                |       |
| Dif | —                                                  |      | -4                                               | -11                                                                                                                                                                                | +9       | -6                                                | +20      | -2            | +25                                              | 0        |                |                                                 |                |       |

| UT | SOL                                                |      |     |  LUNA                                           |          |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |        |        |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|----------|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|--------|--------|
|    | SD: 16:2<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 3 |      |     | Edad: 5 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 59/2<br>12 <sup>h</sup> : 59/0<br>20 <sup>h</sup> : 58/8<br>R°: 51 <sup>m</sup> | hG ☾ Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R°     |        |
|    | hG ☉                                               | Dec  |     |                                                                                                                                  |          |      |         |                          |         |               |                |      |                |      |        |        |
| h  | °                                                  | '    | °   | '                                                                                                                                | °        | '    | °       | '                        | h       | m             | h              | m    | h              | m    | h      | m      |
| 0  | 183                                                | 42.5 | -19 | 15.2                                                                                                                             | 103      | 39.2 | -22     | 47.7                     | 60 N    | 6 24          | 7 16           | 8 06 | 14 17          | 2    | 21 28  | 102    |
| 1  | 198                                                | 42.4 |     | 15.8                                                                                                                             | 118      | 04.9 | 67      | 37.5                     | 58      | 19            | 08             | 7 54 | 14 03          | 7    | 41     | 97     |
| 2  | 213                                                | 42.3 |     | 16.4                                                                                                                             | 132      | 30.7 | 68      | 27.1                     | 56      | 14            | 7 00           | 43   | 13 50          | 12   | 21 53  | 92     |
| 3  | 228                                                | 42.1 |     | 17.0                                                                                                                             | 146      | 56.6 | 69      | 16.5                     | 54      | 10            | 6 54           | 34   | 39 15          |      | 22 03  | 89     |
| 4  | 243                                                | 42.0 |     | 17.6                                                                                                                             | 161      | 22.7 | 71      | -22 05.8                 | 52      | 06            | 48             | 26   | 30 18          |      | 11     | 86     |
| 5  | 258                                                | 41.9 | -19 | 18.2                                                                                                                             | 175      | 48.9 | 72      | -21 55.1                 | 50      | 6 02          | 6 42           | 7 18 | 13 21          | 21   | 22 19  | 83     |
| 6  | 273                                                | 41.7 | -19 | 18.8                                                                                                                             | 190      | 15.2 | 73      | -21 44.1                 | 45      | 5 54          | 6 30           | 7 02 | 13 03          | 26   | 22 36  | 77     |
| 7  | 288                                                | 41.6 |     | 19.4                                                                                                                             | 204      | 41.6 | 74      | 33.1                     | 40      | 47            | 20             | 6 49 | 12 48          | 31   | 22 50  | 72     |
| 8  | 303                                                | 41.4 |     | 20.0                                                                                                                             | 219      | 08.2 | 76      | 21.9                     | 35      | 40            | 11             | 38   | 35 35          |      | 23 01  | 69     |
| 9  | 318                                                | 41.3 |     | 20.5                                                                                                                             | 233      | 34.8 | 76      | -21 10.7                 | 30      | 33            | 6 02           | 28   | 24 38          |      | 12     | 65     |
| 10 | 333                                                | 41.2 |     | 21.1                                                                                                                             | 248      | 01.6 | 78      | -20 59.3                 | 20      | 21            | 5 47           | 6 11 | 12 05          | 43   | 29     | 59     |
| 11 | 348                                                | 41.0 | -19 | 21.7                                                                                                                             | 262      | 28.6 | 80      | -20 47.8                 | 10 N    | 5 08          | 5 34           | 5 56 | 11 48          | 48   | 23 44  | 54     |
| 12 | 3                                                  | 40.9 | -19 | 22.3                                                                                                                             | 276      | 55.6 | 80      | -20 36.2                 | 0       | 4 54          | 5 20           | 5 42 | 11 32          | 52   | 23 57  | 50     |
| 13 | 18                                                 | 40.8 |     | 22.9                                                                                                                             | 291      | 22.8 | 82      | 24.5                     | 10 S    | 39            | 5 05           | 27   | 11 16          | 57   | *** ** | *** ** |
| 14 | 33                                                 | 40.6 |     | 23.5                                                                                                                             | 305      | 50.0 | 82      | 12.6                     | 20      | 4 20          | 4 48           | 5 12 | 10 59          | 61   | *** ** | *** ** |
| 15 | 48                                                 | 40.5 |     | 24.1                                                                                                                             | 320      | 17.5 | 85      | -20 00.7                 | 30      | 3 57          | 28             | 4 54 | 39 67          |      | 0 01   | 41     |
| 16 | 63                                                 | 40.4 |     | 24.7                                                                                                                             | 334      | 45.0 | 85      | -19 48.7                 | 35      | 41            | 16             | 44   | 28 70          |      | 13     | 39     |
| 17 | 78                                                 | 40.2 | -19 | 25.2                                                                                                                             | 349      | 12.6 | 86      | -19 36.5                 | 40      | 3 23          | 4 01           | 4 32 | 10 14          | 74   | 0 28   | 34     |
| 18 | 93                                                 | 40.1 | -19 | 25.8                                                                                                                             | 3        | 40.4 | 88      | -19 24.3                 | 45      | 3 00          | 3 43           | 4 18 | 9 59           | 78   | 0 45   | 30     |
| 19 | 108                                                | 39.9 |     | 26.4                                                                                                                             | 18       | 08.3 | 89      | -19 11.9                 | 50      | 2 28          | 21             | 4 00 | 39 85          |      | 1 06   | 24     |
| 20 | 123                                                | 39.8 |     | 27.0                                                                                                                             | 32       | 36.3 | 90      | -18 59.5                 | 52      | 2 11          | 3 10           | 3 52 | 30 87          |      | 16     | 21     |
| 21 | 138                                                | 39.7 |     | 27.6                                                                                                                             | 47       | 04.4 | 91      | 47.0                     | 54      | 1 50          | 2 57           | 43   | 19 91          |      | 27     | 18     |
| 22 | 153                                                | 39.5 |     | 28.2                                                                                                                             | 61       | 32.6 | 92      | 34.4                     | 56      | 1 22          | 42             | 33   | 9 07           | 95   | 39     | 15     |
| 23 | 168                                                | 39.4 |     | 28.7                                                                                                                             | 76       | 01.0 | 94      | 21.6                     | 58      | 0 37          | 24             | 21   | 8 54           | 99   | 1 54   | 10     |
| 24 | 183                                                | 39.2 | -19 | 29.3                                                                                                                             | 90       | 29.4 | 94      | -18 08.8                 | 60 S    | ** **         | 2 02           | 3 07 | 8 37           | 106  | 2 11   | 4      |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                         |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-------------------------------------------------|------|
|     | PMG: 20 <sup>h</sup> 07 <sup>m</sup> 2 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 44 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 20 <sup>m</sup> |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 52 <sup>m</sup> |      | Mag: 0.0<br>PMG: 4 <sup>h</sup> 07 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                            | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                               | '    |
| 0   | 57                                     | 22.5 | 214                                              | 08.1 | -7                                                | 46.4 | 204                                              | 55.7 | -12                                             | 29.9 |
| 1   | 72                                     | 24.9 | 229                                              | 07.6 |                                                   | 47.5 | 219                                              | 56.6 |                                                 | 30.5 |
| 2   | 87                                     | 27.4 | 244                                              | 07.2 |                                                   | 48.6 | 234                                              | 57.4 |                                                 | 31.0 |
| 3   | 102                                    | 29.9 | 259                                              | 06.8 |                                                   | 49.8 | 249                                              | 58.3 |                                                 | 31.6 |
| 4   | 117                                    | 32.3 | 274                                              | 06.4 |                                                   | 50.9 | 264                                              | 59.2 |                                                 | 32.2 |
| 5   | 132                                    | 34.8 | 289                                              | 05.9 | -7                                                | 52.0 | 280                                              | 00.0 | -12                                             | 32.8 |
| 6   | 147                                    | 37.3 | 304                                              | 05.5 | -7                                                | 53.1 | 295                                              | 00.9 | -12                                             | 33.3 |
| 7   | 162                                    | 39.7 | 319                                              | 05.1 |                                                   | 54.2 | 310                                              | 01.7 |                                                 | 33.9 |
| 8   | 177                                    | 42.2 | 334                                              | 04.6 |                                                   | 55.4 | 325                                              | 02.6 |                                                 | 34.5 |
| 9   | 192                                    | 44.7 | 349                                              | 04.2 |                                                   | 56.5 | 340                                              | 03.5 |                                                 | 35.1 |
| 10  | 207                                    | 47.1 | 4                                                | 03.8 |                                                   | 57.6 | 355                                              | 04.3 |                                                 | 35.7 |
| 11  | 222                                    | 49.6 | 19                                               | 03.4 | -7                                                | 58.7 | 10                                               | 05.2 | -12                                             | 36.2 |
| 12  | 237                                    | 52.0 | 34                                               | 02.9 | -7                                                | 59.9 | 25                                               | 06.0 | -12                                             | 36.8 |
| 13  | 252                                    | 54.5 | 49                                               | 02.5 | -8                                                | 01.0 | 40                                               | 06.9 |                                                 | 37.4 |
| 14  | 267                                    | 57.0 | 64                                               | 02.1 |                                                   | 02.1 | 55                                               | 07.8 |                                                 | 38.0 |
| 15  | 282                                    | 59.4 | 79                                               | 01.6 |                                                   | 03.2 | 70                                               | 08.6 |                                                 | 38.5 |
| 16  | 298                                    | 01.9 | 94                                               | 01.2 |                                                   | 04.3 | 85                                               | 09.5 |                                                 | 39.1 |
| 17  | 313                                    | 04.4 | 109                                              | 00.8 | -8                                                | 05.5 | 100                                              | 10.3 | -12                                             | 39.7 |
| 18  | 328                                    | 06.8 | 124                                              | 00.4 | -8                                                | 06.6 | 115                                              | 11.2 | -12                                             | 40.3 |
| 19  | 343                                    | 09.3 | 138                                              | 59.9 |                                                   | 07.7 | 130                                              | 12.1 |                                                 | 40.8 |
| 20  | 358                                    | 11.8 | 153                                              | 59.5 |                                                   | 08.8 | 145                                              | 12.9 |                                                 | 41.4 |
| 21  | 13                                     | 14.2 | 168                                              | 59.1 |                                                   | 09.9 | 160                                              | 13.8 |                                                 | 42.0 |
| 22  | 28                                     | 16.7 | 183                                              | 58.6 |                                                   | 11.0 | 175                                              | 14.6 |                                                 | 42.6 |
| 23  | 43                                     | 19.2 | 198                                              | 58.2 |                                                   | 12.2 | 190                                              | 15.5 |                                                 | 43.1 |
| 24  | 58                                     | 21.6 | 213                                              | 57.8 | -8                                                | 13.3 | 205                                              | 16.3 | -12                                             | 43.7 |
| Dif | —                                      |      | -4 -11                                           |      | +9 -6                                             |      | +20 -2                                           |      | +25 0                                           |      |

| UT | SOL                                    |      |  LUNA |       |                                                                           |                         | Latitud | Puesta de Sol | Final del crepúsculo |         | Salida de Luna |          | Puesta de Luna |       |
|----|----------------------------------------|------|----------------------------------------------------------------------------------------|-------|---------------------------------------------------------------------------|-------------------------|---------|---------------|----------------------|---------|----------------|----------|----------------|-------|
|    | SD: 16:2                               |      | Edad: 6 <sup>d</sup> 4                                                                 | PHE { | 4 <sup>h</sup> : 58'6<br>12 <sup>h</sup> : 58'4<br>20 <sup>h</sup> : 58'2 | Final del crepúsculo    |         |               | Salida de Luna       |         | Puesta de Luna |          |                |       |
|    | PMG: 11 <sup>h</sup> 45 <sup>m</sup> 5 |      |                                                                                        |       |                                                                           | Civil                   |         |               | Náutico              |         | Hora R°        |          | Hora R°        |       |
|    | hG ☉                                   | Dec  | hG ☾                                                                                   | Dif   | Dec                                                                       | Dif                     |         |               |                      |         |                |          |                |       |
| h  | °                                      | '    | °                                                                                      | '     | °                                                                         | '                       | °       | h m           | h m                  | h m     | h m m          | h m m    | h m m          | h m m |
| 0  | 183                                    | 39.2 | -19 29.3                                                                               |       | 90 29.4                                                                   | -18 08.8                | 60 N    | 15 22         | 16 12                | 17 05   | 14 19 0        | 23 10 96 |                |       |
| 1  | 198                                    | 39.1 | 29.9                                                                                   |       | 104 58.0 <sup>96</sup>                                                    | -17 56.0 <sup>128</sup> | 58      | 34            | 21                   | 10      | 10 4           | 18 92    |                |       |
| 2  | 213                                    | 39.0 | 30.5                                                                                   |       | 119 26.7 <sup>97</sup>                                                    | 43.0 <sup>130</sup>     | 56      | 45            | 28                   | 15      | 14 02 8        | 25 88    |                |       |
| 3  | 228                                    | 38.8 | 31.1                                                                                   |       | 133 55.5 <sup>98</sup>                                                    | 29.9 <sup>131</sup>     | 54      | 15 55         | 35                   | 19      | 13 54 11       | 32 84    |                |       |
| 4  | 243                                    | 38.7 | 31.6                                                                                   |       | 148 24.4 <sup>99</sup>                                                    | 16.8 <sup>131</sup>     | 52      | 16 03         | 41                   | 23      | 48 14          | 37 82    |                |       |
| 5  | 258                                    | 38.5 | -19 32.2                                                                               |       | 162 53.5 <sup>101</sup>                                                   | -17 03.6 <sup>132</sup> | 50      | 16 11         | 16 47                | 17 27   | 13 42 16       | 23 42 80 |                |       |
| 6  | 273                                    | 38.4 | -19 32.8                                                                               |       | 177 22.6 <sup>101</sup>                                                   | -16 50.3 <sup>133</sup> | 45      | 16 27         | 16 59                | 17 35   | 13 29 22       | 23 53 74 |                |       |
| 7  | 288                                    | 38.3 | 33.4                                                                                   |       | 191 51.8 <sup>102</sup>                                                   | 36.9 <sup>134</sup>     | 40      | 41            | 17 10                | 43      | 19 26          | ** ** *  |                |       |
| 8  | 303                                    | 38.1 | 33.9                                                                                   |       | 206 21.2 <sup>104</sup>                                                   | 23.4 <sup>135</sup>     | 35      | 16 52         | 19                   | 50      | 10 29          | ** ** *  |                |       |
| 9  | 318                                    | 38.0 | 34.5                                                                                   |       | 220 50.6 <sup>104</sup>                                                   | -16 09.9 <sup>135</sup> | 30      | 17 02         | 28                   | 17 57   | 13 02 33       | ** ** *  |                |       |
| 10 | 333                                    | 37.8 | 35.1                                                                                   |       | 235 20.2 <sup>106</sup>                                                   | -15 56.3 <sup>136</sup> | 20      | 19            | 43                   | 18 10   | 12 48 38       | ** ** *  |                |       |
| 11 | 348                                    | 37.7 | -19 35.7                                                                               |       | 249 49.9 <sup>107</sup>                                                   | -15 42.6 <sup>137</sup> | 10 N    | 17 35         | 17 57                | 18 23   | 12 36 43       | ** ** *  |                |       |
| 12 | 3                                      | 37.5 | -19 36.2                                                                               |       | 264 19.6 <sup>107</sup>                                                   | -15 28.9 <sup>137</sup> | 0       | 17 49         | 18 11                | 18 37   | 12 24 48       | ** ** *  |                |       |
| 13 | 18                                     | 37.4 | 36.8                                                                                   |       | 278 49.5 <sup>109</sup>                                                   | 15.1 <sup>138</sup>     | 10 S    | 18 04         | 26                   | 18 52   | 13 52          | 0 11 46  |                |       |
| 14 | 33                                     | 37.2 | 37.4                                                                                   |       | 293 19.5 <sup>110</sup>                                                   | -15 01.2 <sup>139</sup> | 20      | 19            | 18 43                | 19 11   | 12 00 58       | 26 40    |                |       |
| 15 | 48                                     | 37.1 | 37.9                                                                                   |       | 307 49.5 <sup>110</sup>                                                   | -14 47.3 <sup>139</sup> | 30      | 37            | 19 04                | 35      | 11 46 63       | 42 35    |                |       |
| 16 | 63                                     | 37.0 | 38.5                                                                                   |       | 322 19.7 <sup>112</sup>                                                   | 33.3 <sup>140</sup>     | 35      | 18 48         | 16                   | 19 51   | 38 66          | 0 52 32  |                |       |
| 17 | 78                                     | 36.8 | -19 39.1                                                                               |       | 336 50.0 <sup>113</sup>                                                   | -14 19.2 <sup>141</sup> | 40      | 19 00         | 19 31                | 20 10   | 11 28 71       | 1 02 29  |                |       |
| 18 | 93                                     | 36.7 | -19 39.7                                                                               |       | 351 20.3 <sup>113</sup>                                                   | -14 05.1 <sup>141</sup> | 45      | 19 15         | 19 49                | 20 34   | 11 17 75       | 1 15 24  |                |       |
| 19 | 108                                    | 36.5 | 40.2                                                                                   |       | 5 50.8 <sup>115</sup>                                                     | -13 50.9 <sup>142</sup> | 50      | 33            | 20 13                | 21 07   | 11 04 80       | 30 19    |                |       |
| 20 | 123                                    | 36.4 | 40.8                                                                                   |       | 20 21.3 <sup>115</sup>                                                    | 36.7 <sup>142</sup>     | 52      | 41            | 24                   | 25      | 10 57 84       | 37 16    |                |       |
| 21 | 138                                    | 36.2 | 41.4                                                                                   |       | 34 52.0 <sup>117</sup>                                                    | 22.4 <sup>143</sup>     | 54      | 19 51         | 37                   | 21 47   | 50 87          | 45 13    |                |       |
| 22 | 153                                    | 36.1 | 41.9                                                                                   |       | 49 22.7 <sup>117</sup>                                                    | -13 08.0 <sup>144</sup> | 56      | 20 01         | 20 53                | 22 17   | 42 90          | 1 54 10  |                |       |
| 23 | 168                                    | 35.9 | 42.5                                                                                   |       | 63 53.5 <sup>118</sup>                                                    | -12 53.6 <sup>144</sup> | 58      | 14            | 21 11                | 23 13   | 33 94          | 2 04 6   |                |       |
| 24 | 183                                    | 35.8 | -19 43.1                                                                               |       | 78 24.4 <sup>119</sup>                                                    | -12 39.2 <sup>144</sup> | 60 S    | 20 28         | 21 35                | ** ** * | 10 23 99       | 2 15 2   |                |       |

| UT  | ARIES                                  |      | VENUS                                            |         | MARTE                                             |          | JÚPITER                                          |         | SATURNO                                         |          |
|-----|----------------------------------------|------|--------------------------------------------------|---------|---------------------------------------------------|----------|--------------------------------------------------|---------|-------------------------------------------------|----------|
|     | PMG: 20 <sup>h</sup> 03 <sup>m</sup> 3 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 44 <sup>m</sup> |         | Mag: +1.7<br>PMG: 10 <sup>h</sup> 18 <sup>m</sup> |          | Mag: -1.8<br>PMG: 8 <sup>h</sup> 48 <sup>m</sup> |         | Mag: 0.0<br>PMG: 4 <sup>h</sup> 03 <sup>m</sup> |          |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec     | hG ♂                                              | Dec      | hG ♃                                             | Dec     | hG ♄                                            | Dec      |
| h   | °                                      | '    | °                                                | '       | °                                                 | '        | °                                                | '       | °                                               | '        |
| 0   | 58                                     | 21.6 | 213 57.8                                         | -8 13.3 | 205 16.3                                          | -12 43.7 | 227 37.5                                         | -3 21.6 | 299 05.1                                        | +20 37.7 |
| 1   | 73                                     | 24.1 | 228 57.3                                         | 14.4    | 220 17.2                                          | 44.3     | 242 39.5                                         | 21.8    | 314 07.6                                        | 37.7     |
| 2   | 88                                     | 26.5 | 243 56.9                                         | 15.5    | 235 18.1                                          | 44.9     | 257 41.6                                         | 21.9    | 329 10.1                                        | 37.7     |
| 3   | 103                                    | 29.0 | 258 56.5                                         | 16.6    | 250 18.9                                          | 45.4     | 272 43.6                                         | 22.1    | 344 12.6                                        | 37.8     |
| 4   | 118                                    | 31.5 | 273 56.0                                         | 17.7    | 265 19.8                                          | 46.0     | 287 45.7                                         | 22.3    | 359 15.2                                        | 37.8     |
| 5   | 133                                    | 33.9 | 288 55.6                                         | -8 18.9 | 280 20.6                                          | -12 46.6 | 302 47.7                                         | -3 22.4 | 14 17.7                                         | +20 37.8 |
| 6   | 148                                    | 36.4 | 303 55.2                                         | -8 20.0 | 295 21.5                                          | -12 47.2 | 317 49.8                                         | -3 22.6 | 29 20.2                                         | +20 37.8 |
| 7   | 163                                    | 38.9 | 318 54.7                                         | 21.1    | 310 22.3                                          | 47.7     | 332 51.8                                         | 22.8    | 44 22.7                                         | 37.8     |
| 8   | 178                                    | 41.3 | 333 54.3                                         | 22.2    | 325 23.2                                          | 48.3     | 347 53.9                                         | 22.9    | 59 25.2                                         | 37.8     |
| 9   | 193                                    | 43.8 | 348 53.8                                         | 23.3    | 340 24.0                                          | 48.9     | 2 55.9                                           | 23.1    | 74 27.8                                         | 37.8     |
| 10  | 208                                    | 46.3 | 3 53.4                                           | 24.4    | 355 24.9                                          | 49.5     | 17 58.0                                          | 23.3    | 89 30.3                                         | 37.8     |
| 11  | 223                                    | 48.7 | 18 53.0                                          | -8 25.6 | 10 25.8                                           | -12 50.0 | 33 00.0                                          | -3 23.5 | 104 32.8                                        | +20 37.9 |
| 12  | 238                                    | 51.2 | 33 52.5                                          | -8 26.7 | 25 26.6                                           | -12 50.6 | 48 02.1                                          | -3 23.6 | 119 35.3                                        | +20 37.9 |
| 13  | 253                                    | 53.6 | 48 52.1                                          | 27.8    | 40 27.5                                           | 51.2     | 63 04.1                                          | 23.8    | 134 37.8                                        | 37.9     |
| 14  | 268                                    | 56.1 | 63 51.7                                          | 28.9    | 55 28.3                                           | 51.8     | 78 06.2                                          | 24.0    | 149 40.3                                        | 37.9     |
| 15  | 283                                    | 58.6 | 78 51.2                                          | 30.0    | 70 29.2                                           | 52.3     | 93 08.2                                          | 24.1    | 164 42.9                                        | 37.9     |
| 16  | 299                                    | 01.0 | 93 50.8                                          | 31.1    | 85 30.0                                           | 52.9     | 108 10.2                                         | 24.3    | 179 45.4                                        | 37.9     |
| 17  | 314                                    | 03.5 | 108 50.3                                         | -8 32.2 | 100 30.9                                          | -12 53.5 | 123 12.3                                         | -3 24.5 | 194 47.9                                        | +20 37.9 |
| 18  | 329                                    | 06.0 | 123 49.9                                         | -8 33.4 | 115 31.7                                          | -12 54.0 | 138 14.3                                         | -3 24.6 | 209 50.4                                        | +20 38.0 |
| 19  | 344                                    | 08.4 | 138 49.5                                         | 34.5    | 130 32.6                                          | 54.6     | 153 16.4                                         | 24.8    | 224 52.9                                        | 38.0     |
| 20  | 359                                    | 10.9 | 153 49.0                                         | 35.6    | 145 33.5                                          | 55.2     | 168 18.4                                         | 25.0    | 239 55.5                                        | 38.0     |
| 21  | 14                                     | 13.4 | 168 48.6                                         | 36.7    | 160 34.3                                          | 55.8     | 183 20.5                                         | 25.1    | 254 58.0                                        | 38.0     |
| 22  | 29                                     | 15.8 | 183 48.1                                         | 37.8    | 175 35.2                                          | 56.3     | 198 22.5                                         | 25.3    | 270 00.5                                        | 38.0     |
| 23  | 44                                     | 18.3 | 198 47.7                                         | 38.9    | 190 36.0                                          | 56.9     | 213 24.6                                         | 25.5    | 285 03.0                                        | 38.0     |
| 24  | 59                                     | 20.8 | 213 47.3                                         | -8 40.0 | 205 36.9                                          | -12 57.5 | 228 26.6                                         | -3 25.7 | 300 05.5                                        | +20 38.0 |
| Dif | —                                      |      | -4                                               | -11     | +9                                                | -6       | +20                                              | -2      | +25                                             |          |

| UT | SOL                                                |      |          |  LUNA |                                                                                                           |                         | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |         | Puesta de Luna |      |      |      |     |     |
|----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-------------------------|---------|--------------------------|-------|---------------|----------------|---------|----------------|------|------|------|-----|-----|
|    | SD: 16'2<br>PMG: 11 <sup>h</sup> 45 <sup>m</sup> 7 |      |          | Edad: 7 <sup>d</sup> 4<br>SD: 15'8<br>PMG: 19 <sup>h</sup> 23 <sup>m</sup>             | PHE {<br>4 <sup>h</sup> : 58'0<br>12 <sup>h</sup> : 57'8<br>20 <sup>h</sup> : 57'6<br>R°: 44 <sup>m</sup> |                         |         |                          |       |               |                |         |                |      |      |      |     |     |
|    | hG ☉                                               | Dec  |          |                                                                                        |                                                                                                           | hG ☾                    |         | Dif                      | Dec   |               | Dif            | Náutico | Civil          | Hora | R°   | Hora | R°  |     |
| h  | °                                                  | '    | °        | °                                                                                      | '                                                                                                         | °                       | '       | °                        | h     | m             | h              | m       | h              | m    | h    | m    | m   |     |
| 0  | 183                                                | 35.8 | -19 43.1 | 78                                                                                     | 24.4                                                                                                      | -12 39.2                |         | 60 N                     | 6 27  | 7 20          | 8 11           | 14 19   | 0              |      |      |      |     |     |
| 1  | 198                                                | 35.6 |          | 92                                                                                     | 55.4 <sup>120</sup>                                                                                       | 24.7 <sup>145</sup>     |         | 58                       | 22    | 12            | 7 58           | 14      | 3              |      | ***  | ***  | *** |     |
| 2  | 213                                                | 35.5 | 44.2     | 107                                                                                    | 26.5 <sup>121</sup>                                                                                       | -12 10.2 <sup>145</sup> |         | 56                       | 17    | 7 04          | 47             | 10      | 6              |      | ***  | ***  | *** |     |
| 3  | 228                                                | 35.3 | 44.7     | 121                                                                                    | 57.7 <sup>122</sup>                                                                                       | -11 55.6 <sup>146</sup> |         | 54                       | 13    | 6 57          | 38             | 05      | 10             |      | ***  | ***  | *** |     |
| 4  | 243                                                | 35.2 | 45.3     | 136                                                                                    | 28.9 <sup>122</sup>                                                                                       | 40.9 <sup>147</sup>     |         | 52                       | 09    | 51            | 29             | 14      | 02             | 11   |      | ***  | *** | *** |
| 5  | 258                                                | 35.0 | -19 45.9 | 151                                                                                    | 00.3 <sup>124</sup>                                                                                       | -11 26.3 <sup>146</sup> |         | 50                       | 6 05  | 6 45          | 7 21           | 13      | 58             | 14   |      | ***  | *** | *** |
| 6  | 273                                                | 34.9 | -19 46.4 | 165                                                                                    | 31.7 <sup>124</sup>                                                                                       | -11 11.5 <sup>148</sup> |         | 45                       | 5 56  | 6 32          | 7 05           | 13      | 51             | 19   |      | ***  | *** | *** |
| 7  | 288                                                | 34.7 | 47.0     | 180                                                                                    | 03.2 <sup>125</sup>                                                                                       | -10 56.8 <sup>147</sup> |         | 40                       | 49    | 22            | 6 51           | 45      | 23             |      | 0 02 | 69   |     |     |
| 8  | 303                                                | 34.6 | 47.6     | 194                                                                                    | 34.8 <sup>126</sup>                                                                                       | 42.0 <sup>148</sup>     |         | 35                       | 42    | 12            | 40             | 39      | 27             |      | 10   | 65   |     |     |
| 9  | 318                                                | 34.4 | 48.1     | 209                                                                                    | 06.4 <sup>126</sup>                                                                                       | 27.1 <sup>149</sup>     |         | 30                       | 35    | 6 04          | 29             | 35      | 29             |      | 17   | 61   |     |     |
| 10 | 333                                                | 34.3 | 48.7     | 223                                                                                    | 38.1 <sup>127</sup>                                                                                       | -10 12.3 <sup>148</sup> |         | 20                       | 22    | 5 49          | 6 12           | 26      | 36             |      | 28   | 56   |     |     |
| 11 | 348                                                | 34.1 | -19 49.2 | 238                                                                                    | 09.9 <sup>128</sup>                                                                                       | -9 57.4 <sup>149</sup>  |         | 10 N                     | 5 09  | 5 34          | 5 57           | 13      | 19             | 40   |      | 0 38 | 51  |     |
| 12 | 3                                                  | 34.0 | -19 49.8 | 252                                                                                    | 41.8 <sup>129</sup>                                                                                       | -9 42.4 <sup>150</sup>  |         | 0                        | 4 55  | 5 20          | 5 42           | 13      | 12             | 45   |      | 0 47 | 47  |     |
| 13 | 18                                                 | 33.8 | 50.3     | 267                                                                                    | 13.7 <sup>129</sup>                                                                                       | 27.5 <sup>149</sup>     |         | 10 S                     | 39    | 5 05          | 5 28           | 13      | 05             | 50   |      | 0 57 | 41  |     |
| 14 | 33                                                 | 33.7 | 50.9     | 281                                                                                    | 45.8 <sup>131</sup>                                                                                       | -9 12.5 <sup>150</sup>  |         | 20                       | 4 20  | 4 48          | 5 12           | 12      | 58             | 54   |      | 1 06 | 37  |     |
| 15 | 48                                                 | 33.5 | 51.5     | 296                                                                                    | 17.8 <sup>130</sup>                                                                                       | -8 57.4 <sup>151</sup>  |         | 30                       | 3 55  | 27            | 4 54           | 49      | 61             |      | 17   | 31   |     |     |
| 16 | 63                                                 | 33.4 | 52.0     | 310                                                                                    | 50.0 <sup>132</sup>                                                                                       | 42.4 <sup>150</sup>     |         | 35                       | 40    | 15            | 43             | 44      | 64             |      | 24   | 28   |     |     |
| 17 | 78                                                 | 33.2 | -19 52.6 | 325                                                                                    | 22.2 <sup>132</sup>                                                                                       | -8 27.3 <sup>151</sup>  |         | 40                       | 3 21  | 4 00          | 4 31           | 12      | 39             | 67   |      | 1 31 | 24  |     |
| 18 | 93                                                 | 33.0 | -19 53.1 | 339                                                                                    | 54.5 <sup>133</sup>                                                                                       | -8 12.2 <sup>151</sup>  |         | 45                       | 2 57  | 3 41          | 4 16           | 12      | 32             | 72   |      | 1 39 | 20  |     |
| 19 | 108                                                | 32.9 | 53.7     | 354                                                                                    | 26.8 <sup>133</sup>                                                                                       | -7 57.0 <sup>152</sup>  |         | 50                       | 24    | 18            | 3 58           | 24      | 78             |      | 49   | 15   |     |     |
| 20 | 123                                                | 32.7 | 54.2     | 8                                                                                      | 59.3 <sup>135</sup>                                                                                       | 41.9 <sup>151</sup>     |         | 52                       | 2 06  | 3 07          | 50             | 21      | 79             |      | 53   | 13   |     |     |
| 21 | 138                                                | 32.6 | 54.8     | 23                                                                                     | 31.7 <sup>134</sup>                                                                                       | 26.7 <sup>152</sup>     |         | 54                       | 1 44  | 2 53          | 40             | 17      | 82             |      | 1 58 | 10   |     |     |
| 22 | 153                                                | 32.4 | 55.3     | 38                                                                                     | 04.2 <sup>135</sup>                                                                                       | -7 11.5 <sup>152</sup>  |         | 56                       | 1 14  | 38            | 29             | 12      | 86             |      | 2 04 | 7    |     |     |
| 23 | 168                                                | 32.3 | 55.9     | 52                                                                                     | 36.8 <sup>136</sup>                                                                                       | -6 56.2 <sup>153</sup>  |         | 58                       | 0 17  | 2 19          | 17             | 07      | 89             |      | 10   | 4    |     |     |
| 24 | 183                                                | 32.1 | -19 56.4 | 67                                                                                     | 09.5 <sup>137</sup>                                                                                       | -6 41.0 <sup>152</sup>  |         | 60 S                     | ** ** | 1 56          | 3 03           | 12      | 02             | 92   |      | 2 17 | 0   |     |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                         |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-------------------------------------------------|------|
|     | PMG: 19 <sup>h</sup> 59 <sup>m</sup> 3 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 45 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 17 <sup>m</sup> |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 45 <sup>m</sup> |      | Mag: 0.0<br>PMG: 3 <sup>h</sup> 59 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                            | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                               | '    |
| 0   | 59                                     | 20.8 | 213                                              | 47.3 | -8                                                | 40.0 | 205                                              | 36.9 | -12                                             | 57.5 |
| 1   | 74                                     | 23.2 | 228                                              | 46.8 |                                                   | 41.1 | 220                                              | 37.7 |                                                 | 58.1 |
| 2   | 89                                     | 25.7 | 243                                              | 46.4 |                                                   | 42.2 | 235                                              | 38.6 |                                                 | 58.6 |
| 3   | 104                                    | 28.1 | 258                                              | 45.9 |                                                   | 43.4 | 250                                              | 39.4 |                                                 | 59.2 |
| 4   | 119                                    | 30.6 | 273                                              | 45.5 |                                                   | 44.5 | 265                                              | 40.3 | -12                                             | 59.8 |
| 5   | 134                                    | 33.1 | 288                                              | 45.1 | -8                                                | 45.6 | 280                                              | 41.1 | -13                                             | 00.3 |
| 6   | 149                                    | 35.5 | 303                                              | 44.6 | -8                                                | 46.7 | 295                                              | 42.0 | -13                                             | 00.9 |
| 7   | 164                                    | 38.0 | 318                                              | 44.2 |                                                   | 47.8 | 310                                              | 42.8 |                                                 | 01.5 |
| 8   | 179                                    | 40.5 | 333                                              | 43.7 |                                                   | 48.9 | 325                                              | 43.7 |                                                 | 02.0 |
| 9   | 194                                    | 42.9 | 348                                              | 43.3 |                                                   | 50.0 | 340                                              | 44.5 |                                                 | 02.6 |
| 10  | 209                                    | 45.4 | 3                                                | 42.8 |                                                   | 51.1 | 355                                              | 45.4 |                                                 | 03.2 |
| 11  | 224                                    | 47.9 | 18                                               | 42.4 | -8                                                | 52.2 | 10                                               | 46.2 | -13                                             | 03.8 |
| 12  | 239                                    | 50.3 | 33                                               | 41.9 | -8                                                | 53.3 | 25                                               | 47.1 | -13                                             | 04.3 |
| 13  | 254                                    | 52.8 | 48                                               | 41.5 |                                                   | 54.4 | 40                                               | 47.9 |                                                 | 04.9 |
| 14  | 269                                    | 55.3 | 63                                               | 41.1 |                                                   | 55.5 | 55                                               | 48.8 |                                                 | 05.5 |
| 15  | 284                                    | 57.7 | 78                                               | 40.6 |                                                   | 56.7 | 70                                               | 49.6 |                                                 | 06.0 |
| 16  | 300                                    | 00.2 | 93                                               | 40.2 |                                                   | 57.8 | 85                                               | 50.5 |                                                 | 06.6 |
| 17  | 315                                    | 02.6 | 108                                              | 39.7 | -8                                                | 58.9 | 100                                              | 51.3 | -13                                             | 07.2 |
| 18  | 330                                    | 05.1 | 123                                              | 39.3 | -9                                                | 00.0 | 115                                              | 52.2 | -13                                             | 07.7 |
| 19  | 345                                    | 07.6 | 138                                              | 38.8 | -9                                                | 01.1 | 130                                              | 53.0 |                                                 | 08.3 |
| 20  | 0                                      | 10.0 | 153                                              | 38.4 |                                                   | 02.2 | 145                                              | 53.9 |                                                 | 08.9 |
| 21  | 15                                     | 12.5 | 168                                              | 37.9 |                                                   | 03.3 | 160                                              | 54.7 |                                                 | 09.5 |
| 22  | 30                                     | 15.0 | 183                                              | 37.5 |                                                   | 04.4 | 175                                              | 55.6 |                                                 | 10.0 |
| 23  | 45                                     | 17.4 | 198                                              | 37.0 |                                                   | 05.5 | 190                                              | 56.4 |                                                 | 10.6 |
| 24  | 60                                     | 19.9 | 213                                              | 36.6 | -9                                                | 06.6 | 205                                              | 57.3 | -13                                             | 11.2 |
| Dif | —                                      |      | -4                                               | -11  |                                                   |      | +9                                               | -6   |                                                 |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | +21                                             | -2   |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      |                                                 | +25  |



| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                     |                                                                                                           |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       |       | Salida de Luna                                  |         | Puesta de Luna |       |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|-------|-------------------------------------------------|---------|----------------|-------|------|-----|------|
|     | SD: 16:2<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 0 |      |                                                  | Edad: 8 <sup>d</sup> 4<br>SD: 15:7<br>PMG: 20 <sup>h</sup> 07 <sup>m</sup> | PHE {<br>4 <sup>h</sup> : 57/4<br>12 <sup>h</sup> : 57/2<br>20 <sup>h</sup> : 57/0<br>R°: 44 <sup>m</sup> |                                                   |         |               |                                                  |       |       |                                                 |         |                |       |      |     |      |
|     | hG ☉                                               | Dec  | hG ☾                                             |                                                                            |                                                                                                           | Dif                                               |         |               | Dec                                              | Dif   | Civil | Náutico                                         | Hora    | R°             | Hora  | R°   |     |      |
| h   | °                                                  | '    | °                                                | °                                                                          | '                                                                                                         | °                                                 | '       | °             | h m                                              | h m   | h m   | h m m                                           | h m m   | h m m          | h m m |      |     |      |
| 0   | 183                                                | 32.1 | -19 56.4                                         | 67                                                                         | 09.5                                                                                                      | -6 41.0                                           |         | 60 N          | 15 18                                            | 16 09 | 17 02 | 14 19 0                                         | 0 46 92 |                |       |      |     |      |
| 1   | 198                                                | 32.0 |                                                  | 81                                                                         | 42.2 <sup>137</sup>                                                                                       | 25.7 <sup>153</sup>                               |         | 58            | 31                                               | 18    | 07    | 17 3                                            | 50 88   |                |       |      |     |      |
| 2   | 213                                                | 31.8 |                                                  | 96                                                                         | 14.9 <sup>137</sup>                                                                                       | -6 10.5 <sup>152</sup>                            |         | 56            | 42                                               | 26    | 12    | 16 6                                            | 53 85   |                |       |      |     |      |
| 3   | 228                                                | 31.6 |                                                  | 110                                                                        | 47.7 <sup>138</sup>                                                                                       | -5 55.2 <sup>153</sup>                            |         | 54            | 15 52                                            | 33    | 17    | 15 8                                            | 56 82   |                |       |      |     |      |
| 4   | 243                                                | 31.5 |                                                  | 125                                                                        | 20.6 <sup>139</sup>                                                                                       | 39.9 <sup>153</sup>                               |         | 52            | 16 01                                            | 39    | 21    | 13 11                                           | 0 59 79 |                |       |      |     |      |
| 5   | 258                                                | 31.3 | -19 59.2                                         | 139                                                                        | 53.5 <sup>139</sup>                                                                                       | -5 24.6 <sup>153</sup>                            |         | 50            | 16 09                                            | 16 45 | 17 25 | 14 12 13                                        | 1 02 76 |                |       |      |     |      |
| 6   | 273                                                | 31.2 | -19 59.7                                         | 154                                                                        | 26.5 <sup>140</sup>                                                                                       | -5 09.2 <sup>154</sup>                            |         | 45            | 16 26                                            | 16 58 | 17 34 | 14 10 18                                        | 1 07 71 |                |       |      |     |      |
| 7   | 288                                                | 31.0 | -20 00.3                                         | 168                                                                        | 59.5 <sup>140</sup>                                                                                       | -4 53.9 <sup>153</sup>                            |         | 40            | 39                                               | 17 09 | 42    | 08 22                                           | 11 67   |                |       |      |     |      |
| 8   | 303                                                | 30.8 |                                                  | 183                                                                        | 32.5 <sup>140</sup>                                                                                       | 38.5 <sup>154</sup>                               |         | 35            | 16 51                                            | 18    | 49    | 06 25                                           | 15 63   |                |       |      |     |      |
| 9   | 318                                                | 30.7 |                                                  | 198                                                                        | 05.6 <sup>141</sup>                                                                                       | 23.2 <sup>153</sup>                               |         | 30            | 17 01                                            | 27    | 17 56 | 04 29                                           | 18 60   |                |       |      |     |      |
| 10  | 333                                                | 30.5 |                                                  | 212                                                                        | 38.7 <sup>141</sup>                                                                                       | -4 07.8 <sup>154</sup>                            |         | 20            | 19                                               | 43    | 18 10 | 14 02 34                                        | 24 54   |                |       |      |     |      |
| 11  | 348                                                | 30.4 | -20 02.4                                         | 227                                                                        | 11.9 <sup>142</sup>                                                                                       | -3 52.4 <sup>154</sup>                            |         | 10 N          | 17 35                                            | 17 57 | 18 23 | 13 59 39                                        | 1 29 49 |                |       |      |     |      |
| 12  | 3                                                  | 30.2 | -20 03.0                                         | 241                                                                        | 45.1 <sup>142</sup>                                                                                       | -3 37.1 <sup>153</sup>                            |         | 0             | 17 50                                            | 18 12 | 18 37 | 13 57 43                                        | 1 34 44 |                |       |      |     |      |
| 13  | 18                                                 | 30.0 |                                                  | 256                                                                        | 18.4 <sup>143</sup>                                                                                       | 21.7 <sup>154</sup>                               |         | 10 S          | 18 04                                            | 27    | 18 53 | 55 48                                           | 38 40   |                |       |      |     |      |
| 14  | 33                                                 | 29.9 |                                                  | 270                                                                        | 51.7 <sup>143</sup>                                                                                       | -3 06.3 <sup>154</sup>                            |         | 20            | 21                                               | 18 44 | 19 13 | 52 53                                           | 43 35   |                |       |      |     |      |
| 15  | 48                                                 | 29.7 |                                                  | 285                                                                        | 25.0 <sup>143</sup>                                                                                       | -2 50.9 <sup>154</sup>                            |         | 30            | 39                                               | 19 06 | 37    | 50 58                                           | 48 30   |                |       |      |     |      |
| 16  | 63                                                 | 29.6 |                                                  | 299                                                                        | 58.4 <sup>144</sup>                                                                                       | 35.6 <sup>153</sup>                               |         | 35            | 18 50                                            | 18    | 19 53 | 48 62                                           | 52 26   |                |       |      |     |      |
| 17  | 78                                                 | 29.4 | -20 05.7                                         | 314                                                                        | 31.8 <sup>144</sup>                                                                                       | -2 20.2 <sup>154</sup>                            |         | 40            | 19 03                                            | 19 34 | 20 13 | 13 46 66                                        | 1 55 22 |                |       |      |     |      |
| 18  | 93                                                 | 29.2 | -20 06.2                                         | 329                                                                        | 05.2 <sup>144</sup>                                                                                       | -2 04.8 <sup>154</sup>                            |         | 45            | 19 17                                            | 19 52 | 20 37 | 13 44 70                                        | 1 59 18 |                |       |      |     |      |
| 19  | 108                                                | 29.1 |                                                  | 343                                                                        | 38.7 <sup>145</sup>                                                                                       | -1 49.4 <sup>154</sup>                            |         | 50            | 36                                               | 20 16 | 21 12 | 42 75                                           | 2 04 13 |                |       |      |     |      |
| 20  | 123                                                | 28.9 |                                                  | 358                                                                        | 12.2 <sup>145</sup>                                                                                       | 34.1 <sup>153</sup>                               |         | 52            | 45                                               | 28    | 30    | 40 78                                           | 06 11   |                |       |      |     |      |
| 21  | 138                                                | 28.7 |                                                  | 12                                                                         | 45.7 <sup>145</sup>                                                                                       | 18.7 <sup>154</sup>                               |         | 54            | 19 54                                            | 42    | 21 53 | 39 80                                           | 08 9    |                |       |      |     |      |
| 22  | 153                                                | 28.6 |                                                  | 27                                                                         | 19.3 <sup>146</sup>                                                                                       | -1 03.3 <sup>154</sup>                            |         | 56            | 20 05                                            | 20 58 | 22 26 | 38 83                                           | 11 6    |                |       |      |     |      |
| 23  | 168                                                | 28.4 |                                                  | 41                                                                         | 52.9 <sup>146</sup>                                                                                       | -0 48.0 <sup>153</sup>                            |         | 58            | 18                                               | 21 17 | ** ** | 36 86                                           | 14 3    |                |       |      |     |      |
| 24  | 183                                                | 28.2 | -20 09.4                                         | 56                                                                         | 26.5 <sup>146</sup>                                                                                       | -0 32.7 <sup>153</sup>                            |         | 60 S          | 20 33                                            | 21 42 | ** ** | 13 34 90                                        | 2 17 0  |                |       |      |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                            |                                                                                                           | MARTE                                             |         |               | JÚPITER                                          |       |       | SATURNO                                         |         |                |       |      |     |      |
|     | PMG: 19 <sup>h</sup> 55 <sup>m</sup> 4             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 46 <sup>m</sup> |                                                                            |                                                                                                           | Mag: +1.7<br>PMG: 10 <sup>h</sup> 16 <sup>m</sup> |         |               | Mag: -1.8<br>PMG: 8 <sup>h</sup> 42 <sup>m</sup> |       |       | Mag: 0.0<br>PMG: 3 <sup>h</sup> 55 <sup>m</sup> |         |                |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                        |                                                                                                           | hG ♂                                              | Dec     |               | hG ♃                                             | Dec   |       | hG ♄                                            | Dec     |                |       |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                          | °                                                                                                         | '                                                 | °       | '             | °                                                | '     | °     | '                                               | °       | '              | °     |      |     |      |
| 0   | 60                                                 | 19.9 | 213                                              | 36.6                                                                       | -9                                                                                                        | 06.6                                              | 205     | 57.3          | -13                                              | 11.2  | 229   | 15.9                                            | -3      | 29.7           | 301   | 06.1 | +20 | 38.4 |
| 1   | 75                                                 | 22.4 | 228                                              | 36.1                                                                       |                                                                                                           | 07.7                                              | 220     | 58.1          |                                                  | 11.7  | 244   | 18.0                                            |         | 29.8           | 316   | 08.6 |     | 38.4 |
| 2   | 90                                                 | 24.8 | 243                                              | 35.7                                                                       |                                                                                                           | 08.8                                              | 235     | 59.0          |                                                  | 12.3  | 259   | 20.0                                            |         | 30.0           | 331   | 11.1 |     | 38.4 |
| 3   | 105                                                | 27.3 | 258                                              | 35.2                                                                       |                                                                                                           | 09.9                                              | 250     | 59.8          |                                                  | 12.9  | 274   | 22.1                                            |         | 30.2           | 346   | 13.7 |     | 38.5 |
| 4   | 120                                                | 29.7 | 273                                              | 34.8                                                                       |                                                                                                           | 11.0                                              | 266     | 00.7          |                                                  | 13.4  | 289   | 24.1                                            |         | 30.3           | 1     | 16.2 |     | 38.5 |
| 5   | 135                                                | 32.2 | 288                                              | 34.3                                                                       | -9                                                                                                        | 12.1                                              | 281     | 01.5          | -13                                              | 14.0  | 304   | 26.2                                            | -3      | 30.5           | 16    | 18.7 | +20 | 38.5 |
| 6   | 150                                                | 34.7 | 303                                              | 33.9                                                                       | -9                                                                                                        | 13.2                                              | 296     | 02.4          | -13                                              | 14.6  | 319   | 28.2                                            | -3      | 30.7           | 31    | 21.2 | +20 | 38.5 |
| 7   | 165                                                | 37.1 | 318                                              | 33.4                                                                       |                                                                                                           | 14.3                                              | 311     | 03.2          |                                                  | 15.1  | 334   | 30.3                                            |         | 30.8           | 46    | 23.8 |     | 38.5 |
| 8   | 180                                                | 39.6 | 333                                              | 33.0                                                                       |                                                                                                           | 15.4                                              | 326     | 04.1          |                                                  | 15.7  | 349   | 32.3                                            |         | 31.0           | 61    | 26.3 |     | 38.5 |
| 9   | 195                                                | 42.1 | 348                                              | 32.5                                                                       |                                                                                                           | 16.5                                              | 341     | 04.9          |                                                  | 16.3  | 4     | 34.4                                            |         | 31.2           | 76    | 28.8 |     | 38.5 |
| 10  | 210                                                | 44.5 | 3                                                | 32.1                                                                       |                                                                                                           | 17.6                                              | 356     | 05.8          |                                                  | 16.8  | 19    | 36.4                                            |         | 31.3           | 91    | 31.4 |     | 38.6 |
| 11  | 225                                                | 47.0 | 18                                               | 31.6                                                                       | -9                                                                                                        | 18.7                                              | 11      | 06.6          | -13                                              | 17.4  | 34    | 38.5                                            | -3      | 31.5           | 106   | 33.9 | +20 | 38.6 |
| 12  | 240                                                | 49.5 | 33                                               | 31.1                                                                       | -9                                                                                                        | 19.8                                              | 26      | 07.5          | -13                                              | 18.0  | 49    | 40.6                                            | -3      | 31.7           | 121   | 36.4 | +20 | 38.6 |
| 13  | 255                                                | 51.9 | 48                                               | 30.7                                                                       |                                                                                                           | 20.9                                              | 41      | 08.3          |                                                  | 18.5  | 64    | 42.6                                            |         | 31.8           | 136   | 38.9 |     | 38.6 |
| 14  | 270                                                | 54.4 | 63                                               | 30.2                                                                       |                                                                                                           | 22.0                                              | 56      | 09.2          |                                                  | 19.1  | 79    | 44.7                                            |         | 32.0           | 151   | 41.5 |     | 38.6 |
| 15  | 285                                                | 56.9 | 78                                               | 29.8                                                                       |                                                                                                           | 23.1                                              | 71      | 10.0          |                                                  | 19.7  | 94    | 46.7                                            |         | 32.2           | 166   | 44.0 |     | 38.6 |
| 16  | 300                                                | 59.3 | 93                                               | 29.3                                                                       |                                                                                                           | 24.2                                              | 86      | 10.8          |                                                  | 20.2  | 109   | 48.8                                            |         | 32.3           | 181   | 46.5 |     | 38.7 |
| 17  | 316                                                | 01.8 | 108                                              | 28.9                                                                       | -9                                                                                                        | 25.3                                              | 101     | 11.7          | -13                                              | 20.8  | 124   | 50.8                                            | -3      | 32.5           | 196   | 49.0 | +20 | 38.7 |
| 18  | 331                                                | 04.2 | 123                                              | 28.4                                                                       | -9                                                                                                        | 26.4                                              | 116     | 12.5          | -13                                              | 21.4  | 139   | 52.9                                            | -3      | 32.7           | 211   | 51.6 | +20 | 38.7 |
| 19  | 346                                                | 06.7 | 138                                              | 28.0                                                                       |                                                                                                           | 27.5                                              | 131     | 13.4          |                                                  | 21.9  | 154   | 54.9                                            |         | 32.8           | 226   | 54.1 |     | 38.7 |
| 20  | 1                                                  | 09.2 | 153                                              | 27.5                                                                       |                                                                                                           | 28.6                                              | 146     | 14.2          |                                                  | 22.5  | 169   | 57.0                                            |         | 33.0           | 241   | 56.6 |     | 38.7 |
| 21  | 16                                                 | 11.6 | 168                                              | 27.0                                                                       |                                                                                                           | 29.7                                              | 161     | 15.1          |                                                  | 23.0  | 184   | 59.1                                            |         | 33.2           | 256   | 59.2 |     | 38.7 |
| 22  | 31                                                 | 14.1 | 183                                              | 26.6                                                                       |                                                                                                           | 30.8                                              | 176     | 15.9          |                                                  | 23.6  | 200   | 01.1                                            |         | 33.3           | 272   | 01.7 |     | 38.8 |
| 23  | 46                                                 | 16.6 | 198                                              | 26.1                                                                       |                                                                                                           | 31.9                                              | 191     | 16.8          |                                                  | 24.2  | 215   | 03.2                                            |         | 33.5           | 287   | 04.2 |     | 38.8 |
| 24  | 61                                                 | 19.0 | 213                                              | 25.7                                                                       | -9                                                                                                        | 33.0                                              | 206     | 17.6          | -13                                              | 24.7  | 230   | 05.2                                            | -3      | 33.7           | 302   | 06.8 | +20 | 38.8 |
| Dif | —                                                  |      | -5                                               |                                                                            | -11                                                                                                       | +8                                                |         | -6            | +21                                              |       | -2    |                                                 | +25     |                |       |      |     |      |

| UT  | SOL                                                |      |          | LUNA                                                                                                                             |                     |                        | Latitud                                           | Principio del crepúsculo |          | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna                                  |      |    |
|-----|----------------------------------------------------|------|----------|----------------------------------------------------------------------------------------------------------------------------------|---------------------|------------------------|---------------------------------------------------|--------------------------|----------|--------------------------------------------------|----------------|------|-------------------------------------------------|------|----|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 2 |      |          | Edad: 9 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 56'8<br>12 <sup>h</sup> : 56'6<br>20 <sup>h</sup> : 56'4<br>R°: 43 <sup>m</sup> |                     |                        |                                                   |                          |          |                                                  |                |      |                                                 |      |    |
|     | hG ☉                                               | Dec  |          | hG ☾                                                                                                                             | Dif                 | Dec                    |                                                   | Dif                      | Náutico  |                                                  | Civil          | Hora | R°                                              | Hora | R° |
| h   | °                                                  | '    | °        | °                                                                                                                                | '                   | °                      | °                                                 | h                        | m        | h                                                | m              | h    | m                                               | m    |    |
| 0   | 183                                                | 28.2 | -20 09.4 | 56                                                                                                                               | 26.5                | -0 32.7                | 60 N                                              | 6 31                     | 7 24     | 8 16                                             | 14 19          | 0    | 2 18                                            | 89   |    |
| 1   | 198                                                | 28.1 | 10.0     | 71                                                                                                                               | 00.1 <sup>146</sup> | 17.3 <sup>154</sup>    | 58                                                | 26                       | 15       | 8 03                                             | 20             | 3    | 18                                              | 85   |    |
| 2   | 213                                                | 27.9 | 10.5     | 85                                                                                                                               | 33.8 <sup>147</sup> | -0 02.0 <sup>153</sup> | 56                                                | 21                       | 07       | 7 51                                             | 22             | 6    | 18                                              | 82   |    |
| 3   | 228                                                | 27.7 | 11.0     | 100                                                                                                                              | 07.5 <sup>147</sup> | +0 13.3 <sup>153</sup> | 54                                                | 16                       | 7 00     | 41                                               | 23             | 9    | 18                                              | 79   |    |
| 4   | 243                                                | 27.6 | 11.6     | 114                                                                                                                              | 41.2 <sup>147</sup> | 28.6 <sup>153</sup>    | 52                                                | 12                       | 6 54     | 32                                               | 24             | 11   | 18                                              | 77   |    |
| 5   | 258                                                | 27.4 | -20 12.1 | 129                                                                                                                              | 14.9 <sup>147</sup> | +0 43.9 <sup>153</sup> | 50                                                | 6 08                     | 6 48     | 7 24                                             | 14 25          | 14   | 2 18                                            | 74   |    |
| 6   | 273                                                | 27.2 | -20 12.6 | 143                                                                                                                              | 48.6 <sup>147</sup> | +0 59.2 <sup>153</sup> | 45                                                | 5 59                     | 6 35     | 7 07                                             | 14 28          | 18   | 2 18                                            | 69   |    |
| 7   | 288                                                | 27.1 | 13.2     | 158                                                                                                                              | 22.4 <sup>148</sup> | +1 14.4 <sup>152</sup> | 40                                                | 51                       | 24       | 6 53                                             | 30             | 22   | 18                                              | 65   |    |
| 8   | 303                                                | 26.9 | 13.7     | 172                                                                                                                              | 56.1 <sup>147</sup> | 29.7 <sup>153</sup>    | 35                                                | 43                       | 14       | 41                                               | 31             | 26   | 18                                              | 61   |    |
| 9   | 318                                                | 26.7 | 14.2     | 187                                                                                                                              | 29.9 <sup>148</sup> | +1 44.9 <sup>152</sup> | 30                                                | 36                       | 6 05     | 31                                               | 33             | 29   | 18                                              | 58   |    |
| 10  | 333                                                | 26.6 | 14.8     | 202                                                                                                                              | 03.7 <sup>148</sup> | +2 00.1 <sup>152</sup> | 20                                                | 23                       | 5 50     | 6 13                                             | 36             | 34   | 18                                              | 52   |    |
| 11  | 348                                                | 26.4 | -20 15.3 | 216                                                                                                                              | 37.5 <sup>148</sup> | +2 15.3 <sup>152</sup> | 10 N                                              | 5 09                     | 5 35     | 5 57                                             | 14 38          | 39   | 2 18                                            | 48   |    |
| 12  | 3                                                  | 26.2 | -20 15.8 | 231                                                                                                                              | 11.3 <sup>148</sup> | +2 30.4 <sup>151</sup> | 0                                                 | 4 55                     | 5 21     | 5 43                                             | 14 40          | 44   | 2 18                                            | 43   |    |
| 13  | 18                                                 | 26.1 | 16.3     | 245                                                                                                                              | 45.2 <sup>149</sup> | +2 45.6 <sup>152</sup> | 10 S                                              | 39                       | 5 05     | 28                                               | 43             | 47   | 18                                              | 38   |    |
| 14  | 33                                                 | 25.9 | 16.9     | 260                                                                                                                              | 19.0 <sup>148</sup> | +3 00.7 <sup>151</sup> | 20                                                | 4 19                     | 4 48     | 5 12                                             | 45             | 53   | 18                                              | 34   |    |
| 15  | 48                                                 | 25.7 | 17.4     | 274                                                                                                                              | 52.8 <sup>148</sup> | 15.8 <sup>151</sup>    | 30                                                | 3 55                     | 26       | 4 53                                             | 48             | 58   | 18                                              | 28   |    |
| 16  | 63                                                 | 25.6 | 17.9     | 289                                                                                                                              | 26.7 <sup>149</sup> | 30.9 <sup>151</sup>    | 35                                                | 39                       | 4 13     | 42                                               | 50             | 61   | 18                                              | 25   |    |
| 17  | 78                                                 | 25.4 | -20 18.4 | 304                                                                                                                              | 00.5 <sup>148</sup> | +3 45.9 <sup>150</sup> | 40                                                | 3 19                     | 3 58     | 4 29                                             | 14 52          | 64   | 2 17                                            | 22   |    |
| 18  | 93                                                 | 25.2 | -20 19.0 | 318                                                                                                                              | 34.4 <sup>149</sup> | +4 00.9 <sup>150</sup> | 45                                                | 2 55                     | 3 39     | 4 14                                             | 14 54          | 69   | 2 17                                            | 18   |    |
| 19  | 108                                                | 25.0 | 19.5     | 333                                                                                                                              | 08.3 <sup>149</sup> | 15.9 <sup>150</sup>    | 50                                                | 20                       | 15       | 3 56                                             | 57             | 74   | 17                                              | 13   |    |
| 20  | 123                                                | 24.9 | 20.0     | 347                                                                                                                              | 42.1 <sup>148</sup> | 30.9 <sup>150</sup>    | 52                                                | 2 02                     | 3 04     | 47                                               | 58             | 76   | 17                                              | 11   |    |
| 21  | 138                                                | 24.7 | 20.5     | 2                                                                                                                                | 16.0 <sup>149</sup> | +4 45.8 <sup>149</sup> | 54                                                | 1 38                     | 2 50     | 37                                               | 14 59          | 79   | 17                                              | 9    |    |
| 22  | 153                                                | 24.5 | 21.0     | 16                                                                                                                               | 49.8 <sup>148</sup> | +5 00.7 <sup>149</sup> | 56                                                | 1 06                     | 34       | 26                                               | 15 01          | 82   | 17                                              | 6    |    |
| 23  | 168                                                | 24.4 | 21.6     | 31                                                                                                                               | 23.7 <sup>149</sup> | 15.6 <sup>149</sup>    | 58                                                | ** **                    | 2 14     | 3 14                                             | 02             | 86   | 17                                              | 3    |    |
| 24  | 183                                                | 24.2 | -20 22.1 | 45                                                                                                                               | 57.6 <sup>149</sup> | +5 30.4 <sup>148</sup> | 60 S                                              | ** **                    | 1 49     | 2 59                                             | 15 04          | 90   | 2 17                                            | 0    |    |
| UT  | ARIES                                              |      |          | VENUS                                                                                                                            |                     |                        | MARTE                                             |                          |          | JÚPITER                                          |                |      | SATURNO                                         |      |    |
|     | PMG: 19 <sup>h</sup> 51 <sup>m</sup> 5             |      |          | Mag: -3.9<br>PMG: 9 <sup>h</sup> 47 <sup>m</sup>                                                                                 |                     |                        | Mag: +1.7<br>PMG: 10 <sup>h</sup> 14 <sup>m</sup> |                          |          | Mag: -1.8<br>PMG: 8 <sup>h</sup> 38 <sup>m</sup> |                |      | Mag: 0.0<br>PMG: 3 <sup>h</sup> 51 <sup>m</sup> |      |    |
|     | hG ♈                                               |      |          | hG ♀                                                                                                                             | Dec                 |                        | hG ♂                                              | Dec                      |          | hG ♃                                             | Dec            |      | hG ♄                                            | Dec  |    |
| h   | °                                                  | '    | °        | °                                                                                                                                | '                   | °                      | °                                                 | '                        | °        | °                                                | '              | °    | °                                               | '    | °  |
| 0   | 61                                                 | 19.0 | 213 25.7 | -9 33.0                                                                                                                          | 206 17.6            | -13 24.7               | 230 05.2                                          | -3 33.7                  | 302 06.8 | +20 38.8                                         |                |      |                                                 |      |    |
| 1   | 76                                                 | 21.5 | 228 25.2 | 34.1                                                                                                                             | 221 18.5            | 25.3                   | 245 07.3                                          | 33.8                     | 317 09.3 | 38.8                                             |                |      |                                                 |      |    |
| 2   | 91                                                 | 24.0 | 243 24.8 | 35.2                                                                                                                             | 236 19.3            | 25.9                   | 260 09.3                                          | 34.0                     | 332 11.8 | 38.8                                             |                |      |                                                 |      |    |
| 3   | 106                                                | 26.4 | 258 24.3 | 36.3                                                                                                                             | 251 20.1            | 26.4                   | 275 11.4                                          | 34.2                     | 347 14.3 | 38.8                                             |                |      |                                                 |      |    |
| 4   | 121                                                | 28.9 | 273 23.8 | 37.4                                                                                                                             | 266 21.0            | 27.0                   | 290 13.5                                          | 34.3                     | 2 16.9   | 38.9                                             |                |      |                                                 |      |    |
| 5   | 136                                                | 31.4 | 288 23.4 | -9 38.5                                                                                                                          | 281 21.8            | -13 27.6               | 305 15.5                                          | -3 34.5                  | 17 19.4  | +20 38.9                                         |                |      |                                                 |      |    |
| 6   | 151                                                | 33.8 | 303 22.9 | -9 39.6                                                                                                                          | 296 22.7            | -13 28.1               | 320 17.6                                          | -3 34.7                  | 32 21.9  | +20 38.9                                         |                |      |                                                 |      |    |
| 7   | 166                                                | 36.3 | 318 22.5 | 40.7                                                                                                                             | 311 23.5            | 28.7                   | 335 19.6                                          | 34.8                     | 47 24.5  | 38.9                                             |                |      |                                                 |      |    |
| 8   | 181                                                | 38.7 | 333 22.0 | 41.8                                                                                                                             | 326 24.4            | 29.2                   | 350 21.7                                          | 35.0                     | 62 27.0  | 38.9                                             |                |      |                                                 |      |    |
| 9   | 196                                                | 41.2 | 348 21.5 | 42.9                                                                                                                             | 341 25.2            | 29.8                   | 5 23.7                                            | 35.2                     | 77 29.5  | 38.9                                             |                |      |                                                 |      |    |
| 10  | 211                                                | 43.7 | 3 21.1   | 43.9                                                                                                                             | 356 26.1            | 30.4                   | 20 25.8                                           | 35.3                     | 92 32.1  | 39.0                                             |                |      |                                                 |      |    |
| 11  | 226                                                | 46.1 | 18 20.6  | -9 45.0                                                                                                                          | 11 26.9             | -13 30.9               | 35 27.9                                           | -3 35.5                  | 107 34.6 | +20 39.0                                         |                |      |                                                 |      |    |
| 12  | 241                                                | 48.6 | 33 20.1  | -9 46.1                                                                                                                          | 26 27.7             | -13 31.5               | 50 29.9                                           | -3 35.6                  | 122 37.1 | +20 39.0                                         |                |      |                                                 |      |    |
| 13  | 256                                                | 51.1 | 48 19.7  | 47.2                                                                                                                             | 41 28.6             | 32.1                   | 65 32.0                                           | 35.8                     | 137 39.7 | 39.0                                             |                |      |                                                 |      |    |
| 14  | 271                                                | 53.5 | 63 19.2  | 48.3                                                                                                                             | 56 29.4             | 32.6                   | 80 34.0                                           | 36.0                     | 152 42.2 | 39.0                                             |                |      |                                                 |      |    |
| 15  | 286                                                | 56.0 | 78 18.8  | 49.4                                                                                                                             | 71 30.3             | 33.2                   | 95 36.1                                           | 36.1                     | 167 44.7 | 39.0                                             |                |      |                                                 |      |    |
| 16  | 301                                                | 58.5 | 93 18.3  | 50.5                                                                                                                             | 86 31.1             | 33.7                   | 110 38.2                                          | 36.3                     | 182 47.3 | 39.1                                             |                |      |                                                 |      |    |
| 17  | 317                                                | 00.9 | 108 17.8 | -9 51.6                                                                                                                          | 101 31.9            | -13 34.3               | 125 40.2                                          | -3 36.5                  | 197 49.8 | +20 39.1                                         |                |      |                                                 |      |    |
| 18  | 332                                                | 03.4 | 123 17.4 | -9 52.7                                                                                                                          | 116 32.8            | -13 34.9               | 140 42.3                                          | -3 36.6                  | 212 52.3 | +20 39.1                                         |                |      |                                                 |      |    |
| 19  | 347                                                | 05.8 | 138 16.9 | 53.8                                                                                                                             | 131 33.6            | 35.4                   | 155 44.3                                          | 36.8                     | 227 54.9 | 39.1                                             |                |      |                                                 |      |    |
| 20  | 2                                                  | 08.3 | 153 16.4 | 54.9                                                                                                                             | 146 34.5            | 36.0                   | 170 46.4                                          | 37.0                     | 242 57.4 | 39.1                                             |                |      |                                                 |      |    |
| 21  | 17                                                 | 10.8 | 168 16.0 | 55.9                                                                                                                             | 161 35.3            | 36.5                   | 185 48.5                                          | 37.1                     | 257 59.9 | 39.1                                             |                |      |                                                 |      |    |
| 22  | 32                                                 | 13.2 | 183 15.5 | 57.0                                                                                                                             | 176 36.2            | 37.1                   | 200 50.5                                          | 37.3                     | 273 02.5 | 39.2                                             |                |      |                                                 |      |    |
| 23  | 47                                                 | 15.7 | 198 15.0 | 58.1                                                                                                                             | 191 37.0            | 37.7                   | 215 52.6                                          | 37.5                     | 288 05.0 | 39.2                                             |                |      |                                                 |      |    |
| 24  | 62                                                 | 18.2 | 213 14.6 | -9 59.2                                                                                                                          | 206 37.8            | -13 38.2               | 230 54.6                                          | -3 37.6                  | 303 07.5 | +20 39.2                                         |                |      |                                                 |      |    |
| Dif | —                                                  |      | -5       | -11                                                                                                                              | +8                  | -6                     | +21                                               | -2                       | +25      | 0                                                |                |      |                                                 |      |    |

| UT  | SOL                                                |      |                                                  |      | LUNA                                                                                                                                                                   |                     |                                                   |                     | Latitud | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |      | Puesta de Luna                                  |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------------------|---------|---------------|--------------------------------------------------|---------|----------------|------|-------------------------------------------------|------|-----|------|
|     | SD: 16/2<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 5 |      |                                                  |      | Edad: 10 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 56/2<br>12 <sup>h</sup> : 56/1<br>20 <sup>h</sup> : 55/9<br>PMG: 21 <sup>h</sup> 34 <sup>m</sup> R°: 44 <sup>m</sup> |                     |                                                   |                     |         |               |                                                  |         |                |      |                                                 |      |     |      |
|     | hG ☉                                               |      | Dec                                              |      | hG ☾                                                                                                                                                                   |                     | Dif                                               |                     |         |               | Civil                                            | Náutico | Hora           | R°   | Hora                                            | R°   |     |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                      | '                   | °                                                 | '                   | °       | h m           | h m                                              | h m     | h m m          |      | h m m                                           |      |     |      |
| 0   | 183                                                | 24.2 | -20                                              | 22.1 | 45                                                                                                                                                                     | 57.6                | +5                                                | 30.4                | 60 N    | 15 14         | 16 06                                            | 16 59   | 14 19 0        |      | 3 47 89                                         |      |     |      |
| 1   | 198                                                | 24.0 |                                                  | 22.6 | 60                                                                                                                                                                     | 31.4 <sup>148</sup> | +5                                                | 45.2 <sup>148</sup> | 58      | 28            | 15                                               | 17 05   | 23 5           |      | 43 86                                           |      |     |      |
| 2   | 213                                                | 23.8 |                                                  | 23.1 | 75                                                                                                                                                                     | 05.2 <sup>148</sup> | +6                                                | 00.0 <sup>148</sup> | 56      | 39            | 23                                               | 10      | 28 7           |      | 40 82                                           |      |     |      |
| 3   | 228                                                | 23.7 |                                                  | 23.6 | 89                                                                                                                                                                     | 39.1 <sup>149</sup> | +6                                                | 14.8 <sup>148</sup> | 54      | 50            | 31                                               | 15      | 32 10          |      | 37 79                                           |      |     |      |
| 4   | 243                                                | 23.5 |                                                  | 24.2 | 104                                                                                                                                                                    | 12.9 <sup>148</sup> |                                                   | 29.5 <sup>147</sup> | 52      | 15 59         | 37                                               | 19      | 35 13          |      | 35 76                                           |      |     |      |
| 5   | 258                                                | 23.3 | -20                                              | 24.7 | 118                                                                                                                                                                    | 46.7 <sup>148</sup> | +6                                                | 44.1 <sup>146</sup> | 50      | 16 07         | 16 43                                            | 17 23   | 14 39 15       |      | 3 32 74                                         |      |     |      |
| 6   | 273                                                | 23.1 | -20                                              | 25.2 | 133                                                                                                                                                                    | 20.6 <sup>149</sup> | +6                                                | 58.8 <sup>147</sup> | 45      | 16 24         | 16 57                                            | 17 33   | 14 46 19       |      | 3 27 69                                         |      |     |      |
| 7   | 288                                                | 23.0 |                                                  | 25.7 | 147                                                                                                                                                                    | 54.4 <sup>148</sup> | +7                                                | 13.3 <sup>145</sup> | 40      | 38            | 17 08                                            | 41      | 52 23          |      | 23 65                                           |      |     |      |
| 8   | 303                                                | 22.8 |                                                  | 26.2 | 162                                                                                                                                                                    | 28.1 <sup>147</sup> |                                                   | 27.9 <sup>146</sup> | 35      | 16 50         | 18                                               | 49      | 14 57 27       |      | 19 61                                           |      |     |      |
| 9   | 318                                                | 22.6 |                                                  | 26.7 | 177                                                                                                                                                                    | 01.9 <sup>148</sup> |                                                   | 42.4 <sup>145</sup> | 30      | 17 01         | 27                                               | 17 56   | 15 02 30       |      | 16 58                                           |      |     |      |
| 10  | 333                                                | 22.4 |                                                  | 27.2 | 191                                                                                                                                                                    | 35.7 <sup>148</sup> | +7                                                | 56.9 <sup>145</sup> | 20      | 19            | 43                                               | 18 10   | 10 35          |      | 10 53                                           |      |     |      |
| 11  | 348                                                | 22.3 | -20                                              | 27.8 | 206                                                                                                                                                                    | 09.4 <sup>147</sup> | +8                                                | 11.3 <sup>144</sup> | 10 N    | 17 35         | 17 57                                            | 18 23   | 15 17 40       |      | 3 06 47                                         |      |     |      |
| 12  | 3                                                  | 22.1 | -20                                              | 28.3 | 220                                                                                                                                                                    | 43.2 <sup>148</sup> | +8                                                | 25.7 <sup>144</sup> | 0       | 17 50         | 18 12                                            | 18 38   | 15 24 43       |      | 3 01 43                                         |      |     |      |
| 13  | 18                                                 | 21.9 |                                                  | 28.8 | 235                                                                                                                                                                    | 16.9 <sup>147</sup> |                                                   | 40.0 <sup>143</sup> | 10 S    | 18 05         | 28                                               | 18 54   | 30 49          |      | 2 56 40                                         |      |     |      |
| 14  | 33                                                 | 21.7 |                                                  | 29.3 | 249                                                                                                                                                                    | 50.6 <sup>147</sup> | +8                                                | 54.3 <sup>143</sup> | 20      | 22            | 18 46                                            | 19 14   | 38 52          |      | 52 34                                           |      |     |      |
| 15  | 48                                                 | 21.6 |                                                  | 29.8 | 264                                                                                                                                                                    | 24.3 <sup>147</sup> | +9                                                | 08.6 <sup>143</sup> | 30      | 41            | 19 07                                            | 39      | 46 58          |      | 46 29                                           |      |     |      |
| 16  | 63                                                 | 21.4 |                                                  | 30.3 | 278                                                                                                                                                                    | 57.9 <sup>146</sup> |                                                   | 22.8 <sup>142</sup> | 35      | 18 52         | 21                                               | 19 56   | 51 61          |      | 43 26                                           |      |     |      |
| 17  | 78                                                 | 21.2 | -20                                              | 30.8 | 293                                                                                                                                                                    | 31.6 <sup>147</sup> | +9                                                | 36.9 <sup>141</sup> | 40      | 19 05         | 19 36                                            | 20 15   | 15 56 65       |      | 2 39 23                                         |      |     |      |
| 18  | 93                                                 | 21.0 | -20                                              | 31.3 | 308                                                                                                                                                                    | 05.2 <sup>146</sup> | +9                                                | 51.0 <sup>141</sup> | 45      | 19 20         | 19 55                                            | 20 41   | 16 03 69       |      | 2 35 19                                         |      |     |      |
| 19  | 108                                                | 20.8 |                                                  | 31.8 | 322                                                                                                                                                                    | 38.8 <sup>146</sup> | +10                                               | 05.1 <sup>141</sup> | 50      | 39            | 20 20                                            | 21 16   | 11 74          |      | 30 14                                           |      |     |      |
| 20  | 123                                                | 20.7 |                                                  | 32.3 | 337                                                                                                                                                                    | 12.4 <sup>146</sup> |                                                   | 19.1 <sup>140</sup> | 52      | 48            | 32                                               | 21 35   | 14 77          |      | 28 12                                           |      |     |      |
| 21  | 138                                                | 20.5 |                                                  | 32.8 | 351                                                                                                                                                                    | 45.9 <sup>145</sup> |                                                   | 33.0 <sup>139</sup> | 54      | 19 58         | 20 46                                            | 22 00   | 18 80          |      | 26 9                                            |      |     |      |
| 22  | 153                                                | 20.3 |                                                  | 33.3 | 6                                                                                                                                                                      | 19.4 <sup>145</sup> | +10                                               | 46.9 <sup>139</sup> | 56      | 20 09         | 21 03                                            | 22 36   | 23 83          |      | 23 7                                            |      |     |      |
| 23  | 168                                                | 20.1 |                                                  | 33.8 | 20                                                                                                                                                                     | 52.9 <sup>145</sup> | +11                                               | 00.7 <sup>138</sup> | 58      | 23            | 23                                               | ** **   | 28 86          |      | 20 4                                            |      |     |      |
| 24  | 183                                                | 19.9 | -20                                              | 34.4 | 35                                                                                                                                                                     | 26.4 <sup>145</sup> | +11                                               | 14.5 <sup>138</sup> | 60 S    | 20 38         | 21 50                                            | ** **   | 16 34 90       |      | 2 17 0                                          |      |     |      |
| UT  | ARIES                                              |      | VENUS                                            |      |                                                                                                                                                                        |                     | MARTE                                             |                     |         |               | JÚPITER                                          |         |                |      | SATURNO                                         |      |     |      |
|     | PMG: 19 <sup>h</sup> 47 <sup>m</sup> 5             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 47 <sup>m</sup> |      |                                                                                                                                                                        |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 13 <sup>m</sup> |                     |         |               | Mag: -1.8<br>PMG: 8 <sup>h</sup> 35 <sup>m</sup> |         |                |      | Mag: 0.0<br>PMG: 3 <sup>h</sup> 47 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             |      | Dec                                                                                                                                                                    |                     | hG ♂                                              |                     | Dec     |               | hG ♃                                             |         | Dec            |      | hG ♄                                            |      | Dec |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                      | '                   | °                                                 | '                   | °       | '             | °                                                | '       | °              | '    | °                                               | '    | °   | '    |
| 0   | 62                                                 | 18.2 | 213                                              | 14.6 | -9                                                                                                                                                                     | 59.2                | 206                                               | 37.8                | -13     | 38.2          | 230                                              | 54.6    | -3             | 37.6 | 303                                             | 07.5 | +20 | 39.2 |
| 1   | 77                                                 | 20.6 | 228                                              | 14.1 | -10                                                                                                                                                                    | 00.3                | 221                                               | 38.7                |         | 38.8          | 245                                              | 56.7    |                | 37.8 | 318                                             | 10.1 |     | 39.2 |
| 2   | 92                                                 | 23.1 | 243                                              | 13.6 |                                                                                                                                                                        | 01.4                | 236                                               | 39.5                |         | 39.3          | 260                                              | 58.8    |                | 37.9 | 333                                             | 12.6 |     | 39.2 |
| 3   | 107                                                | 25.6 | 258                                              | 13.2 |                                                                                                                                                                        | 02.5                | 251                                               | 40.4                |         | 39.9          | 276                                              | 00.8    |                | 38.1 | 348                                             | 15.1 |     | 39.2 |
| 4   | 122                                                | 28.0 | 273                                              | 12.7 |                                                                                                                                                                        | 03.6                | 266                                               | 41.2                |         | 40.5          | 291                                              | 02.9    |                | 38.3 | 3                                               | 17.7 |     | 39.3 |
| 5   | 137                                                | 30.5 | 288                                              | 12.2 | -10                                                                                                                                                                    | 04.6                | 281                                               | 42.0                | -13     | 41.0          | 306                                              | 04.9    | -3             | 38.4 | 18                                              | 20.2 | +20 | 39.3 |
| 6   | 152                                                | 33.0 | 303                                              | 11.7 | -10                                                                                                                                                                    | 05.7                | 296                                               | 42.9                | -13     | 41.6          | 321                                              | 07.0    | -3             | 38.6 | 33                                              | 22.7 | +20 | 39.3 |
| 7   | 167                                                | 35.4 | 318                                              | 11.3 |                                                                                                                                                                        | 06.8                | 311                                               | 43.7                |         | 42.1          | 336                                              | 09.1    |                | 38.8 | 48                                              | 25.3 |     | 39.3 |
| 8   | 182                                                | 37.9 | 333                                              | 10.8 |                                                                                                                                                                        | 07.9                | 326                                               | 44.6                |         | 42.7          | 351                                              | 11.1    |                | 38.9 | 63                                              | 27.8 |     | 39.3 |
| 9   | 197                                                | 40.3 | 348                                              | 10.3 |                                                                                                                                                                        | 09.0                | 341                                               | 45.4                |         | 43.3          | 6                                                | 13.2    |                | 39.1 | 78                                              | 30.4 |     | 39.3 |
| 10  | 212                                                | 42.8 | 3                                                | 09.9 |                                                                                                                                                                        | 10.1                | 356                                               | 46.2                |         | 43.8          | 21                                               | 15.2    |                | 39.3 | 93                                              | 32.9 |     | 39.4 |
| 11  | 227                                                | 45.3 | 18                                               | 09.4 | -10                                                                                                                                                                    | 11.2                | 11                                                | 47.1                | -13     | 44.4          | 36                                               | 17.3    | -3             | 39.4 | 108                                             | 35.4 | +20 | 39.4 |
| 12  | 242                                                | 47.7 | 33                                               | 08.9 | -10                                                                                                                                                                    | 12.2                | 26                                                | 47.9                | -13     | 44.9          | 51                                               | 19.4    | -3             | 39.6 | 123                                             | 38.0 | +20 | 39.4 |
| 13  | 257                                                | 50.2 | 48                                               | 08.4 |                                                                                                                                                                        | 13.3                | 41                                                | 48.8                |         | 45.5          | 66                                               | 21.4    |                | 39.7 | 138                                             | 40.5 |     | 39.4 |
| 14  | 272                                                | 52.7 | 63                                               | 08.0 |                                                                                                                                                                        | 14.4                | 56                                                | 49.6                |         | 46.1          | 81                                               | 23.5    |                | 39.9 | 153                                             | 43.0 |     | 39.4 |
| 15  | 287                                                | 55.1 | 78                                               | 07.5 |                                                                                                                                                                        | 15.5                | 71                                                | 50.4                |         | 46.6          | 96                                               | 25.6    |                | 40.1 | 168                                             | 45.6 |     | 39.4 |
| 16  | 302                                                | 57.6 | 93                                               | 07.0 |                                                                                                                                                                        | 16.6                | 86                                                | 51.3                |         | 47.2          | 111                                              | 27.6    |                | 40.2 | 183                                             | 48.1 |     | 39.5 |
| 17  | 318                                                | 00.1 | 108                                              | 06.6 | -10                                                                                                                                                                    | 17.7                | 101                                               | 52.1                | -13     | 47.7          | 126                                              | 29.7    | -3             | 40.4 | 198                                             | 50.6 | +20 | 39.5 |
| 18  | 333                                                | 02.5 | 123                                              | 06.1 | -10                                                                                                                                                                    | 18.7                | 116                                               | 52.9                | -13     | 48.3          | 141                                              | 31.7    | -3             | 40.6 | 213                                             | 53.2 | +20 | 39.5 |
| 19  | 348                                                | 05.0 | 138                                              | 05.6 |                                                                                                                                                                        | 19.8                | 131                                               | 53.8                |         | 48.8          | 156                                              | 33.8    |                | 40.7 | 228                                             | 55.7 |     | 39.5 |
| 20  | 3                                                  | 07.4 | 153                                              | 05.1 |                                                                                                                                                                        | 20.9                | 146                                               | 54.6                |         | 49.4          | 171                                              | 35.9    |                | 40.9 | 243                                             | 58.3 |     | 39.5 |
| 21  | 18                                                 | 09.9 | 168                                              | 04.7 |                                                                                                                                                                        | 22.0                | 161                                               | 55.5                |         | 50.0          | 186                                              | 37.9    |                | 41.0 | 259                                             | 00.8 |     | 39.6 |
| 22  | 33                                                 | 12.4 | 183                                              | 04.2 |                                                                                                                                                                        | 23.1                | 176                                               | 56.3                |         | 50.5          | 201                                              | 40.0    |                | 41.2 | 274                                             | 03.3 |     | 39.6 |
| 23  | 48                                                 | 14.8 | 198                                              | 03.7 |                                                                                                                                                                        | 24.1                | 191                                               | 57.1                |         | 51.1          | 216                                              | 42.1    |                | 41.4 | 289                                             | 05.9 |     | 39.6 |
| 24  | 63                                                 | 17.3 | 213                                              | 03.2 | -10                                                                                                                                                                    | 25.2                | 206                                               | 58.0                | -13     | 51.6          | 231                                              | 44.1    | -3             | 41.5 | 304                                             | 08.4 | +20 | 39.6 |
| Dif | —                                                  |      | -5                                               |      | -11                                                                                                                                                                    |                     | +8                                                |                     | -6      |               | +21                                              |         | -2             |      | +25                                             |      | 0   |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                              |      |                     | Latitud | Principio del crepúsculo |      | Salida de Sol | Salida de Luna |       | Puesta de Luna |    |      |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|------|---------------------|---------|--------------------------|------|---------------|----------------|-------|----------------|----|------|----|
|    | SD: 16/2<br>PMG: 11 <sup>h</sup> 46 <sup>m</sup> 8 |      |     | Edad: 11 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 55/8<br>12 <sup>h</sup> : 55/6<br>20 <sup>h</sup> : 55/5<br>Rº: 46 <sup>m</sup> |      |                     |         |                          |      |               |                |       |                |    |      |    |
|    | hG ☉                                               | Dec  |     |                                                                                                                                   | hG ☾ | Dif                 |         | Dec                      | Dif  |               | Náutico        | Civil | Hora           | Rº | Hora | Rº |
| h  | °                                                  | '    | °   | '                                                                                                                                 | °    | '                   | °       | '                        | h    | m             | h              | m     | h              | m  | h    | m  |
| 0  | 183                                                | 19.9 | -20 | 34.4                                                                                                                              | 35   | 26.4                | +11     | 14.5                     | 60 N | 6 35          | 7 28           | 8 20  | 14 19          | 2  | 5 16 | 92 |
| 1  | 198                                                | 19.8 |     | 34.9                                                                                                                              | 49   | 59.8 <sup>144</sup> |         | 28.3 <sup>138</sup>      | 58   | 29            | 19             | 8 07  | 28             | 5  | 09   | 87 |
| 2  | 213                                                | 19.6 |     | 35.4                                                                                                                              | 64   | 33.2 <sup>144</sup> |         | 41.9 <sup>136</sup>      | 56   | 24            | 11             | 7 55  | 35             | 10 | 5 02 | 83 |
| 3  | 228                                                | 19.4 |     | 35.9                                                                                                                              | 79   | 06.6 <sup>144</sup> | +11     | 55.5 <sup>136</sup>      | 54   | 19            | 7 03           | 45    | 42             | 12 | 4 56 | 80 |
| 4  | 243                                                | 19.2 |     | 36.4                                                                                                                              | 93   | 40.0 <sup>144</sup> | +12     | 09.1 <sup>136</sup>      | 52   | 15            | 6 57           | 35    | 48             | 15 | 51   | 77 |
| 5  | 258                                                | 19.0 | -20 | 36.9                                                                                                                              | 108  | 13.3 <sup>143</sup> | +12     | 22.6 <sup>135</sup>      | 50   | 6 10          | 6 51           | 7 27  | 14 54          | 17 | 4 46 | 75 |
| 6  | 273                                                | 18.8 | -20 | 37.4                                                                                                                              | 122  | 46.6 <sup>143</sup> | +12     | 36.0 <sup>134</sup>      | 45   | 6 01          | 6 37           | 7 10  | 15 05          | 23 | 4 36 | 69 |
| 7  | 288                                                | 18.7 |     | 37.9                                                                                                                              | 137  | 19.8 <sup>142</sup> | +12     | 49.4 <sup>134</sup>      | 40   | 5 53          | 26             | 6 56  | 15             | 27 | 28   | 65 |
| 8  | 303                                                | 18.5 |     | 38.4                                                                                                                              | 151  | 53.1 <sup>143</sup> | +13     | 02.7 <sup>133</sup>      | 35   | 45            | 16             | 43    | 24             | 30 | 20   | 62 |
| 9  | 318                                                | 18.3 |     | 38.9                                                                                                                              | 166  | 26.2 <sup>141</sup> |         | 16.0 <sup>133</sup>      | 30   | 38            | 6 07           | 33    | 32             | 32 | 14   | 58 |
| 10 | 333                                                | 18.1 |     | 39.4                                                                                                                              | 180  | 59.4 <sup>142</sup> |         | 29.2 <sup>132</sup>      | 20   | 24            | 5 51           | 6 14  | 45             | 37 | 4 03 | 53 |
| 11 | 348                                                | 17.9 | -20 | 39.8                                                                                                                              | 195  | 32.5 <sup>141</sup> | +13     | 42.3 <sup>131</sup>      | 10 N | 5 10          | 5 36           | 5 58  | 15 57          | 41 | 3 53 | 49 |
| 12 | 3                                                  | 17.7 | -20 | 40.3                                                                                                                              | 210  | 05.6 <sup>141</sup> | +13     | 55.4 <sup>131</sup>      | 0    | 4 55          | 5 21           | 5 43  | 16 07          | 46 | 3 44 | 45 |
| 13 | 18                                                 | 17.6 |     | 40.8                                                                                                                              | 224  | 38.6 <sup>140</sup> | +14     | 08.3 <sup>129</sup>      | 10 S | 39            | 5 05           | 28    | 19             | 49 | 36   | 40 |
| 14 | 33                                                 | 17.4 |     | 41.3                                                                                                                              | 239  | 11.6 <sup>140</sup> |         | 21.3 <sup>130</sup>      | 20   | 4 19          | 4 47           | 5 11  | 30             | 54 | 26   | 36 |
| 15 | 48                                                 | 17.2 |     | 41.8                                                                                                                              | 253  | 44.6 <sup>140</sup> |         | 34.1 <sup>128</sup>      | 30   | 3 54          | 26             | 4 52  | 44             | 59 | 15   | 32 |
| 16 | 63                                                 | 17.0 |     | 42.3                                                                                                                              | 268  | 17.5 <sup>139</sup> |         | 46.9 <sup>128</sup>      | 35   | 38            | 4 13           | 41    | 16             | 52 | 09   | 29 |
| 17 | 78                                                 | 16.8 | -20 | 42.8                                                                                                                              | 282  | 50.4 <sup>139</sup> | +14     | 59.6 <sup>127</sup>      | 40   | 3 18          | 3 57           | 4 28  | 17 01          | 65 | 3 02 | 25 |
| 18 | 93                                                 | 16.6 | -20 | 43.3                                                                                                                              | 297  | 23.3 <sup>139</sup> | +15     | 12.3 <sup>127</sup>      | 45   | 2 52          | 3 38           | 4 13  | 17 12          | 69 | 2 54 | 21 |
| 19 | 108                                                | 16.4 |     | 43.8                                                                                                                              | 311  | 56.1 <sup>138</sup> |         | 24.8 <sup>125</sup>      | 50   | 2 17          | 13             | 3 54  | 25             | 75 | 44   | 16 |
| 20 | 123                                                | 16.3 |     | 44.3                                                                                                                              | 326  | 28.8 <sup>137</sup> |         | 37.3 <sup>125</sup>      | 52   | 1 57          | 3 01           | 45    | 31             | 77 | 40   | 14 |
| 21 | 138                                                | 16.1 |     | 44.8                                                                                                                              | 341  | 01.5 <sup>137</sup> | +15     | 49.7 <sup>124</sup>      | 54   | 1 33          | 2 47           | 35    | 38             | 80 | 35   | 11 |
| 22 | 153                                                | 15.9 |     | 45.3                                                                                                                              | 355  | 34.2 <sup>137</sup> | +16     | 02.1 <sup>124</sup>      | 56   | 0 57          | 30             | 23    | 46             | 83 | 30   | 8  |
| 23 | 168                                                | 15.7 |     | 45.7                                                                                                                              | 10   | 06.8 <sup>136</sup> |         | 14.4 <sup>123</sup>      | 58   | ** **         | 2 10           | 3 10  | 17 54          | 88 | 24   | 4  |
| 24 | 183                                                | 15.5 | -20 | 46.2                                                                                                                              | 24   | 39.4 <sup>136</sup> | +16     | 26.6 <sup>122</sup>      | 60 S | ** **         | 1 43           | 2 55  | 18 04          | 93 | 2 17 | 0  |

| UT  | ARIES                                  |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                          |      |     | SATURNO                                         |     |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|--------------------------------------------------|------|-----|-------------------------------------------------|-----|------|-----|------|-----|------|
|     | PMG: 19 <sup>h</sup> 43 <sup>m</sup> 6 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 48 <sup>m</sup> |      |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 12 <sup>m</sup> |     |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 32 <sup>m</sup> |      |     | Mag: 0.0<br>PMG: 3 <sup>h</sup> 43 <sup>m</sup> |     |      |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                             | Dec  |     | hG ♄                                            | Dec |      |     |      |     |      |
| h   | °                                      | '    | °                                                | '    | °   | '                                                 | °   | '    | °                                                | '    | °   | '                                               | °   | '    |     |      |     |      |
| 0   | 63                                     | 17.3 | 213                                              | 03.2 | -10 | 25.2                                              | 206 | 58.0 | -13                                              | 51.6 | 231 | 44.1                                            | -3  | 41.5 | 304 | 08.4 | +20 | 39.6 |
| 1   | 78                                     | 19.8 | 228                                              | 02.7 |     | 26.3                                              | 221 | 58.8 |                                                  | 52.2 | 246 | 46.2                                            |     | 41.7 | 319 | 11.0 |     | 39.6 |
| 2   | 93                                     | 22.2 | 243                                              | 02.3 |     | 27.4                                              | 236 | 59.6 |                                                  | 52.7 | 261 | 48.2                                            |     | 41.9 | 334 | 13.5 |     | 39.6 |
| 3   | 108                                    | 24.7 | 258                                              | 01.8 |     | 28.5                                              | 252 | 00.5 |                                                  | 53.3 | 276 | 50.3                                            |     | 42.0 | 349 | 16.0 |     | 39.7 |
| 4   | 123                                    | 27.2 | 273                                              | 01.3 |     | 29.5                                              | 267 | 01.3 |                                                  | 53.9 | 291 | 52.4                                            |     | 42.2 | 4   | 18.6 |     | 39.7 |
| 5   | 138                                    | 29.6 | 288                                              | 00.8 | -10 | 30.6                                              | 282 | 02.1 | -13                                              | 54.4 | 306 | 54.4                                            | -3  | 42.3 | 19  | 21.1 | +20 | 39.7 |
| 6   | 153                                    | 32.1 | 303                                              | 00.4 | -10 | 31.7                                              | 297 | 03.0 | -13                                              | 55.0 | 321 | 56.5                                            | -3  | 42.5 | 34  | 23.7 | +20 | 39.7 |
| 7   | 168                                    | 34.6 | 317                                              | 59.9 |     | 32.8                                              | 312 | 03.8 |                                                  | 55.5 | 336 | 58.6                                            |     | 42.7 | 49  | 26.2 |     | 39.7 |
| 8   | 183                                    | 37.0 | 332                                              | 59.4 |     | 33.8                                              | 327 | 04.6 |                                                  | 56.1 | 352 | 00.6                                            |     | 42.8 | 64  | 28.7 |     | 39.8 |
| 9   | 198                                    | 39.5 | 347                                              | 58.9 |     | 34.9                                              | 342 | 05.5 |                                                  | 56.6 | 7   | 02.7                                            |     | 43.0 | 79  | 31.3 |     | 39.8 |
| 10  | 213                                    | 41.9 | 2                                                | 58.4 |     | 36.0                                              | 357 | 06.3 |                                                  | 57.2 | 22  | 04.8                                            |     | 43.1 | 94  | 33.8 |     | 39.8 |
| 11  | 228                                    | 44.4 | 17                                               | 58.0 | -10 | 37.1                                              | 12  | 07.2 | -13                                              | 57.7 | 37  | 06.8                                            | -3  | 43.3 | 109 | 36.4 | +20 | 39.8 |
| 12  | 243                                    | 46.9 | 32                                               | 57.5 | -10 | 38.1                                              | 27  | 08.0 | -13                                              | 58.3 | 52  | 08.9                                            | -3  | 43.5 | 124 | 38.9 | +20 | 39.8 |
| 13  | 258                                    | 49.3 | 47                                               | 57.0 |     | 39.2                                              | 42  | 08.8 |                                                  | 58.8 | 67  | 11.0                                            |     | 43.6 | 139 | 41.4 |     | 39.8 |
| 14  | 273                                    | 51.8 | 62                                               | 56.5 |     | 40.3                                              | 57  | 09.7 | -13                                              | 59.4 | 82  | 13.0                                            |     | 43.8 | 154 | 44.0 |     | 39.9 |
| 15  | 288                                    | 54.3 | 77                                               | 56.0 |     | 41.4                                              | 72  | 10.5 | -14                                              | 00.0 | 97  | 15.1                                            |     | 44.0 | 169 | 46.5 |     | 39.9 |
| 16  | 303                                    | 56.7 | 92                                               | 55.5 |     | 42.4                                              | 87  | 11.3 | -14                                              | 00.5 | 112 | 17.1                                            |     | 44.1 | 184 | 49.1 |     | 39.9 |
| 17  | 318                                    | 59.2 | 107                                              | 55.1 | -10 | 43.5                                              | 102 | 12.2 | -14                                              | 01.1 | 127 | 19.2                                            | -3  | 44.3 | 199 | 51.6 | +20 | 39.9 |
| 18  | 334                                    | 01.7 | 122                                              | 54.6 | -10 | 44.6                                              | 117 | 13.0 | -14                                              | 01.6 | 142 | 21.3                                            | -3  | 44.4 | 214 | 54.2 | +20 | 39.9 |
| 19  | 349                                    | 04.1 | 137                                              | 54.1 |     | 45.7                                              | 132 | 13.8 |                                                  | 02.2 | 157 | 23.3                                            |     | 44.6 | 229 | 56.7 |     | 40.0 |
| 20  | 4                                      | 06.6 | 152                                              | 53.6 |     | 46.7                                              | 147 | 14.7 |                                                  | 02.7 | 172 | 25.4                                            |     | 44.8 | 244 | 59.2 |     | 40.0 |
| 21  | 19                                     | 09.1 | 167                                              | 53.1 |     | 47.8                                              | 162 | 15.5 |                                                  | 03.3 | 187 | 27.5                                            |     | 44.9 | 260 | 01.8 |     | 40.0 |
| 22  | 34                                     | 11.5 | 182                                              | 52.6 |     | 48.9                                              | 177 | 16.3 |                                                  | 03.8 | 202 | 29.5                                            |     | 45.1 | 275 | 04.3 |     | 40.0 |
| 23  | 49                                     | 14.0 | 197                                              | 52.1 |     | 49.9                                              | 192 | 17.2 |                                                  | 04.4 | 217 | 31.6                                            |     | 45.2 | 290 | 06.9 |     | 40.0 |
| 24  | 64                                     | 16.4 | 212                                              | 51.7 | -10 | 51.0                                              | 207 | 18.0 | -14                                              | 04.9 | 232 | 33.7                                            | -3  | 45.4 | 305 | 09.4 | +20 | 40.0 |
| Dif | —                                      |      | -5                                               | -11  |     |                                                   | +8  | -6   |                                                  |      | +21 | -2                                              |     |      | +25 | 0    |     |      |

| UT | SOL                                                |      |     | ☾ LUNA                                                                                                                         |     |                     | Latitud                 | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |     | Puesta de Luna |    |
|----|----------------------------------------------------|------|-----|--------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-------------------------|---------------|----------------------|-------|---------|----------------|-----|----------------|----|
|    | SD: 16:2<br>PMG: 11 <sup>h</sup> 47 <sup>m</sup> 1 |      |     | Edad: 12 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 55:3<br>12 <sup>h</sup> : 55:2<br>20 <sup>h</sup> : 55:0<br>R°: 49 <sup>m</sup> |     |                     |                         |               |                      |       |         |                |     |                |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                           | Dif | Dec                 |                         |               | Dif                  | Civil | Náutico | Hora           | R°  | Hora           | R° |
| h  | °                                                  | '    | °   | '                                                                                                                              | °   | '                   | °                       | h m           | h m                  | h m   | h m     | m              | h m | m              |    |
| 0  | 183                                                | 15.5 | -20 | 46.2                                                                                                                           | 24  | 39.4                | +16 26.6                | 60 N          | 15 11                | 16 03 | 16 57   | 14 21          | 3   | 6 48 93        |    |
| 1  | 198                                                | 15.3 |     | 46.7                                                                                                                           | 39  | 12.0 <sup>136</sup> | 38.7 <sup>121</sup>     | 58            | 25                   | 13    | 17 03   | 33             | 10  | 36 88          |    |
| 2  | 213                                                | 15.1 |     | 47.2                                                                                                                           | 53  | 44.5 <sup>135</sup> | +16 50.7 <sup>120</sup> | 56            | 37                   | 21    | 08      | 45             | 13  | 25 84          |    |
| 3  | 228                                                | 14.9 |     | 47.7                                                                                                                           | 68  | 16.9 <sup>134</sup> | +17 02.7 <sup>120</sup> | 54            | 47                   | 29    | 13      | 14 54          | 18  | 16 80          |    |
| 4  | 243                                                | 14.7 |     | 48.2                                                                                                                           | 82  | 49.3 <sup>134</sup> | 14.5 <sup>118</sup>     | 52            | 15 57                | 36    | 18      | 15 03          | 20  | 08 77          |    |
| 5  | 258                                                | 14.6 | -20 | 48.7                                                                                                                           | 97  | 21.7 <sup>134</sup> | +17 26.3 <sup>118</sup> | 50            | 16 05                | 16 42 | 17 22   | 15 11          | 23  | 6 01 74        |    |
| 6  | 273                                                | 14.4 | -20 | 49.1                                                                                                                           | 111 | 54.0 <sup>133</sup> | +17 38.0 <sup>117</sup> | 45            | 16 23                | 16 55 | 17 32   | 15 28          | 27  | 5 45 69        |    |
| 7  | 288                                                | 14.2 |     | 49.6                                                                                                                           | 126 | 26.2 <sup>132</sup> | +17 49.7 <sup>117</sup> | 40            | 37                   | 17 07 | 40      | 42             | 31  | 33 64          |    |
| 8  | 303                                                | 14.0 |     | 50.1                                                                                                                           | 140 | 58.5 <sup>133</sup> | +18 01.2 <sup>115</sup> | 35            | 16 50                | 17    | 48      | 15 54          | 34  | 22 61          |    |
| 9  | 318                                                | 13.8 |     | 50.6                                                                                                                           | 155 | 30.6 <sup>131</sup> | 12.7 <sup>115</sup>     | 30            | 17 00                | 26    | 17 56   | 16 04          | 37  | 5 12 59        |    |
| 10 | 333                                                | 13.6 |     | 51.1                                                                                                                           | 170 | 02.7 <sup>131</sup> | 24.1 <sup>114</sup>     | 20            | 19                   | 43    | 18 10   | 22             | 41  | 4 56 55        |    |
| 11 | 348                                                | 13.4 | -20 | 51.6                                                                                                                           | 184 | 34.8 <sup>131</sup> | +18 35.3 <sup>112</sup> | 10 N          | 17 35                | 17 58 | 18 24   | 16 38          | 45  | 4 42 51        |    |
| 12 | 3                                                  | 13.2 | -20 | 52.0                                                                                                                           | 199 | 06.8 <sup>130</sup> | +18 46.5 <sup>112</sup> | 0             | 17 51                | 18 13 | 18 39   | 16 53          | 48  | 4 29 47        |    |
| 13 | 18                                                 | 13.0 |     | 52.5                                                                                                                           | 213 | 38.8 <sup>130</sup> | +18 57.6 <sup>111</sup> | 10 S          | 18 06                | 29    | 18 55   | 17 08          | 51  | 16 43          |    |
| 14 | 33                                                 | 12.8 |     | 53.0                                                                                                                           | 228 | 10.7 <sup>129</sup> | +19 08.7 <sup>111</sup> | 20            | 23                   | 18 47 | 19 16   | 24 55          | 4   | 02 39          |    |
| 15 | 48                                                 | 12.6 |     | 53.5                                                                                                                           | 242 | 42.6 <sup>129</sup> | 19.6 <sup>109</sup>     | 30            | 42                   | 19 09 | 41      | 43 59          | 3   | 47 34          |    |
| 16 | 63                                                 | 12.4 |     | 53.9                                                                                                                           | 257 | 14.4 <sup>128</sup> | 30.4 <sup>108</sup>     | 35            | 18 54                | 23    | 19 58   | 17 54          | 61  | 38 31          |    |
| 17 | 78                                                 | 12.2 | -20 | 54.4                                                                                                                           | 271 | 46.1 <sup>127</sup> | +19 41.2 <sup>108</sup> | 40            | 19 07                | 19 39 | 20 18   | 18 06          | 65  | 3 27 29        |    |
| 18 | 93                                                 | 12.1 | -20 | 54.9                                                                                                                           | 286 | 17.8 <sup>127</sup> | +19 51.8 <sup>106</sup> | 45            | 19 23                | 19 58 | 20 44   | 18 21          | 69  | 3 15 25        |    |
| 19 | 108                                                | 11.9 |     | 55.4                                                                                                                           | 300 | 49.5 <sup>127</sup> | +20 02.4 <sup>106</sup> | 50            | 42                   | 20 23 | 21 21   | 40 73          | 3   | 00 20          |    |
| 20 | 123                                                | 11.7 |     | 55.8                                                                                                                           | 315 | 21.1 <sup>126</sup> | 12.8 <sup>104</sup>     | 52            | 19 51                | 36    | 21 41   | 48 76          | 2   | 54 17          |    |
| 21 | 138                                                | 11.5 |     | 56.3                                                                                                                           | 329 | 52.7 <sup>126</sup> | 23.2 <sup>104</sup>     | 54            | 20 02                | 20 50 | 22 07   | 18 58          | 79  | 46 15          |    |
| 22 | 153                                                | 11.3 |     | 56.8                                                                                                                           | 344 | 24.2 <sup>125</sup> | 33.5 <sup>103</sup>     | 56            | 13                   | 21 08 | 22 47   | 19 09          | 83  | 38 11          |    |
| 23 | 168                                                | 11.1 |     | 57.3                                                                                                                           | 358 | 55.6 <sup>124</sup> | 43.7 <sup>102</sup>     | 58            | 27                   | 29    | ** **   | 22 88          |     | 28 7           |    |
| 24 | 183                                                | 10.9 | -20 | 57.7                                                                                                                           | 13  | 27.0 <sup>124</sup> | +20 53.7 <sup>100</sup> | 60 S          | 20 43                | 21 57 | ** **   | 19 37          | 94  | 2 17 3         |    |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                         |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-------------------------------------------------|------|
|     | PMG: 19 <sup>h</sup> 39 <sup>m</sup> 7 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 49 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 10 <sup>m</sup> |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 29 <sup>m</sup> |      | Mag: 0.0<br>PMG: 3 <sup>h</sup> 39 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                            | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                               | '    |
| 0   | 64                                     | 16.4 | 212                                              | 51.7 | -10                                               | 51.0 | 232                                              | 33.7 | -3                                              | 45.4 |
| 1   | 79                                     | 18.9 | 227                                              | 51.2 |                                                   | 52.1 | 247                                              | 35.7 |                                                 | 45.6 |
| 2   | 94                                     | 21.4 | 242                                              | 50.7 |                                                   | 53.2 | 262                                              | 37.8 |                                                 | 45.7 |
| 3   | 109                                    | 23.8 | 257                                              | 50.2 |                                                   | 54.2 | 277                                              | 39.9 |                                                 | 45.9 |
| 4   | 124                                    | 26.3 | 272                                              | 49.7 |                                                   | 55.3 | 292                                              | 41.9 |                                                 | 46.0 |
| 5   | 139                                    | 28.8 | 287                                              | 49.2 | -10                                               | 56.4 | 307                                              | 44.0 | -3                                              | 46.2 |
| 6   | 154                                    | 31.2 | 302                                              | 48.7 | -10                                               | 57.4 | 322                                              | 46.1 | -3                                              | 46.4 |
| 7   | 169                                    | 33.7 | 317                                              | 48.2 |                                                   | 58.5 | 337                                              | 48.1 |                                                 | 46.5 |
| 8   | 184                                    | 36.2 | 332                                              | 47.8 | -10                                               | 59.6 | 352                                              | 50.2 |                                                 | 46.7 |
| 9   | 199                                    | 38.6 | 347                                              | 47.3 | -11                                               | 00.6 | 7                                                | 52.3 |                                                 | 46.8 |
| 10  | 214                                    | 41.1 | 2                                                | 46.8 |                                                   | 01.7 | 22                                               | 54.4 |                                                 | 47.0 |
| 11  | 229                                    | 43.5 | 17                                               | 46.3 | -11                                               | 02.8 | 37                                               | 56.4 | -3                                              | 47.2 |
| 12  | 244                                    | 46.0 | 32                                               | 45.8 | -11                                               | 03.8 | 52                                               | 58.5 | -3                                              | 47.3 |
| 13  | 259                                    | 48.5 | 47                                               | 45.3 |                                                   | 04.9 | 68                                               | 00.6 |                                                 | 47.5 |
| 14  | 274                                    | 50.9 | 62                                               | 44.8 |                                                   | 06.0 | 83                                               | 02.6 |                                                 | 47.6 |
| 15  | 289                                    | 53.4 | 77                                               | 44.3 |                                                   | 07.0 | 98                                               | 04.7 |                                                 | 47.8 |
| 16  | 304                                    | 55.9 | 92                                               | 43.8 |                                                   | 08.1 | 113                                              | 06.8 |                                                 | 48.0 |
| 17  | 319                                    | 58.3 | 107                                              | 43.3 | -11                                               | 09.2 | 128                                              | 08.8 | -3                                              | 48.1 |
| 18  | 335                                    | 00.8 | 122                                              | 42.8 | -11                                               | 10.2 | 143                                              | 10.9 | -3                                              | 48.3 |
| 19  | 350                                    | 03.3 | 137                                              | 42.3 |                                                   | 11.3 | 158                                              | 13.0 |                                                 | 48.4 |
| 20  | 5                                      | 05.7 | 152                                              | 41.8 |                                                   | 12.3 | 173                                              | 15.0 |                                                 | 48.6 |
| 21  | 20                                     | 08.2 | 167                                              | 41.3 |                                                   | 13.4 | 188                                              | 17.1 |                                                 | 48.8 |
| 22  | 35                                     | 10.7 | 182                                              | 40.9 |                                                   | 14.5 | 203                                              | 19.2 |                                                 | 48.9 |
| 23  | 50                                     | 13.1 | 197                                              | 40.4 |                                                   | 15.5 | 218                                              | 21.2 |                                                 | 49.1 |
| 24  | 65                                     | 15.6 | 212                                              | 39.9 | -11                                               | 16.6 | 233                                              | 23.3 | -3                                              | 49.2 |
| Dif | —                                      |      | -5                                               |      | -11                                               |      | +8                                               |      | -6                                              |      |
|     |                                        |      |                                                  |      |                                                   |      | +21                                              |      | -2                                              |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | +25                                             |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | 0                                               |      |

| UT | SOL                                    |      |     | LUNA                                                                                                                              |          |                     |                                      | Latitud             | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |      |    |
|----|----------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|----------|---------------------|--------------------------------------|---------------------|--------------------------|-------|---------------|----------------|-------|----------------|------|----|
|    | SD: 16'2                               |      |     | Edad: 13 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54'9<br>12 <sup>h</sup> : 54'8<br>20 <sup>h</sup> : 54'7<br>Rº: 50 <sup>m</sup> |          |                     |                                      |                     |                          |       |               |                |       |                |      |    |
|    | PMG: 11 <sup>h</sup> 47 <sup>m</sup> 4 |      |     |                                                                                                                                   | SD: 15'0 |                     | PMG: 23 <sup>h</sup> 53 <sup>m</sup> |                     |                          |       |               |                |       |                |      |    |
|    | hG ☉                                   | Dec  |     | hG ☾                                                                                                                              | Dif      | Dec                 | Dif                                  |                     | Náutico                  | Civil |               | Hora           | Rº    | Hora           | Rº   |    |
| h  | °                                      | '    | °   | °                                                                                                                                 | '        | °                   | '                                    | °                   | h                        | m     | h             | m              | h     | m              | h    | m  |
| 0  | 183                                    | 10.9 | -20 | 57.7                                                                                                                              | 13       | 27.0                | +20                                  | 53.7                | 60 N                     | 6 38  | 7 32          | 8 25           | 14 24 | 10             | 8 21 | 94 |
| 1  | 198                                    | 10.7 |     | 58.2                                                                                                                              | 27       | 58.4 <sup>124</sup> | +21                                  | 03.7 <sup>100</sup> | 58                       | 32    | 23            | 8 11           | 43    | 16             | 8 04 | 86 |
| 2  | 213                                    | 10.5 |     | 58.7                                                                                                                              | 42       | 29.7 <sup>123</sup> |                                      | 13.6 <sup>99</sup>  | 56                       | 27    | 14            | 7 59           | 14 58 | 21             | 7 49 | 81 |
| 3  | 228                                    | 10.3 |     | 59.1                                                                                                                              | 57       | 00.9 <sup>122</sup> |                                      | 23.4 <sup>98</sup>  | 54                       | 22    | 06            | 48             | 15 12 | 24             | 36   | 77 |
| 4  | 243                                    | 10.1 | -20 | 59.6                                                                                                                              | 71       | 32.1 <sup>122</sup> |                                      | 33.0 <sup>96</sup>  | 52                       | 17    | 7 00          | 39             | 23    | 27             | 25   | 74 |
| 5  | 258                                    | 09.9 | -21 | 00.1                                                                                                                              | 86       | 03.2 <sup>121</sup> | +21                                  | 42.6 <sup>96</sup>  | 50                       | 6 13  | 6 53          | 7 30           | 15 34 | 29             | 7 15 | 72 |
| 6  | 273                                    | 09.7 | -21 | 00.5                                                                                                                              | 100      | 34.3 <sup>121</sup> | +21                                  | 52.1 <sup>95</sup>  | 45                       | 6 03  | 6 40          | 7 12           | 15 55 | 34             | 6 54 | 67 |
| 7  | 288                                    | 09.5 |     | 01.0                                                                                                                              | 115      | 05.3 <sup>120</sup> | +22                                  | 01.4 <sup>93</sup>  | 40                       | 5 55  | 28            | 6 58           | 16 13 | 37             | 37   | 64 |
| 8  | 303                                    | 09.3 |     | 01.5                                                                                                                              | 129      | 36.3 <sup>120</sup> |                                      | 10.7 <sup>93</sup>  | 35                       | 47    | 18            | 45             | 28    | 39             | 23   | 61 |
| 9  | 318                                    | 09.1 |     | 01.9                                                                                                                              | 144      | 07.2 <sup>119</sup> |                                      | 19.8 <sup>91</sup>  | 30                       | 39    | 6 09          | 34             | 16 41 | 41             | 6 11 | 59 |
| 10 | 333                                    | 08.9 |     | 02.4                                                                                                                              | 158      | 38.1 <sup>119</sup> |                                      | 28.9 <sup>91</sup>  | 20                       | 25    | 5 52          | 6 16           | 17 03 | 45             | 5 51 | 54 |
| 11 | 348                                    | 08.7 | -21 | 02.9                                                                                                                              | 173      | 08.9 <sup>118</sup> | +22                                  | 37.8 <sup>89</sup>  | 10 N                     | 5 11  | 5 37          | 5 59           | 17 23 | 47             | 5 33 | 51 |
| 12 | 3                                      | 08.5 | -21 | 03.3                                                                                                                              | 187      | 39.7 <sup>118</sup> | +22                                  | 46.6 <sup>88</sup>  | 0                        | 4 56  | 5 22          | 5 44           | 17 41 | 50             | 5 16 | 49 |
| 13 | 18                                     | 08.3 |     | 03.8                                                                                                                              | 202      | 10.4 <sup>117</sup> | +22                                  | 55.3 <sup>87</sup>  | 10 S                     | 39    | 5 06          | 28             | 17 59 | 53             | 4 59 | 46 |
| 14 | 33                                     | 08.1 |     | 04.3                                                                                                                              | 216      | 41.1 <sup>117</sup> | +23                                  | 03.9 <sup>86</sup>  | 20                       | 4 19  | 4 47          | 5 11           | 18 19 | 55             | 41   | 43 |
| 15 | 48                                     | 07.9 |     | 04.7                                                                                                                              | 231      | 11.7 <sup>116</sup> |                                      | 12.4 <sup>85</sup>  | 30                       | 3 53  | 25            | 4 52           | 42    | 58             | 21   | 39 |
| 16 | 63                                     | 07.7 |     | 05.2                                                                                                                              | 245      | 42.3 <sup>116</sup> |                                      | 20.8 <sup>84</sup>  | 35                       | 36    | 4 12          | 40             | 18 55 | 60             | 4 09 | 37 |
| 17 | 78                                     | 07.5 | -21 | 05.6                                                                                                                              | 260      | 12.8 <sup>115</sup> | +23                                  | 29.1 <sup>83</sup>  | 40                       | 3 16  | 3 56          | 4 27           | 19 11 | 62             | 3 56 | 34 |
| 18 | 93                                     | 07.3 | -21 | 06.1                                                                                                                              | 274      | 43.3 <sup>115</sup> | +23                                  | 37.3 <sup>82</sup>  | 45                       | 2 50  | 3 36          | 4 12           | 19 30 | 65             | 3 40 | 30 |
| 19 | 108                                    | 07.1 |     | 06.6                                                                                                                              | 289      | 13.7 <sup>114</sup> |                                      | 45.3 <sup>80</sup>  | 50                       | 2 13  | 3 11          | 3 52           | 19 53 | 69             | 20   | 26 |
| 20 | 123                                    | 06.9 |     | 07.0                                                                                                                              | 303      | 44.0 <sup>113</sup> | +23                                  | 53.2 <sup>79</sup>  | 52                       | 1 53  | 2 58          | 43             | 20 04 | 72             | 11   | 23 |
| 21 | 138                                    | 06.7 |     | 07.5                                                                                                                              | 318      | 14.4 <sup>114</sup> | +24                                  | 01.0 <sup>78</sup>  | 54                       | 1 27  | 44            | 33             | 17 75 |                | 3 01 | 20 |
| 22 | 153                                    | 06.5 |     | 07.9                                                                                                                              | 332      | 44.6 <sup>112</sup> |                                      | 08.7 <sup>77</sup>  | 56                       | 0 47  | 26            | 21             | 32    | 78             | 2 49 | 16 |
| 23 | 168                                    | 06.3 |     | 08.4                                                                                                                              | 347      | 14.8 <sup>112</sup> |                                      | 16.3 <sup>76</sup>  | 58                       | ** ** | 2 05          | 3 07           | 20 50 | 83             | 35   | 12 |
| 24 | 183                                    | 06.1 | -21 | 08.8                                                                                                                              | 1        | 45.0 <sup>112</sup> | +24                                  | 23.8 <sup>75</sup>  | 60 S                     | ** ** | 1 37          | 2 51           | 21 11 | 91             | 2 20 | 5  |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                         |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|-------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 19 <sup>h</sup> 35 <sup>m</sup> 7 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 50 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 09 <sup>m</sup> |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 25 <sup>m</sup> |      | Mag: 0.0<br>PMG: 3 <sup>h</sup> 35 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                            | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                               | '    |     |      |    |      |     |      |     |      |
| 0   | 65                                     | 15.6 | 212                                              | 39.9 | -11                                               | 16.6 | 207                                              | 37.9 | -14                                             | 18.1 | 233 | 23.3 | -3 | 49.2 | 306 | 10.5 | +20 | 40.5 |
| 1   | 80                                     | 18.0 | 227                                              | 39.4 |                                                   | 17.6 | 222                                              | 38.7 |                                                 | 18.7 | 248 | 25.4 |    | 49.4 | 321 | 13.1 |     | 40.5 |
| 2   | 95                                     | 20.5 | 242                                              | 38.9 |                                                   | 18.7 | 237                                              | 39.6 |                                                 | 19.2 | 263 | 27.5 |    | 49.6 | 336 | 15.6 |     | 40.5 |
| 3   | 110                                    | 23.0 | 257                                              | 38.4 |                                                   | 19.8 | 252                                              | 40.4 |                                                 | 19.8 | 278 | 29.5 |    | 49.7 | 351 | 18.2 |     | 40.6 |
| 4   | 125                                    | 25.4 | 272                                              | 37.9 |                                                   | 20.8 | 267                                              | 41.2 |                                                 | 20.3 | 293 | 31.6 |    | 49.9 | 6   | 20.7 |     | 40.6 |
| 5   | 140                                    | 27.9 | 287                                              | 37.4 | -11                                               | 21.9 | 282                                              | 42.0 | -14                                             | 20.9 | 308 | 33.7 | -3 | 50.0 | 21  | 23.3 | +20 | 40.6 |
| 6   | 155                                    | 30.4 | 302                                              | 36.9 | -11                                               | 22.9 | 297                                              | 42.9 | -14                                             | 21.4 | 323 | 35.7 | -3 | 50.2 | 36  | 25.8 | +20 | 40.6 |
| 7   | 170                                    | 32.8 | 317                                              | 36.4 |                                                   | 24.0 | 312                                              | 43.7 |                                                 | 22.0 | 338 | 37.8 |    | 50.3 | 51  | 28.4 |     | 40.6 |
| 8   | 185                                    | 35.3 | 332                                              | 35.9 |                                                   | 25.1 | 327                                              | 44.5 |                                                 | 22.5 | 353 | 39.9 |    | 50.5 | 66  | 30.9 |     | 40.7 |
| 9   | 200                                    | 37.8 | 347                                              | 35.4 |                                                   | 26.1 | 342                                              | 45.3 |                                                 | 23.1 | 8   | 42.0 |    | 50.7 | 81  | 33.5 |     | 40.7 |
| 10  | 215                                    | 40.2 | 2                                                | 34.9 |                                                   | 27.2 | 357                                              | 46.2 |                                                 | 23.6 | 23  | 44.0 |    | 50.8 | 96  | 36.0 |     | 40.7 |
| 11  | 230                                    | 42.7 | 17                                               | 34.4 | -11                                               | 28.2 | 12                                               | 47.0 | -14                                             | 24.2 | 38  | 46.1 | -3 | 51.0 | 111 | 38.6 | +20 | 40.7 |
| 12  | 245                                    | 45.2 | 32                                               | 33.9 | -11                                               | 29.3 | 27                                               | 47.8 | -14                                             | 24.7 | 53  | 48.2 | -3 | 51.1 | 126 | 41.1 | +20 | 40.7 |
| 13  | 260                                    | 47.6 | 47                                               | 33.4 |                                                   | 30.3 | 42                                               | 48.6 |                                                 | 25.3 | 68  | 50.2 |    | 51.3 | 141 | 43.7 |     | 40.8 |
| 14  | 275                                    | 50.1 | 62                                               | 32.9 |                                                   | 31.4 | 57                                               | 49.5 |                                                 | 25.8 | 83  | 52.3 |    | 51.5 | 156 | 46.2 |     | 40.8 |
| 15  | 290                                    | 52.5 | 77                                               | 32.4 |                                                   | 32.4 | 72                                               | 50.3 |                                                 | 26.3 | 98  | 54.4 |    | 51.6 | 171 | 48.8 |     | 40.8 |
| 16  | 305                                    | 55.0 | 92                                               | 31.9 |                                                   | 33.5 | 87                                               | 51.1 |                                                 | 26.9 | 113 | 56.5 |    | 51.8 | 186 | 51.3 |     | 40.8 |
| 17  | 320                                    | 57.5 | 107                                              | 31.4 | -11                                               | 34.6 | 102                                              | 51.9 | -14                                             | 27.4 | 128 | 58.5 | -3 | 51.9 | 201 | 53.9 | +20 | 40.8 |
| 18  | 335                                    | 59.9 | 122                                              | 30.9 | -11                                               | 35.6 | 117                                              | 52.8 | -14                                             | 28.0 | 144 | 00.6 | -3 | 52.1 | 216 | 56.4 | +20 | 40.9 |
| 19  | 351                                    | 02.4 | 137                                              | 30.3 |                                                   | 36.7 | 132                                              | 53.6 |                                                 | 28.5 | 159 | 02.7 |    | 52.2 | 231 | 59.0 |     | 40.9 |
| 20  | 6                                      | 04.9 | 152                                              | 29.8 |                                                   | 37.7 | 147                                              | 54.4 |                                                 | 29.1 | 174 | 04.8 |    | 52.4 | 247 | 01.5 |     | 40.9 |
| 21  | 21                                     | 07.3 | 167                                              | 29.3 |                                                   | 38.8 | 162                                              | 55.2 |                                                 | 29.6 | 189 | 06.8 |    | 52.6 | 262 | 04.1 |     | 40.9 |
| 22  | 36                                     | 09.8 | 182                                              | 28.8 |                                                   | 39.8 | 177                                              | 56.1 |                                                 | 30.2 | 204 | 08.9 |    | 52.7 | 277 | 06.6 |     | 41.0 |
| 23  | 51                                     | 12.3 | 197                                              | 28.3 |                                                   | 40.9 | 192                                              | 56.9 |                                                 | 30.7 | 219 | 11.0 |    | 52.9 | 292 | 09.2 |     | 41.0 |
| 24  | 66                                     | 14.7 | 212                                              | 27.8 | -11                                               | 41.9 | 207                                              | 57.7 | -14                                             | 31.2 | 234 | 13.0 | -3 | 53.0 | 307 | 11.8 | +20 | 41.0 |
| Dif | —                                      |      | -5                                               | -11  |                                                   |      | +8                                               | -5   |                                                 |      | +21 | -2   |    |      | +26 |      |     |      |

| UT  | SOL                                                |      |                                                  | ☉ LUNA                                                                                                                 |                                                   |          | Latitud                                          | Puesta de Sol | Final del crepúsculo |                                                  | Salida de Luna |          | Puesta de Luna |       |     |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|----------|--------------------------------------------------|---------------|----------------------|--------------------------------------------------|----------------|----------|----------------|-------|-----|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 47 <sup>m</sup> 8 |      |                                                  | Edad: 14 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54'6<br>12 <sup>h</sup> : 54'5<br>20 <sup>h</sup> : 54'4<br>R°: ***m |                                                   |          |                                                  |               |                      |                                                  |                |          |                |       |     |      |     |      |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                   | Dif                                               | Dec      |                                                  |               | Dif                  | Civil                                            | Náutico        | Hora     | R°             | Hora  | R°  |      |     |      |
| h   | °                                                  | '    | °                                                | °                                                                                                                      | '                                                 | °        | '                                                | °             | h m                  | h m                                              | h m            | h m m    | h m m          | h m m |     |      |     |      |
| 0   | 183                                                | 06.1 | -21 08.8                                         | 1                                                                                                                      | 45.0                                              | +24 23.8 | 73                                               | 60 N          | 15 08                | 16 01                                            | 16 55          | 14 34 20 | 9 55 85        |       |     |      |     |      |
| 1   | 198                                                | 05.9 | 09.3                                             | 16                                                                                                                     | 15.1 <sup>111</sup>                               | 31.1     | 73                                               | 58            | 22                   | 11                                               | 17 01          | 14 59 28 | 30 77          |       |     |      |     |      |
| 2   | 213                                                | 05.7 | 09.7                                             | 30                                                                                                                     | 45.2 <sup>111</sup>                               | 38.4     | 73                                               | 56            | 35                   | 19                                               | 07             | 15 19 33 | 9 10 73        |       |     |      |     |      |
| 3   | 228                                                | 05.5 | 10.2                                             | 45                                                                                                                     | 15.2 <sup>110</sup>                               | 45.5     | 71                                               | 54            | 45                   | 27                                               | 12             | 36 35    | 8 53 70        |       |     |      |     |      |
| 4   | 243                                                | 05.3 | 10.7                                             | 59                                                                                                                     | 45.2 <sup>110</sup>                               | 52.5     | 70                                               | 52            | 15 55                | 34                                               | 17             | 15 50 38 | 39 68          |       |     |      |     |      |
| 5   | 258                                                | 05.0 | -21 11.1                                         | 74                                                                                                                     | 15.2 <sup>110</sup>                               | +24 59.3 | 68                                               | 50            | 16 04                | 16 41                                            | 17 21          | 16 03 39 | 8 27 66        |       |     |      |     |      |
| 6   | 273                                                | 04.8 | -21 11.6                                         | 88                                                                                                                     | 45.1 <sup>109</sup>                               | +25 06.1 | 68                                               | 45            | 16 22                | 16 54                                            | 17 31          | 16 29 42 | 8 01 63        |       |     |      |     |      |
| 7   | 288                                                | 04.6 | 12.0                                             | 103                                                                                                                    | 14.9 <sup>108</sup>                               | 12.7     | 66                                               | 40            | 36                   | 17 06                                            | 40             | 16 50 44 | 7 41 61        |       |     |      |     |      |
| 8   | 303                                                | 04.4 | 12.5                                             | 117                                                                                                                    | 44.7 <sup>108</sup>                               | 19.2     | 65                                               | 35            | 16 49                | 17                                               | 48             | 17 07 46 | 24 59          |       |     |      |     |      |
| 9   | 318                                                | 04.2 | 12.9                                             | 132                                                                                                                    | 14.5 <sup>108</sup>                               | 25.6     | 64                                               | 30            | 17 00                | 26                                               | 17 55          | 22 47    | 7 10 57        |       |     |      |     |      |
| 10  | 333                                                | 04.0 | 13.4                                             | 146                                                                                                                    | 44.2 <sup>107</sup>                               | 31.8     | 62                                               | 20            | 19                   | 43                                               | 18 10          | 17 48 48 | 6 45 55        |       |     |      |     |      |
| 11  | 348                                                | 03.8 | -21 13.8                                         | 161                                                                                                                    | 13.9 <sup>107</sup>                               | +25 37.9 | 61                                               | 10 N          | 17 36                | 17 58                                            | 18 24          | 18 10 50 | 6 24 53        |       |     |      |     |      |
| 12  | 3                                                  | 03.6 | -21 14.2                                         | 175                                                                                                                    | 43.6 <sup>107</sup>                               | +25 43.9 | 60                                               | 0             | 17 51                | 18 14                                            | 18 39          | 18 31 51 | 6 05 50        |       |     |      |     |      |
| 13  | 18                                                 | 03.4 | 14.7                                             | 190                                                                                                                    | 13.2 <sup>106</sup>                               | 49.8     | 59                                               | 10 S          | 18 07                | 30                                               | 18 57          | 18 52 52 | 5 45 49        |       |     |      |     |      |
| 14  | 33                                                 | 03.2 | 15.1                                             | 204                                                                                                                    | 42.7 <sup>105</sup>                               | +25 55.6 | 58                                               | 20            | 24                   | 18 48                                            | 19 17          | 19 14 54 | 24 47          |       |     |      |     |      |
| 15  | 48                                                 | 03.0 | 15.6                                             | 219                                                                                                                    | 12.2 <sup>105</sup>                               | +26 01.2 | 56                                               | 30            | 44                   | 19 11                                            | 19 43          | 40 56    | 5 00 44        |       |     |      |     |      |
| 16  | 63                                                 | 02.8 | 16.0                                             | 233                                                                                                                    | 41.7 <sup>105</sup>                               | 06.7     | 55                                               | 35            | 18 56                | 25                                               | 20 00          | 19 55 57 | 4 46 42        |       |     |      |     |      |
| 17  | 78                                                 | 02.6 | -21 16.5                                         | 248                                                                                                                    | 11.2 <sup>105</sup>                               | +26 12.1 | 54                                               | 40            | 19 09                | 19 41                                            | 20 21          | 20 13 58 | 4 30 40        |       |     |      |     |      |
| 18  | 93                                                 | 02.3 | -21 16.9                                         | 262                                                                                                                    | 40.6 <sup>104</sup>                               | +26 17.3 | 52                                               | 45            | 19 25                | 20 01                                            | 20 47          | 20 35 59 | 4 10 38        |       |     |      |     |      |
| 19  | 108                                                | 02.1 | 17.4                                             | 277                                                                                                                    | 10.0 <sup>104</sup>                               | 22.4     | 51                                               | 50            | 45                   | 27                                               | 21 25          | 21 02 62 | 3 46 34        |       |     |      |     |      |
| 20  | 123                                                | 01.9 | 17.8                                             | 291                                                                                                                    | 39.3 <sup>103</sup>                               | 27.4     | 50                                               | 52            | 19 54                | 40                                               | 21 46          | 16 63    | 34 32          |       |     |      |     |      |
| 21  | 138                                                | 01.7 | 18.2                                             | 306                                                                                                                    | 08.7 <sup>104</sup>                               | 32.2     | 48                                               | 54            | 20 05                | 20 55                                            | 22 14          | 32 64    | 21 29          |       |     |      |     |      |
| 22  | 153                                                | 01.5 | 18.7                                             | 320                                                                                                                    | 37.9 <sup>102</sup>                               | 37.0     | 48                                               | 56            | 17                   | 21 13                                            | 22 59          | 21 50 67 | 3 05 26        |       |     |      |     |      |
| 23  | 168                                                | 01.3 | 19.1                                             | 335                                                                                                                    | 07.2 <sup>103</sup>                               | 41.6     | 46                                               | 58            | 31                   | 21 35                                            | ** ** *        | 22 13 70 | 2 47 21        |       |     |      |     |      |
| 24  | 183                                                | 01.1 | -21 19.5                                         | 349                                                                                                                    | 36.4 <sup>102</sup>                               | +26 46.0 | 44                                               | 60 S          | 20 48                | 22 05                                            | ** ** *        | 22 42 77 | 2 25 13        |       |     |      |     |      |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                        | MARTE                                             |          | JÚPITER                                          |               |                      | SATURNO                                          |                |          |                |       |     |      |     |      |
|     | PMG: 19 <sup>h</sup> 31 <sup>m</sup> 8             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 50 <sup>m</sup> |                                                                                                                        | Mag: +1.7<br>PMG: 10 <sup>h</sup> 08 <sup>m</sup> |          | Mag: -1.8<br>PMG: 8 <sup>h</sup> 22 <sup>m</sup> |               |                      | Mag: -0.1<br>PMG: 3 <sup>h</sup> 31 <sup>m</sup> |                |          |                |       |     |      |     |      |
|     | hG ♈                                               | Dec  | hG ♀                                             | Dec                                                                                                                    | hG ♂                                              | Dec      | hG ♃                                             | Dec           | hG ♄                 | Dec                                              | hG ♅           | Dec      |                |       |     |      |     |      |
| h   | °                                                  | '    | °                                                | '                                                                                                                      | °                                                 | '        | °                                                | '             | °                    | '                                                | °              | '        |                |       |     |      |     |      |
| 0   | 66                                                 | 14.7 | 212                                              | 27.8                                                                                                                   | -11                                               | 41.9     | 207                                              | 57.7          | -14                  | 31.2                                             | 234            | 13.0     | -3             | 53.0  | 307 | 11.8 | +20 | 41.0 |
| 1   | 81                                                 | 17.2 | 227                                              | 27.3                                                                                                                   |                                                   | 43.0     | 222                                              | 58.5          |                      | 31.8                                             | 249            | 15.1     |                | 53.2  | 322 | 14.3 |     | 41.0 |
| 2   | 96                                                 | 19.7 | 242                                              | 26.8                                                                                                                   |                                                   | 44.0     | 237                                              | 59.4          |                      | 32.3                                             | 264            | 17.2     |                | 53.3  | 337 | 16.9 |     | 41.0 |
| 3   | 111                                                | 22.1 | 257                                              | 26.3                                                                                                                   |                                                   | 45.1     | 253                                              | 00.2          |                      | 32.9                                             | 279            | 19.3     |                | 53.5  | 352 | 19.4 |     | 41.1 |
| 4   | 126                                                | 24.6 | 272                                              | 25.8                                                                                                                   |                                                   | 46.1     | 268                                              | 01.0          |                      | 33.4                                             | 294            | 21.3     |                | 53.7  | 7   | 22.0 |     | 41.1 |
| 5   | 141                                                | 27.0 | 287                                              | 25.3                                                                                                                   | -11                                               | 47.2     | 283                                              | 01.8          | -14                  | 34.0                                             | 309            | 23.4     | -3             | 53.8  | 22  | 24.5 | +20 | 41.1 |
| 6   | 156                                                | 29.5 | 302                                              | 24.8                                                                                                                   | -11                                               | 48.2     | 298                                              | 02.7          | -14                  | 34.5                                             | 324            | 25.5     | -3             | 54.0  | 37  | 27.1 | +20 | 41.1 |
| 7   | 171                                                | 32.0 | 317                                              | 24.3                                                                                                                   |                                                   | 49.3     | 313                                              | 03.5          |                      | 35.1                                             | 339            | 27.6     |                | 54.1  | 52  | 29.6 |     | 41.1 |
| 8   | 186                                                | 34.4 | 332                                              | 23.8                                                                                                                   |                                                   | 50.3     | 328                                              | 04.3          |                      | 35.6                                             | 354            | 29.6     |                | 54.3  | 67  | 32.2 |     | 41.2 |
| 9   | 201                                                | 36.9 | 347                                              | 23.2                                                                                                                   |                                                   | 51.3     | 343                                              | 05.1          |                      | 36.1                                             | 9              | 31.7     |                | 54.4  | 82  | 34.7 |     | 41.2 |
| 10  | 216                                                | 39.4 | 2                                                | 22.7                                                                                                                   |                                                   | 52.4     | 358                                              | 05.9          |                      | 36.7                                             | 24             | 33.8     |                | 54.6  | 97  | 37.3 |     | 41.2 |
| 11  | 231                                                | 41.8 | 17                                               | 22.2                                                                                                                   | -11                                               | 53.4     | 13                                               | 06.8          | -14                  | 37.2                                             | 39             | 35.9     | -3             | 54.8  | 112 | 39.8 | +20 | 41.2 |
| 12  | 246                                                | 44.3 | 32                                               | 21.7                                                                                                                   | -11                                               | 54.5     | 28                                               | 07.6          | -14                  | 37.8                                             | 54             | 37.9     | -3             | 54.9  | 127 | 42.4 | +20 | 41.2 |
| 13  | 261                                                | 46.8 | 47                                               | 21.2                                                                                                                   |                                                   | 55.5     | 43                                               | 08.4          |                      | 38.3                                             | 69             | 40.0     |                | 55.1  | 142 | 45.0 |     | 41.3 |
| 14  | 276                                                | 49.2 | 62                                               | 20.7                                                                                                                   |                                                   | 56.6     | 58                                               | 09.2          |                      | 38.8                                             | 84             | 42.1     |                | 55.2  | 157 | 47.5 |     | 41.3 |
| 15  | 291                                                | 51.7 | 77                                               | 20.2                                                                                                                   |                                                   | 57.6     | 73                                               | 10.0          |                      | 39.4                                             | 99             | 44.2     |                | 55.4  | 172 | 50.1 |     | 41.3 |
| 16  | 306                                                | 54.2 | 92                                               | 19.7                                                                                                                   |                                                   | 58.7     | 88                                               | 10.9          |                      | 39.9                                             | 114            | 46.2     |                | 55.5  | 187 | 52.6 |     | 41.3 |
| 17  | 321                                                | 56.6 | 107                                              | 19.1                                                                                                                   | -11                                               | 59.7     | 103                                              | 11.7          | -14                  | 40.5                                             | 129            | 48.3     | -3             | 55.7  | 202 | 55.2 | +20 | 41.3 |
| 18  | 336                                                | 59.1 | 122                                              | 18.6                                                                                                                   | -12                                               | 00.7     | 118                                              | 12.5          | -14                  | 41.0                                             | 144            | 50.4     | -3             | 55.8  | 217 | 57.7 | +20 | 41.4 |
| 19  | 352                                                | 01.5 | 137                                              | 18.1                                                                                                                   |                                                   | 01.8     | 133                                              | 13.3          |                      | 41.6                                             | 159            | 52.5     |                | 56.0  | 233 | 00.3 |     | 41.4 |
| 20  | 7                                                  | 04.0 | 152                                              | 17.6                                                                                                                   |                                                   | 02.8     | 148                                              | 14.1          |                      | 42.1                                             | 174            | 54.5     |                | 56.2  | 248 | 02.9 |     | 41.4 |
| 21  | 22                                                 | 06.5 | 167                                              | 17.1                                                                                                                   |                                                   | 03.9     | 163                                              | 15.0          |                      | 42.6                                             | 189            | 56.6     |                | 56.3  | 263 | 05.4 |     | 41.4 |
| 22  | 37                                                 | 08.9 | 182                                              | 16.6                                                                                                                   |                                                   | 04.9     | 178                                              | 15.8          |                      | 43.2                                             | 204            | 58.7     |                | 56.5  | 278 | 08.0 |     | 41.5 |
| 23  | 52                                                 | 11.4 | 197                                              | 16.0                                                                                                                   |                                                   | 05.9     | 193                                              | 16.6          |                      | 43.7                                             | 220            | 00.8     |                | 56.6  | 293 | 10.5 |     | 41.5 |
| 24  | 67                                                 | 13.9 | 212                                              | 15.5                                                                                                                   | -12                                               | 07.0     | 208                                              | 17.4          | -14                  | 44.3                                             | 235            | 02.9     | -3             | 56.8  | 308 | 13.1 | +20 | 41.5 |
| Dif | —                                                  |      | -5                                               |                                                                                                                        | -10                                               |          | +8                                               |               | -5                   |                                                  | +21            |          | -2             |       | +26 |      | 0   |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                              |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |      |    |    |    |    |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|---------|--------------------------|---------|---------------|----------------|------|----------------|------|----|----|----|----|----|
|    | SD: 16'2<br>PMG: 11 <sup>h</sup> 48 <sup>m</sup> 1 |      |     | Edad: 15 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54'3<br>12 <sup>h</sup> : 54'2<br>20 <sup>h</sup> : 54'2<br>SD: 14'8<br>PMG: 0 <sup>h</sup> 43 <sup>m</sup> R°: 51 <sup>m</sup> |     |      |         |                          |         |               |                |      |                |      |    |    |    |    |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                              | Dif | Dec  |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora | R° |    |    |    |    |
| h  | °                                                  | '    | °   | '                                                                                                                                                                                 | °   | '    | °       | '                        | h       | m             | h              | m    | h              | m    | h  | m  | m  |    |    |
| 0  | 183                                                | 01.1 | -21 | 19.5                                                                                                                                                                              | 349 | 36.4 | +26     | 46.0                     | 60 N    | 6             | 42             | 7    | 36             | 8    | 29 | 14 | 54 | 46 |    |
| 1  | 198                                                | 00.9 |     | 20.0                                                                                                                                                                              | 4   | 05.6 |         | 50.4                     | 58      | 35            | 26             |      | 15             | 15   | 27 | 48 |    | 60 |    |
| 2  | 213                                                | 00.7 |     | 20.4                                                                                                                                                                              | 18  | 34.8 |         | 54.6                     | 56      | 30            | 17             | 8    | 02             | 15   | 52 | 48 | 23 | 58 |    |
| 3  | 228                                                | 00.4 |     | 20.9                                                                                                                                                                              | 33  | 03.9 | +26     | 58.6                     | 54      | 25            | 09             | 7    | 51             | 16   | 11 | 50 | 10 | 03 |    |
| 4  | 243                                                | 00.2 |     | 21.3                                                                                                                                                                              | 47  | 33.0 | +27     | 02.5                     | 52      | 20            | 7              | 02   | 42             | 28   | 50 |    | 9  | 47 |    |
| 5  | 258                                                | 00.0 | -21 | 21.7                                                                                                                                                                              | 62  | 02.1 | +27     | 06.3                     | 50      | 6             | 15             | 6    | 56             | 7    | 33 | 16 | 42 | 50 |    |
| 6  | 272                                                | 59.8 | -21 | 22.2                                                                                                                                                                              | 76  | 31.2 | +27     | 10.0                     | 45      | 6             | 05             | 6    | 42             | 7    | 15 | 17 | 11 | 51 |    |
| 7  | 287                                                | 59.6 |     | 22.6                                                                                                                                                                              | 91  | 00.2 |         | 13.5                     | 40      | 5             | 56             | 30   | 7              | 00   | 34 | 51 | 8  | 42 |    |
| 8  | 302                                                | 59.4 |     | 23.0                                                                                                                                                                              | 105 | 29.3 |         | 16.9                     | 34      | 48            | 20             | 6    | 47             | 17   | 53 | 51 | 23 | 54 |    |
| 9  | 317                                                | 59.2 |     | 23.5                                                                                                                                                                              | 119 | 58.3 |         | 20.2                     | 33      | 30            | 41             | 6    | 10             | 36   | 18 | 09 | 51 | 8  | 07 |
| 10 | 332                                                | 59.0 |     | 23.9                                                                                                                                                                              | 134 | 27.2 |         | 23.3                     | 31      | 20            | 26             | 5    | 53             | 17   | 18 | 36 | 52 | 7  | 40 |
| 11 | 347                                                | 58.7 | -21 | 24.3                                                                                                                                                                              | 148 | 56.2 | +27     | 26.3                     | 30      | 10 N          | 5              | 12   | 5              | 38   | 6  | 00 | 19 | 00 | 51 |
| 12 | 2                                                  | 58.5 | -21 | 24.8                                                                                                                                                                              | 163 | 25.2 | +27     | 29.2                     | 29      | 0             | 4              | 56   | 5              | 22   | 5  | 44 | 19 | 22 | 52 |
| 13 | 17                                                 | 58.3 |     | 25.2                                                                                                                                                                              | 177 | 54.1 |         | 31.9                     | 27      | 10 S          | 39             | 5    | 06             | 29   | 19 | 44 | 52 | 34 | 51 |
| 14 | 32                                                 | 58.1 |     | 25.6                                                                                                                                                                              | 192 | 23.0 |         | 34.5                     | 26      | 20            | 4              | 19   | 4              | 47   | 5  | 11 | 20 | 08 | 51 |
| 15 | 47                                                 | 57.9 |     | 26.0                                                                                                                                                                              | 206 | 51.9 |         | 37.0                     | 25      | 30            | 3              | 52   | 25             | 4    | 52 | 36 | 51 | 5  | 44 |
| 16 | 62                                                 | 57.7 |     | 26.5                                                                                                                                                                              | 221 | 20.8 |         | 39.3                     | 23      | 35            | 36             | 4    | 11             | 40   | 20 | 52 | 51 | 28 | 48 |
| 17 | 77                                                 | 57.4 | -21 | 26.9                                                                                                                                                                              | 235 | 49.7 | +27     | 41.5                     | 22      | 40            | 3              | 15   | 3              | 55   | 4  | 26 | 21 | 11 | 51 |
| 18 | 92                                                 | 57.2 | -21 | 27.3                                                                                                                                                                              | 250 | 18.6 | +27     | 43.5                     | 20      | 45            | 2              | 48   | 3              | 35   | 4  | 10 | 21 | 34 | 51 |
| 19 | 107                                                | 57.0 |     | 27.7                                                                                                                                                                              | 264 | 47.4 |         | 45.4                     | 19      | 50            | 2              | 10   | 3              | 09   | 3  | 51 | 22 | 04 | 51 |
| 20 | 122                                                | 56.8 |     | 28.2                                                                                                                                                                              | 279 | 16.3 |         | 47.2                     | 18      | 52            | 1              | 50   | 2              | 56   | 41 | 19 | 50 | 4  | 06 |
| 21 | 137                                                | 56.6 |     | 28.6                                                                                                                                                                              | 293 | 45.1 |         | 48.8                     | 16      | 54            | 1              | 22   | 41             | 30   | 36 | 50 | 3  | 50 | 42 |
| 22 | 152                                                | 56.4 |     | 29.0                                                                                                                                                                              | 308 | 14.0 |         | 50.3                     | 15      | 56            | 0              | 36   | 23             | 18   | 22 | 57 | 49 | 31 | 40 |
| 23 | 167                                                | 56.1 |     | 29.4                                                                                                                                                                              | 322 | 42.8 |         | 51.7                     | 14      | 58            | ** *           | ** * | 2              | 01   | 3  | 04 | 23 | 23 | 48 |
| 24 | 182                                                | 55.9 | -21 | 29.9                                                                                                                                                                              | 337 | 11.6 | +27     | 52.9                     | 12      | 60 S          | ** *           | ** * | 1              | 31   | 2  | 48 | 23 | 59 | 46 |

| UT  | ARIES                                  |      | VENUS                                            |      | MARTE                                             |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 19 <sup>h</sup> 27 <sup>m</sup> 9 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 51 <sup>m</sup> |      | Mag: +1.7<br>PMG: 10 <sup>h</sup> 06 <sup>m</sup> |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 19 <sup>m</sup> |      | Mag: -0.1<br>PMG: 3 <sup>h</sup> 27 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                             | Dec  | hG ♂                                              | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                | '    | °                                                 | '    | °                                                | '    | °                                                | '    |
| 0   | 67                                     | 13.9 | 212                                              | 15.5 | -12                                               | 07.0 | 208                                              | 17.4 | -14                                              | 44.3 |
| 1   | 82                                     | 16.3 | 227                                              | 15.0 |                                                   | 08.0 | 223                                              | 18.2 |                                                  | 44.8 |
| 2   | 97                                     | 18.8 | 242                                              | 14.5 |                                                   | 09.1 | 238                                              | 19.1 |                                                  | 45.3 |
| 3   | 112                                    | 21.3 | 257                                              | 14.0 |                                                   | 10.1 | 253                                              | 19.9 |                                                  | 45.9 |
| 4   | 127                                    | 23.7 | 272                                              | 13.5 |                                                   | 11.1 | 268                                              | 20.7 |                                                  | 46.4 |
| 5   | 142                                    | 26.2 | 287                                              | 12.9 | -12                                               | 12.2 | 283                                              | 21.5 | -14                                              | 47.0 |
| 6   | 157                                    | 28.6 | 302                                              | 12.4 | -12                                               | 13.2 | 298                                              | 22.3 | -14                                              | 47.5 |
| 7   | 172                                    | 31.1 | 317                                              | 11.9 |                                                   | 14.2 | 313                                              | 23.1 |                                                  | 48.0 |
| 8   | 187                                    | 33.6 | 332                                              | 11.4 |                                                   | 15.3 | 328                                              | 24.0 |                                                  | 48.6 |
| 9   | 202                                    | 36.0 | 347                                              | 10.9 |                                                   | 16.3 | 343                                              | 24.8 |                                                  | 49.1 |
| 10  | 217                                    | 38.5 | 2                                                | 10.3 |                                                   | 17.4 | 358                                              | 25.6 |                                                  | 49.6 |
| 11  | 232                                    | 41.0 | 17                                               | 09.8 | -12                                               | 18.4 | 13                                               | 26.4 | -14                                              | 50.2 |
| 12  | 247                                    | 43.4 | 32                                               | 09.3 | -12                                               | 19.4 | 28                                               | 27.2 | -14                                              | 50.7 |
| 13  | 262                                    | 45.9 | 47                                               | 08.8 |                                                   | 20.5 | 43                                               | 28.0 |                                                  | 51.3 |
| 14  | 277                                    | 48.4 | 62                                               | 08.2 |                                                   | 21.5 | 58                                               | 28.9 |                                                  | 51.8 |
| 15  | 292                                    | 50.8 | 77                                               | 07.7 |                                                   | 22.5 | 73                                               | 29.7 |                                                  | 52.3 |
| 16  | 307                                    | 53.3 | 92                                               | 07.2 |                                                   | 23.6 | 88                                               | 30.5 |                                                  | 52.9 |
| 17  | 322                                    | 55.8 | 107                                              | 06.7 | -12                                               | 24.6 | 103                                              | 31.3 | -14                                              | 53.4 |
| 18  | 337                                    | 58.2 | 122                                              | 06.1 | -12                                               | 25.6 | 118                                              | 32.1 | -14                                              | 53.9 |
| 19  | 353                                    | 00.7 | 137                                              | 05.6 |                                                   | 26.6 | 133                                              | 32.9 |                                                  | 54.5 |
| 20  | 8                                      | 03.1 | 152                                              | 05.1 |                                                   | 27.7 | 148                                              | 33.8 |                                                  | 55.0 |
| 21  | 23                                     | 05.6 | 167                                              | 04.6 |                                                   | 28.7 | 163                                              | 34.6 |                                                  | 55.6 |
| 22  | 38                                     | 08.1 | 182                                              | 04.0 |                                                   | 29.7 | 178                                              | 35.4 |                                                  | 56.1 |
| 23  | 53                                     | 10.5 | 197                                              | 03.5 |                                                   | 30.8 | 193                                              | 36.2 |                                                  | 56.6 |
| 24  | 68                                     | 13.0 | 212                                              | 03.0 | -12                                               | 31.8 | 208                                              | 37.0 | -14                                              | 57.2 |
| Dif | —                                      |      | -5                                               |      | -10                                               |      | +8                                               |      | -5                                               |      |
|     |                                        |      |                                                  |      |                                                   |      | +21                                              |      | -2                                               |      |
|     |                                        |      |                                                  |      |                                                   |      |                                                  |      | +26                                              |      |



| UT  | SOL                                                             |      |                                                  | ☾ LUNA                                                                                                                                                                                                    |     |                                                   | Latitud      | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                  | Puesta de Luna |      |
|-----|-----------------------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|--------------|---------------|--------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|------|
|     | SD: 16 <sup>d</sup> 2<br>PMG: 11 <sup>h</sup> 48 <sup>m</sup> 4 |      |                                                  | Edad: 16 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54 <sup>m</sup> 1<br>12 <sup>h</sup> : 54 <sup>m</sup> 1<br>20 <sup>h</sup> : 54 <sup>m</sup> 0<br>PMG: 1 <sup>h</sup> 34 <sup>m</sup> R°: 52 <sup>m</sup> |     |                                                   |              |               |                                                  |       |                |                                                  |                |      |
|     | hG ☉                                                            | Dec  |                                                  | hG ☾                                                                                                                                                                                                      | Dif | Dec                                               |              |               | Dif                                              | Civil | Náutico        | Hora                                             | R°             | Hora |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                         | °   | '                                                 | °            | h m           | h m                                              | h m   | h m m          | h m m                                            | h m m          |      |
| 0   | 182                                                             | 55.9 | -21                                              | 29.9                                                                                                                                                                                                      | 337 | 11.6                                              | +27 52.9     | 60 N          | 15 05                                            | 15 59 | 16 53          | 15 40 73                                         | 12 22 33       |      |
| 1   | 197                                                             | 55.7 |                                                  | 30.3                                                                                                                                                                                                      | 351 | 40.5                                              | 99 54.0      | 58            | 20                                               | 16 09 | 17 00          | 16 15 67                                         | 11 47 38       |      |
| 2   | 212                                                             | 55.5 |                                                  | 30.7                                                                                                                                                                                                      | 6   | 09.3                                              | 98 55.0      | 56            | 33                                               | 18    | 05             | 16 40 65                                         | 21 41          |      |
| 3   | 227                                                             | 55.3 |                                                  | 31.1                                                                                                                                                                                                      | 20  | 38.1                                              | 98 55.8      | 54            | 44                                               | 26    | 11             | 17 01 62                                         | 11 01 42       |      |
| 4   | 242                                                             | 55.0 |                                                  | 31.5                                                                                                                                                                                                      | 35  | 07.0                                              | 99 56.5      | 52            | 15 53                                            | 33    | 15             | 18 61                                            | 10 44 44       |      |
| 5   | 257                                                             | 54.8 | -21                                              | 32.0                                                                                                                                                                                                      | 49  | 35.8                                              | 98 +27 57.0  | 50            | 16 02                                            | 16 39 | 17 20          | 17 32 60                                         | 10 29 45       |      |
| 6   | 272                                                             | 54.6 | -21                                              | 32.4                                                                                                                                                                                                      | 64  | 04.7                                              | 99 +27 57.4  | 45            | 16 21                                            | 16 54 | 17 30          | 18 02 58                                         | 10 00 46       |      |
| 7   | 287                                                             | 54.4 |                                                  | 32.8                                                                                                                                                                                                      | 78  | 33.5                                              | 98 57.7      | 40            | 36                                               | 17 06 | 39             | 25 56                                            | 9 36 48        |      |
| 8   | 302                                                             | 54.2 |                                                  | 33.2                                                                                                                                                                                                      | 93  | 02.4                                              | 99 57.8      | 35            | 16 49                                            | 16    | 48             | 18 44 55                                         | 17 49          |      |
| 9   | 317                                                             | 53.9 |                                                  | 33.6                                                                                                                                                                                                      | 107 | 31.3                                              | 99 57.8      | 30            | 17 00                                            | 26    | 17 55          | 19 00 55                                         | 9 01 49        |      |
| 10  | 332                                                             | 53.7 |                                                  | 34.0                                                                                                                                                                                                      | 122 | 00.1                                              | 98 57.7      | 20            | 19                                               | 43    | 18 10          | 28 53                                            | 8 33 50        |      |
| 11  | 347                                                             | 53.5 | -21                                              | 34.4                                                                                                                                                                                                      | 136 | 29.0                                              | 99 +27 57.4  | 10 N          | 17 36                                            | 17 59 | 18 25          | 19 51 52                                         | 8 09 51        |      |
| 12  | 2                                                               | 53.3 | -21                                              | 34.9                                                                                                                                                                                                      | 150 | 57.9                                              | 99 +27 57.0  | 0             | 17 52                                            | 18 14 | 18 40          | 20 14 50                                         | 7 47 51        |      |
| 13  | 17                                                              | 53.0 |                                                  | 35.3                                                                                                                                                                                                      | 165 | 26.8                                              | 99 56.5      | 10 S          | 18 08                                            | 31    | 18 58          | 36 49                                            | 25 52          |      |
| 14  | 32                                                              | 52.8 |                                                  | 35.7                                                                                                                                                                                                      | 179 | 55.8                                              | 100 55.8     | 20            | 26                                               | 18 50 | 19 18          | 20 59 48                                         | 7 01 52        |      |
| 15  | 47                                                              | 52.6 |                                                  | 36.1                                                                                                                                                                                                      | 194 | 24.7                                              | 99 55.0      | 30            | 46                                               | 19 13 | 19 45          | 21 27 46                                         | 6 33 53        |      |
| 16  | 62                                                              | 52.4 |                                                  | 36.5                                                                                                                                                                                                      | 208 | 53.7                                              | 100 54.0     | 35            | 18 58                                            | 27    | 20 02          | 21 43 45                                         | 6 16 54        |      |
| 17  | 77                                                              | 52.2 | -21                                              | 36.9                                                                                                                                                                                                      | 223 | 22.7                                              | 100 +27 53.0 | 40            | 19 11                                            | 19 43 | 20 23          | 22 02 44                                         | 5 57 54        |      |
| 18  | 92                                                              | 51.9 | -21                                              | 37.3                                                                                                                                                                                                      | 237 | 51.7                                              | 100 +27 51.7 | 45            | 19 28                                            | 20 04 | 20 51          | 22 25 42                                         | 5 34 55        |      |
| 19  | 107                                                             | 51.7 |                                                  | 37.7                                                                                                                                                                                                      | 252 | 20.7                                              | 100 50.4     | 50            | 48                                               | 30    | 21 29          | 22 55 39                                         | 5 04 55        |      |
| 20  | 122                                                             | 51.5 |                                                  | 38.1                                                                                                                                                                                                      | 266 | 49.7                                              | 100 48.9     | 52            | 19 57                                            | 43    | 21 51          | 23 09 38                                         | 4 49 56        |      |
| 21  | 137                                                             | 51.3 |                                                  | 38.5                                                                                                                                                                                                      | 281 | 18.8                                              | 101 47.3     | 54            | 20 08                                            | 20 59 | 22 20          | 26 35                                            | 32 56          |      |
| 22  | 152                                                             | 51.0 |                                                  | 38.9                                                                                                                                                                                                      | 295 | 47.9                                              | 101 45.5     | 56            | 21                                               | 21 17 | 23 14          | 23 46 33                                         | 4 11 57        |      |
| 23  | 167                                                             | 50.8 |                                                  | 39.4                                                                                                                                                                                                      | 310 | 17.0                                              | 101 43.6     | 58            | 35                                               | 21 40 | ** ** *        | ** ** **                                         | 3 45 59        |      |
| 24  | 182                                                             | 50.6 | -21                                              | 39.8                                                                                                                                                                                                      | 324 | 46.1                                              | 101 +27 41.6 | 60 S          | 20 52                                            | 22 12 | ** ** *        | ** ** **                                         | 3 09 61        |      |
| UT  | ARIES                                                           |      | VENUS                                            |                                                                                                                                                                                                           |     | MARTE                                             |              |               | JÚPITER                                          |       |                | SATURNO                                          |                |      |
|     | PMG: 19 <sup>h</sup> 23 <sup>m</sup> 9                          |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 52 <sup>m</sup> |                                                                                                                                                                                                           |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 05 <sup>m</sup> |              |               | Mag: -1.8<br>PMG: 8 <sup>h</sup> 15 <sup>m</sup> |       |                | Mag: -0.1<br>PMG: 3 <sup>h</sup> 22 <sup>m</sup> |                |      |
|     | hG ♈                                                            |      | hG ♀                                             | Dec                                                                                                                                                                                                       |     | hG ♂                                              | Dec          |               | hG ♃                                             | Dec   |                | hG ♄                                             | Dec            |      |
| h   | °                                                               | '    | °                                                | '                                                                                                                                                                                                         | °   | '                                                 | °            | '             | °                                                | '     | °              | '                                                | °              | '    |
| 0   | 68                                                              | 13.0 | 212                                              | 03.0                                                                                                                                                                                                      | -12 | 31.8                                              | 208          | 37.0          | -14                                              | 57.2  | 235            | 52.7                                             | -4             | 00.5 |
| 1   | 83                                                              | 15.5 | 227                                              | 02.5                                                                                                                                                                                                      |     | 32.8                                              | 223          | 37.8          |                                                  | 57.7  | 250            | 54.8                                             |                | 00.7 |
| 2   | 98                                                              | 17.9 | 242                                              | 01.9                                                                                                                                                                                                      |     | 33.8                                              | 238          | 38.6          |                                                  | 58.2  | 265            | 56.9                                             |                | 00.8 |
| 3   | 113                                                             | 20.4 | 257                                              | 01.4                                                                                                                                                                                                      |     | 34.9                                              | 253          | 39.5          |                                                  | 58.8  | 280            | 59.0                                             |                | 01.0 |
| 4   | 128                                                             | 22.9 | 272                                              | 00.9                                                                                                                                                                                                      |     | 35.9                                              | 268          | 40.3          |                                                  | 59.3  | 296            | 01.1                                             |                | 01.1 |
| 5   | 143                                                             | 25.3 | 287                                              | 00.3                                                                                                                                                                                                      | -12 | 36.9                                              | 283          | 41.1          | -14                                              | 59.8  | 311            | 03.2                                             | -4             | 01.3 |
| 6   | 158                                                             | 27.8 | 301                                              | 59.8                                                                                                                                                                                                      | -12 | 37.9                                              | 298          | 41.9          | -15                                              | 00.4  | 326            | 05.2                                             | -4             | 01.4 |
| 7   | 173                                                             | 30.3 | 316                                              | 59.3                                                                                                                                                                                                      |     | 39.0                                              | 313          | 42.7          |                                                  | 00.9  | 341            | 07.3                                             |                | 01.6 |
| 8   | 188                                                             | 32.7 | 331                                              | 58.7                                                                                                                                                                                                      |     | 40.0                                              | 328          | 43.5          |                                                  | 01.4  | 356            | 09.4                                             |                | 01.7 |
| 9   | 203                                                             | 35.2 | 346                                              | 58.2                                                                                                                                                                                                      |     | 41.0                                              | 343          | 44.3          |                                                  | 02.0  | 11             | 11.5                                             |                | 01.9 |
| 10  | 218                                                             | 37.6 | 1                                                | 57.7                                                                                                                                                                                                      |     | 42.0                                              | 358          | 45.2          |                                                  | 02.5  | 26             | 13.6                                             |                | 02.0 |
| 11  | 233                                                             | 40.1 | 16                                               | 57.1                                                                                                                                                                                                      | -12 | 43.1                                              | 13           | 46.0          | -15                                              | 03.0  | 41             | 15.6                                             | -4             | 02.2 |
| 12  | 248                                                             | 42.6 | 31                                               | 56.6                                                                                                                                                                                                      | -12 | 44.1                                              | 28           | 46.8          | -15                                              | 03.6  | 56             | 17.7                                             | -4             | 02.3 |
| 13  | 263                                                             | 45.0 | 46                                               | 56.1                                                                                                                                                                                                      |     | 45.1                                              | 43           | 47.6          |                                                  | 04.1  | 71             | 19.8                                             |                | 02.5 |
| 14  | 278                                                             | 47.5 | 61                                               | 55.5                                                                                                                                                                                                      |     | 46.1                                              | 58           | 48.4          |                                                  | 04.6  | 86             | 21.9                                             |                | 02.6 |
| 15  | 293                                                             | 50.0 | 76                                               | 55.0                                                                                                                                                                                                      |     | 47.2                                              | 73           | 49.2          |                                                  | 05.2  | 101            | 24.0                                             |                | 02.8 |
| 16  | 308                                                             | 52.4 | 91                                               | 54.5                                                                                                                                                                                                      |     | 48.2                                              | 88           | 50.0          |                                                  | 05.7  | 116            | 26.1                                             |                | 02.9 |
| 17  | 323                                                             | 54.9 | 106                                              | 53.9                                                                                                                                                                                                      | -12 | 49.2                                              | 103          | 50.8          | -15                                              | 06.2  | 131            | 28.1                                             | -4             | 03.1 |
| 18  | 338                                                             | 57.4 | 121                                              | 53.4                                                                                                                                                                                                      | -12 | 50.2                                              | 118          | 51.6          | -15                                              | 06.8  | 146            | 30.2                                             | -4             | 03.3 |
| 19  | 353                                                             | 59.8 | 136                                              | 52.9                                                                                                                                                                                                      |     | 51.2                                              | 133          | 52.5          |                                                  | 07.3  | 161            | 32.3                                             |                | 03.4 |
| 20  | 9                                                               | 02.3 | 151                                              | 52.3                                                                                                                                                                                                      |     | 52.2                                              | 148          | 53.3          |                                                  | 07.8  | 176            | 34.4                                             |                | 03.6 |
| 21  | 24                                                              | 04.8 | 166                                              | 51.8                                                                                                                                                                                                      |     | 53.3                                              | 163          | 54.1          |                                                  | 08.4  | 191            | 36.5                                             |                | 03.7 |
| 22  | 39                                                              | 07.2 | 181                                              | 51.3                                                                                                                                                                                                      |     | 54.3                                              | 178          | 54.9          |                                                  | 08.9  | 206            | 38.6                                             |                | 03.9 |
| 23  | 54                                                              | 09.7 | 196                                              | 50.7                                                                                                                                                                                                      |     | 55.3                                              | 193          | 55.7          |                                                  | 09.4  | 221            | 40.6                                             |                | 04.0 |
| 24  | 69                                                              | 12.1 | 211                                              | 50.2                                                                                                                                                                                                      | -12 | 56.3                                              | 208          | 56.5          | -15                                              | 10.0  | 236            | 42.7                                             | -4             | 04.2 |
| Dif | —                                                               |      | -5                                               |                                                                                                                                                                                                           | -10 |                                                   | +8           |               | -5                                               |       | +21            |                                                  | -2             |      |
|     |                                                                 |      |                                                  |                                                                                                                                                                                                           |     |                                                   |              |               |                                                  |       | +26            |                                                  | 0              |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                              |     |      |     |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    |      | Puesta de Luna |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|-------|---------------|----------------|----|------|----------------|----|
|    | SD: 16'2<br>PMG: 11 <sup>h</sup> 48 <sup>m</sup> 8 |      |     | Edad: 17 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 54'0<br>12 <sup>h</sup> : 54'0<br>20 <sup>h</sup> : 54'0<br>R°: 50 <sup>m</sup> |     |      |     |      |         |                          |       |               |                |    |      |                |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                              | Dif | Dec  | Dif |      |         | Náutico                  | Civil |               | Hora           | R° | Hora | R°             |    |
| h  | °                                                  | '    | °   | °                                                                                                                                 | '   | °    | '   | °    | h       | m                        | h     | m             | h              | m  | h    | m              |    |
| 0  | 182                                                | 50.6 | -21 | 39.8                                                                                                                              | 324 | 46.1 | +27 | 41.6 | 60 N    | 6                        | 45    | 7             | 40             | 8  | 34   | 16             | 53 |
| 1  | 197                                                | 50.4 |     | 40.2                                                                                                                              | 339 | 15.3 |     | 39.4 | 58      | 38                       | 29    |               | 19             | 17 | 22   | 81             |    |
| 2  | 212                                                | 50.1 |     | 40.6                                                                                                                              | 353 | 44.5 |     | 37.2 | 56      | 33                       | 20    |               | 8              | 06 | 17   | 45             |    |
| 3  | 227                                                | 49.9 |     | 41.0                                                                                                                              | 8   | 13.7 |     | 34.7 | 54      | 27                       | 12    |               | 7              | 54 | 18   | 03             |    |
| 4  | 242                                                | 49.7 |     | 41.4                                                                                                                              | 22  | 43.0 |     | 32.2 | 52      | 22                       | 7     | 05            |                | 45 | 19   | 69             |    |
| 5  | 257                                                | 49.4 | -21 | 41.8                                                                                                                              | 37  | 12.3 | +27 | 29.5 | 50      | 6                        | 18    | 6             | 58             | 7  | 36   | 18             | 32 |
| 6  | 272                                                | 49.2 | -21 | 42.2                                                                                                                              | 51  | 41.6 | +27 | 26.7 | 45      | 6                        | 07    | 6             | 44             | 7  | 17   | 19             | 00 |
| 7  | 287                                                | 49.0 |     | 42.6                                                                                                                              | 66  | 10.9 |     | 23.7 | 40      | 5                        | 58    | 32            | 7              | 02 |      | 21             | 61 |
| 8  | 302                                                | 48.8 |     | 43.0                                                                                                                              | 80  | 40.3 |     | 20.7 | 35      | 50                       | 21    | 6             | 49             |    | 39   | 59             |    |
| 9  | 317                                                | 48.5 |     | 43.4                                                                                                                              | 95  | 09.7 |     | 17.5 | 30      | 42                       | 6     | 12            | 38             | 19 | 55   | 56             |    |
| 10 | 332                                                | 48.3 |     | 43.8                                                                                                                              | 109 | 39.2 |     | 14.1 | 20      | 27                       | 5     | 54            | 18             | 20 | 21   | 53             |    |
| 11 | 347                                                | 48.1 | -21 | 44.2                                                                                                                              | 124 | 08.7 | +27 | 10.7 | 10 N    | 5                        | 13    | 5             | 39             | 6  | 01   | 20             | 43 |
| 12 | 2                                                  | 47.8 | -21 | 44.6                                                                                                                              | 138 | 38.2 | +27 | 07.1 | 0       | 4                        | 57    | 5             | 23             | 5  | 45   | 21             | 04 |
| 13 | 17                                                 | 47.6 |     | 44.9                                                                                                                              | 153 | 07.8 | +27 | 03.4 | 10 S    | 40                       | 5     | 06            | 29             |    | 25   | 46             |    |
| 14 | 32                                                 | 47.4 |     | 45.3                                                                                                                              | 167 | 37.4 | +26 | 59.5 | 20      | 4                        | 19    | 4             | 47             | 5  | 12   | 21             | 47 |
| 15 | 47                                                 | 47.2 |     | 45.7                                                                                                                              | 182 | 07.0 |     | 55.5 | 30      | 3                        | 52    | 24            | 4              | 51 | 22   | 13             | 41 |
| 16 | 62                                                 | 46.9 |     | 46.1                                                                                                                              | 196 | 36.7 |     | 51.5 | 35      | 35                       | 4     | 10            | 39             |    | 28   | 39             |    |
| 17 | 77                                                 | 46.7 | -21 | 46.5                                                                                                                              | 211 | 06.5 | +26 | 47.2 | 40      | 3                        | 14    | 3             | 54             | 4  | 26   | 22             | 46 |
| 18 | 92                                                 | 46.5 | -21 | 46.9                                                                                                                              | 225 | 36.2 | +26 | 42.9 | 45      | 2                        | 46    | 3             | 33             | 4  | 09   | 23             | 07 |
| 19 | 107                                                | 46.2 |     | 47.3                                                                                                                              | 240 | 06.1 |     | 38.4 | 50      | 2                        | 08    | 3             | 07             | 3  | 49   |                | 34 |
| 20 | 122                                                | 46.0 |     | 47.7                                                                                                                              | 254 | 35.9 |     | 33.8 | 52      | 1                        | 46    | 2             | 54             | 39 |      | 23             | 47 |
| 21 | 137                                                | 45.8 |     | 48.1                                                                                                                              | 269 | 05.8 |     | 29.1 | 54      | 1                        | 16    | 38            | 29             |    | **   | **             |    |
| 22 | 152                                                | 45.5 |     | 48.5                                                                                                                              | 283 | 35.8 |     | 24.2 | 56      | 0                        | 23    | 2             | 20             | 16 |      | **             | ** |
| 23 | 167                                                | 45.3 |     | 48.9                                                                                                                              | 298 | 05.8 |     | 19.3 | 58      | **                       | **    | 1             | 57             | 3  | 02   | 0              | 11 |
| 24 | 182                                                | 45.1 | -21 | 49.2                                                                                                                              | 312 | 35.8 | +26 | 14.2 | 60 S    | **                       | **    | 1             | 25             | 2  | 44   | 0              | 45 |

| UT  | ARIES                                  |      | VENUS                                            |      |     | MARTE                                             |     |      | JÚPITER                                          |      |     | SATURNO                                          |     |      |     |      |     |      |
|-----|----------------------------------------|------|--------------------------------------------------|------|-----|---------------------------------------------------|-----|------|--------------------------------------------------|------|-----|--------------------------------------------------|-----|------|-----|------|-----|------|
|     | PMG: 19 <sup>h</sup> 20 <sup>m</sup> 0 |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 53 <sup>m</sup> |      |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 04 <sup>m</sup> |     |      | Mag: -1.8<br>PMG: 8 <sup>h</sup> 12 <sup>m</sup> |      |     | Mag: -0.1<br>PMG: 3 <sup>h</sup> 18 <sup>m</sup> |     |      |     |      |     |      |
|     | hG ♈                                   |      | hG ♀                                             | Dec  |     | hG ♂                                              | Dec |      | hG ♃                                             | Dec  |     | hG ♄                                             | Dec |      |     |      |     |      |
| h   | °                                      | '    | °                                                | °    | '   | °                                                 | °   | '    | °                                                | °    | '   | °                                                | °   | '    |     |      |     |      |
| 0   | 69                                     | 12.1 | 211                                              | 50.2 | -12 | 56.3                                              | 208 | 56.5 | -15                                              | 10.0 | 236 | 42.7                                             | -4  | 04.2 | 310 | 16.1 | +20 | 42.6 |
| 1   | 84                                     | 14.6 | 226                                              | 49.6 |     | 57.3                                              | 223 | 57.3 |                                                  | 10.5 | 251 | 44.8                                             |     | 04.3 | 325 | 18.6 |     | 42.6 |
| 2   | 99                                     | 17.1 | 241                                              | 49.1 |     | 58.3                                              | 238 | 58.1 |                                                  | 11.0 | 266 | 46.9                                             |     | 04.5 | 340 | 21.2 |     | 42.6 |
| 3   | 114                                    | 19.5 | 256                                              | 48.6 | -12 | 59.4                                              | 253 | 58.9 | 11.6                                             |      | 281 | 49.0                                             |     | 04.6 | 355 | 23.8 |     | 42.6 |
| 4   | 129                                    | 22.0 | 271                                              | 48.0 | -13 | 00.4                                              | 268 | 59.7 | 12.1                                             |      | 296 | 51.1                                             |     | 04.8 | 10  | 26.3 |     | 42.6 |
| 5   | 144                                    | 24.5 | 286                                              | 47.5 | -13 | 01.4                                              | 284 | 00.6 | -15                                              | 12.6 | 311 | 53.2                                             | -4  | 04.9 | 25  | 28.9 | +20 | 42.7 |
| 6   | 159                                    | 26.9 | 301                                              | 46.9 | -13 | 02.4                                              | 299 | 01.4 | -15                                              | 13.1 | 326 | 55.2                                             | -4  | 05.1 | 40  | 31.5 | +20 | 42.7 |
| 7   | 174                                    | 29.4 | 316                                              | 46.4 |     | 03.4                                              | 314 | 02.2 |                                                  | 13.7 | 341 | 57.3                                             |     | 05.2 | 55  | 34.0 |     | 42.7 |
| 8   | 189                                    | 31.9 | 331                                              | 45.8 |     | 04.4                                              | 329 | 03.0 |                                                  | 14.2 | 356 | 59.4                                             |     | 05.4 | 70  | 36.6 |     | 42.7 |
| 9   | 204                                    | 34.3 | 346                                              | 45.3 |     | 05.4                                              | 344 | 03.8 |                                                  | 14.7 | 12  | 01.5                                             |     | 05.5 | 85  | 39.2 |     | 42.8 |
| 10  | 219                                    | 36.8 | 1                                                | 44.8 |     | 06.4                                              | 359 | 04.6 |                                                  | 15.3 | 27  | 03.6                                             |     | 05.7 | 100 | 41.7 |     | 42.8 |
| 11  | 234                                    | 39.3 | 16                                               | 44.2 | -13 | 07.5                                              | 14  | 05.4 | -15                                              | 15.8 | 42  | 05.7                                             | -4  | 05.8 | 115 | 44.3 | +20 | 42.8 |
| 12  | 249                                    | 41.7 | 31                                               | 43.7 | -13 | 08.5                                              | 29  | 06.2 | -15                                              | 16.3 | 57  | 07.8                                             | -4  | 06.0 | 130 | 46.9 | +20 | 42.8 |
| 13  | 264                                    | 44.2 | 46                                               | 43.1 |     | 09.5                                              | 44  | 07.0 |                                                  | 16.9 | 72  | 09.8                                             |     | 06.1 | 145 | 49.4 |     | 42.9 |
| 14  | 279                                    | 46.6 | 61                                               | 42.6 |     | 10.5                                              | 59  | 07.8 |                                                  | 17.4 | 87  | 11.9                                             |     | 06.3 | 160 | 52.0 |     | 42.9 |
| 15  | 294                                    | 49.1 | 76                                               | 42.0 |     | 11.5                                              | 74  | 08.6 |                                                  | 17.9 | 102 | 14.0                                             |     | 06.4 | 175 | 54.6 |     | 42.9 |
| 16  | 309                                    | 51.6 | 91                                               | 41.5 |     | 12.5                                              | 89  | 09.4 |                                                  | 18.4 | 117 | 16.1                                             |     | 06.6 | 190 | 57.2 |     | 42.9 |
| 17  | 324                                    | 54.0 | 106                                              | 40.9 | -13 | 13.5                                              | 104 | 10.2 | -15                                              | 19.0 | 132 | 18.2                                             | -4  | 06.7 | 205 | 59.7 | +20 | 43.0 |
| 18  | 339                                    | 56.5 | 121                                              | 40.4 | -13 | 14.5                                              | 119 | 11.1 | -15                                              | 19.5 | 147 | 20.3                                             | -4  | 06.9 | 221 | 02.3 | +20 | 43.0 |
| 19  | 354                                    | 59.0 | 136                                              | 39.8 |     | 15.5                                              | 134 | 11.9 |                                                  | 20.0 | 162 | 22.4                                             |     | 07.0 | 236 | 04.9 |     | 43.0 |
| 20  | 10                                     | 01.4 | 151                                              | 39.3 |     | 16.5                                              | 149 | 12.7 |                                                  | 20.5 | 177 | 24.4                                             |     | 07.2 | 251 | 07.4 |     | 43.0 |
| 21  | 25                                     | 03.9 | 166                                              | 38.7 |     | 17.5                                              | 164 | 13.5 |                                                  | 21.1 | 192 | 26.5                                             |     | 07.3 | 266 | 10.0 |     | 43.0 |
| 22  | 40                                     | 06.4 | 181                                              | 38.2 |     | 18.5                                              | 179 | 14.3 |                                                  | 21.6 | 207 | 28.6                                             |     | 07.5 | 281 | 12.6 |     | 43.1 |
| 23  | 55                                     | 08.8 | 196                                              | 37.7 |     | 19.5                                              | 194 | 15.1 |                                                  | 22.1 | 222 | 30.7                                             |     | 07.6 | 296 | 15.1 |     | 43.1 |
| 24  | 70                                     | 11.3 | 211                                              | 37.1 | -13 | 20.5                                              | 209 | 15.9 | -15                                              | 22.7 | 237 | 32.8                                             | -4  | 07.8 | 311 | 17.7 | +20 | 43.1 |
| Dif | —                                      |      | -5                                               |      | -10 |                                                   | +8  |      | -5                                               |      | +21 |                                                  | -2  |      | +26 |      |     | 0    |

| UT  | SOL                                                |      |                                                  | LUNA                                                                                                 |                     |                                                   | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                  | Puesta de Luna |       |          |
|-----|----------------------------------------------------|------|--------------------------------------------------|------------------------------------------------------------------------------------------------------|---------------------|---------------------------------------------------|---------|---------------|--------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|-------|----------|
|     | SD: 16/2<br>PMG: 11 <sup>h</sup> 49 <sup>m</sup> 2 |      |                                                  | Edad: 18 <sup>d</sup> 4 PHE {<br>SD: 14/7<br>PMG: 3 <sup>h</sup> 16 <sup>m</sup> R°: 48 <sup>m</sup> |                     |                                                   |         |               |                                                  |       |                |                                                  |                |       |          |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                 | Dif                 | Dec                                               |         |               | Dif                                              | Civil | Náutico        | Hora                                             | R°             | Hora  | R°       |
| h   | °                                                  | '    | °                                                | °                                                                                                    | '                   | °                                                 | '       | °             | h m                                              | h m   | h m            | h m m                                            | h m m          | h m m |          |
| 0   | 182                                                | 45.1 | -21 49.2                                         | 312                                                                                                  | 35.8                | +26 14.2                                          |         | 60 N          | 15 02                                            | 15 57 | 16 52          | 18 21 91                                         | 13 09 6        |       |          |
| 1   | 197                                                | 44.8 |                                                  | 327                                                                                                  | 05.9 <sup>111</sup> |                                                   | 52      | 58            | 18                                               | 16 07 | 16 58          | 18 43 84                                         | 12 47 12       |       |          |
| 2   | 212                                                | 44.6 |                                                  | 341                                                                                                  | 36.1 <sup>112</sup> | +26 03.6                                          | 54      | 56            | 31                                               | 16    | 17 04          | 19 00 80                                         | 28 17          |       |          |
| 3   | 227                                                | 44.4 |                                                  | 356                                                                                                  | 06.3 <sup>112</sup> | +25 58.2                                          | 54      | 54            | 42                                               | 24    | 09             | 15 76                                            | 13 20          |       |          |
| 4   | 242                                                | 44.1 |                                                  | 10                                                                                                   | 36.5 <sup>112</sup> | 52.6                                              | 56      | 52            | 15 52                                            | 32    | 14             | 28 73                                            | 12 00 23       |       |          |
| 5   | 257                                                | 43.9 | -21 51.2                                         | 25                                                                                                   | 06.8 <sup>113</sup> | +25 46.9                                          | 57      | 50            | 16 01                                            | 16 38 | 17 19          | 19 40 70                                         | 11 48 25       |       |          |
| 6   | 272                                                | 43.7 | -21 51.6                                         | 39                                                                                                   | 37.1 <sup>113</sup> | +25 41.1                                          | 58      | 45            | 16 20                                            | 16 53 | 17 30          | 20 03 66                                         | 11 23 30       |       |          |
| 7   | 287                                                | 43.4 |                                                  | 54                                                                                                   | 07.5 <sup>114</sup> |                                                   | 59      | 40            | 35                                               | 17 05 | 39             | 22 62                                            | 11 04 33       |       |          |
| 8   | 302                                                | 43.2 |                                                  | 68                                                                                                   | 38.0 <sup>115</sup> |                                                   | 60      | 35            | 16 48                                            | 16    | 47             | 38 59                                            | 10 47 36       |       |          |
| 9   | 317                                                | 43.0 |                                                  | 83                                                                                                   | 08.5 <sup>115</sup> |                                                   | 62      | 30            | 17 00                                            | 26    | 17 55          | 20 51 57                                         | 33 38          |       |          |
| 10  | 332                                                | 42.7 |                                                  | 97                                                                                                   | 39.0 <sup>115</sup> |                                                   | 63      | 20            | 19                                               | 43    | 18 10          | 21 14 53                                         | 10 09 42       |       |          |
| 11  | 347                                                | 42.5 | -21 53.5                                         | 112                                                                                                  | 09.6 <sup>116</sup> | +25 10.3                                          | 64      | 10 N          | 17 37                                            | 17 59 | 18 25          | 21 34 50                                         | 9 48 45        |       |          |
| 12  | 2                                                  | 42.3 | -21 53.8                                         | 126                                                                                                  | 40.3 <sup>117</sup> | +25 03.8                                          | 65      | 0             | 17 53                                            | 18 15 | 18 41          | 21 53 46                                         | 9 28 48        |       |          |
| 13  | 17                                                 | 42.0 |                                                  | 141                                                                                                  | 11.0 <sup>117</sup> | +24 57.2                                          | 66      | 10 S          | 18 09                                            | 32    | 18 59          | 22 11 44                                         | 9 08 50        |       |          |
| 14  | 32                                                 | 41.8 |                                                  | 155                                                                                                  | 41.7 <sup>117</sup> |                                                   | 67      | 20            | 27                                               | 18 51 | 19 20          | 31 40                                            | 8 47 53        |       |          |
| 15  | 47                                                 | 41.6 |                                                  | 170                                                                                                  | 12.5 <sup>118</sup> |                                                   | 69      | 30            | 47                                               | 19 14 | 19 47          | 22 54 36                                         | 22 57          |       |          |
| 16  | 62                                                 | 41.3 |                                                  | 184                                                                                                  | 43.4 <sup>119</sup> |                                                   | 69      | 35            | 18 59                                            | 29    | 20 04          | 23 07 33                                         | 8 07 59        |       |          |
| 17  | 77                                                 | 41.1 | -21 55.7                                         | 199                                                                                                  | 14.3 <sup>119</sup> | +24 29.6                                          | 71      | 40            | 19 13                                            | 19 45 | 20 26          | 23 22 31                                         | 7 50 62        |       |          |
| 18  | 92                                                 | 40.8 | -21 56.1                                         | 213                                                                                                  | 45.3 <sup>120</sup> | +24 22.5                                          | 71      | 45            | 19 30                                            | 20 06 | 20 54          | 23 40 27                                         | 7 30 65        |       |          |
| 19  | 107                                                | 40.6 |                                                  | 228                                                                                                  | 16.3 <sup>120</sup> |                                                   | 73      | 50            | 19 51                                            | 33    | 21 33          | ** ** *                                          | 7 04 69        |       |          |
| 20  | 122                                                | 40.4 |                                                  | 242                                                                                                  | 47.4 <sup>121</sup> |                                                   | 74      | 52            | 20 00                                            | 20 47 | 21 56          | ** ** *                                          | 6 51 72        |       |          |
| 21  | 137                                                | 40.1 |                                                  | 257                                                                                                  | 18.5 <sup>121</sup> | +24 00.3                                          | 75      | 54            | 11                                               | 21 02 | 22 27          | 0 01 25                                          | 37 74          |       |          |
| 22  | 152                                                | 39.9 |                                                  | 271                                                                                                  | 49.7 <sup>122</sup> | +23 52.7                                          | 76      | 56            | 24                                               | 22    | ** ** *        | 19 21                                            | 6 20 78        |       |          |
| 23  | 167                                                | 39.6 |                                                  | 286                                                                                                  | 21.0 <sup>123</sup> |                                                   | 78      | 58            | 39                                               | 21 46 | ** ** *        | 0 40 16                                          | 5 59 83        |       |          |
| 24  | 182                                                | 39.4 | -21 58.3                                         | 300                                                                                                  | 52.3 <sup>123</sup> | +23 37.1                                          | 78      | 60 S          | 20 57                                            | 22 19 | ** ** *        | 1 06 9                                           | 5 33 91        |       |          |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                      |                     | MARTE                                             |         |               | JÚPITER                                          |       |                | SATURNO                                          |                |       |          |
|     | PMG: 19 <sup>h</sup> 16 <sup>m</sup> 1             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 54 <sup>m</sup> |                                                                                                      |                     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 02 <sup>m</sup> |         |               | Mag: -1.8<br>PMG: 8 <sup>h</sup> 09 <sup>m</sup> |       |                | Mag: -0.1<br>PMG: 3 <sup>h</sup> 14 <sup>m</sup> |                |       |          |
|     | hG ♈                                               | Dec  | hG ♀                                             | Dec                                                                                                  | hG ♂                | Dec                                               | hG ♃    | Dec           | hG ♄                                             | Dec   | hG ♅           | Dec                                              |                |       |          |
| h   | °                                                  | '    | °                                                | '                                                                                                    | °                   | '                                                 | °       | '             | °                                                | '     | °              | '                                                | °              | '     |          |
| 0   | 70                                                 | 11.3 | 211                                              | 37.1                                                                                                 | -13 20.5            |                                                   | 209     | 15.9          | -15 22.7                                         | 237   | 32.8           | -4 07.8                                          | 311            | 17.7  | +20 43.1 |
| 1   | 85                                                 | 13.8 | 226                                              | 36.5                                                                                                 | 21.6                |                                                   | 224     | 16.7          | 23.2                                             | 252   | 34.9           | 07.9                                             | 326            | 20.3  | 43.1     |
| 2   | 100                                                | 16.2 | 241                                              | 36.0                                                                                                 | 22.6                |                                                   | 239     | 17.5          | 23.7                                             | 267   | 37.0           | 08.1                                             | 341            | 22.9  | 43.2     |
| 3   | 115                                                | 18.7 | 256                                              | 35.4                                                                                                 | 23.6                |                                                   | 254     | 18.3          | 24.2                                             | 282   | 39.1           | 08.2                                             | 356            | 25.4  | 43.2     |
| 4   | 130                                                | 21.1 | 271                                              | 34.9                                                                                                 | 24.6                |                                                   | 269     | 19.1          | 24.8                                             | 297   | 41.2           | 08.4                                             | 11             | 28.0  | 43.2     |
| 5   | 145                                                | 23.6 | 286                                              | 34.3                                                                                                 | -13 25.6            |                                                   | 284     | 19.9          | -15 25.3                                         | 312   | 43.2           | -4 08.5                                          | 26             | 30.6  | +20 43.2 |
| 6   | 160                                                | 26.1 | 301                                              | 33.8                                                                                                 | -13 26.6            |                                                   | 299     | 20.7          | -15 25.8                                         | 327   | 45.3           | -4 08.7                                          | 41             | 33.1  | +20 43.3 |
| 7   | 175                                                | 28.5 | 316                                              | 33.2                                                                                                 | 27.6                |                                                   | 314     | 21.5          | 26.3                                             | 342   | 47.4           | 08.8                                             | 56             | 35.7  | 43.3     |
| 8   | 190                                                | 31.0 | 331                                              | 32.7                                                                                                 | 28.6                |                                                   | 329     | 22.3          | 26.9                                             | 357   | 49.5           | 09.0                                             | 71             | 38.3  | 43.3     |
| 9   | 205                                                | 33.5 | 346                                              | 32.1                                                                                                 | 29.6                |                                                   | 344     | 23.1          | 27.4                                             | 12    | 51.6           | 09.1                                             | 86             | 40.9  | 43.3     |
| 10  | 220                                                | 35.9 | 1                                                | 31.6                                                                                                 | 30.6                |                                                   | 359     | 23.9          | 27.9                                             | 27    | 53.7           | 09.3                                             | 101            | 43.4  | 43.4     |
| 11  | 235                                                | 38.4 | 16                                               | 31.0                                                                                                 | -13 31.6            |                                                   | 14      | 24.7          | -15 28.4                                         | 42    | 55.8           | -4 09.4                                          | 116            | 46.0  | +20 43.4 |
| 12  | 250                                                | 40.9 | 31                                               | 30.5                                                                                                 | -13 32.6            |                                                   | 29      | 25.5          | -15 29.0                                         | 57    | 57.9           | -4 09.6                                          | 131            | 48.6  | +20 43.4 |
| 13  | 265                                                | 43.3 | 46                                               | 29.9                                                                                                 | 33.5                |                                                   | 44      | 26.3          | 29.5                                             | 73    | 00.0           | 09.7                                             | 146            | 51.2  | 43.4     |
| 14  | 280                                                | 45.8 | 61                                               | 29.3                                                                                                 | 34.5                |                                                   | 59      | 27.1          | 30.0                                             | 88    | 02.0           | 09.9                                             | 161            | 53.7  | 43.5     |
| 15  | 295                                                | 48.2 | 76                                               | 28.8                                                                                                 | 35.5                |                                                   | 74      | 27.9          | 30.5                                             | 103   | 04.1           | 10.0                                             | 176            | 56.3  | 43.5     |
| 16  | 310                                                | 50.7 | 91                                               | 28.2                                                                                                 | 36.5                |                                                   | 89      | 28.7          | 31.1                                             | 118   | 06.2           | 10.2                                             | 191            | 58.9  | 43.5     |
| 17  | 325                                                | 53.2 | 106                                              | 27.7                                                                                                 | -13 37.5            |                                                   | 104     | 29.5          | -15 31.6                                         | 133   | 08.3           | -4 10.3                                          | 207            | 01.4  | +20 43.5 |
| 18  | 340                                                | 55.6 | 121                                              | 27.1                                                                                                 | -13 38.5            |                                                   | 119     | 30.4          | -15 32.1                                         | 148   | 10.4           | -4 10.5                                          | 222            | 04.0  | +20 43.6 |
| 19  | 355                                                | 58.1 | 136                                              | 26.6                                                                                                 | 39.5                |                                                   | 134     | 31.2          | 32.6                                             | 163   | 12.5           | 10.6                                             | 237            | 06.6  | 43.6     |
| 20  | 11                                                 | 00.6 | 151                                              | 26.0                                                                                                 | 40.5                |                                                   | 149     | 32.0          | 33.2                                             | 178   | 14.6           | 10.8                                             | 252            | 09.2  | 43.6     |
| 21  | 26                                                 | 03.0 | 166                                              | 25.4                                                                                                 | 41.5                |                                                   | 164     | 32.8          | 33.7                                             | 193   | 16.7           | 10.9                                             | 267            | 11.7  | 43.6     |
| 22  | 41                                                 | 05.5 | 181                                              | 24.9                                                                                                 | 42.5                |                                                   | 179     | 33.6          | 34.2                                             | 208   | 18.8           | 11.1                                             | 282            | 14.3  | 43.6     |
| 23  | 56                                                 | 08.0 | 196                                              | 24.3                                                                                                 | 43.5                |                                                   | 194     | 34.4          | 34.7                                             | 223   | 20.9           | 11.2                                             | 297            | 16.9  | 43.7     |
| 24  | 71                                                 | 10.4 | 211                                              | 23.8                                                                                                 | -13 44.5            |                                                   | 209     | 35.2          | -15 35.2                                         | 238   | 23.0           | -4 11.4                                          | 312            | 19.5  | +20 43.7 |
| Dif | —                                                  |      | -6                                               | -10                                                                                                  |                     | +8                                                | -5      |               | +21                                              | -1    |                | +26                                              |                | 0     |          |

| UT  | SOL                                    |      |                                               | LUNA                                                                                                    |                     |                                                |          |         | Latitud                                       | Principio del crepúsculo |       | Salida de Sol                                 | Salida de Luna |     | Puesta de Luna |    |   |
|-----|----------------------------------------|------|-----------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------|------------------------------------------------|----------|---------|-----------------------------------------------|--------------------------|-------|-----------------------------------------------|----------------|-----|----------------|----|---|
|     | SD: 16'2                               |      |                                               | Edad: 19 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54'2<br>12 <sup>h</sup> : 54'3<br>20 <sup>h</sup> : 54'4 |                     |                                                |          |         |                                               |                          |       |                                               |                |     |                |    |   |
|     | PMG: 11 <sup>h</sup> 49 <sup>m</sup> 6 |      |                                               | SD: 14'8 PMG: 4 <sup>h</sup> 04 <sup>m</sup> R°: 46 <sup>m</sup>                                        |                     |                                                |          |         |                                               |                          |       |                                               |                |     |                |    |   |
|     | hG ☉                                   |      | Dec                                           | hG ☾                                                                                                    |                     | Dif                                            | Dec      | Dif     |                                               | Náutico                  | Civil |                                               | Hora           | R°  | Hora           | R° |   |
| h   | °                                      | '    | °                                             | °                                                                                                       | '                   | °                                              | °        | '       | °                                             | h                        | m     | h                                             | m              | h   | m              | h  | m |
| 0   | 182                                    | 39.4 | -21 58.3                                      | 300                                                                                                     | 52.3                | +23 37.1                                       | 79       | 58      | 60 N                                          | 6 48                     | 7 43  | 8 38                                          | 19 52          | 89  | 13 15          | 3  |   |
| 1   | 197                                    | 39.2 | 58.7                                          | 315                                                                                                     | 23.6 <sup>123</sup> | 29.2                                           | 80       | 58      |                                               | 41                       | 32    | 22                                            | 20 07          | 85  | 12 59          | 7  |   |
| 2   | 212                                    | 38.9 | 59.1                                          | 329                                                                                                     | 55.0 <sup>124</sup> | 21.2                                           | 82       | 56      |                                               | 35                       | 23    | 8 09                                          | 20 81          |     | 45 12          |    |   |
| 3   | 227                                    | 38.7 | 59.4                                          | 344                                                                                                     | 26.5 <sup>125</sup> | 13.0                                           | 82       | 54      |                                               | 30                       | 15    | 7 58                                          | 31 78          |     | 33 15          |    |   |
| 4   | 242                                    | 38.4 | -21 59.8                                      | 358                                                                                                     | 58.0 <sup>125</sup> | +23 04.8                                       | 84       | 52      |                                               | 25                       | 08    | 47                                            | 41 75          |     | 23 17          |    |   |
| 5   | 257                                    | 38.2 | -22 00.2                                      | 13                                                                                                      | 29.6 <sup>126</sup> | +22 56.4                                       | 84       | 50      |                                               | 6 20                     | 7 01  | 7 38                                          | 20 50          | 72  | 12 13          | 20 |   |
| 6   | 272                                    | 38.0 | -22 00.5                                      | 28                                                                                                      | 01.2 <sup>126</sup> | +22 48.0                                       | 84       | 45      |                                               | 6 09                     | 6 46  | 7 19                                          | 21 09          | 67  | 11 53          | 25 |   |
| 7   | 287                                    | 37.7 | 00.9                                          | 42                                                                                                      | 32.9 <sup>127</sup> | 39.4                                           | 86       | 40      |                                               | 6 00                     | 34    | 7 04                                          | 24 63          |     | 37 28          |    |   |
| 8   | 302                                    | 37.5 | 01.2                                          | 57                                                                                                      | 04.7 <sup>128</sup> | 30.8                                           | 86       | 35      |                                               | 5 52                     | 23    | 6 51                                          | 37 60          |     | 23 32          |    |   |
| 9   | 317                                    | 37.2 | 01.6                                          | 71                                                                                                      | 36.4 <sup>127</sup> | 22.0                                           | 88       | 30      |                                               | 44                       | 6 13  | 39                                            | 21 48          | 57  | 11 11          | 34 |   |
| 10  | 332                                    | 37.0 | 02.0                                          | 86                                                                                                      | 08.3 <sup>129</sup> | 13.2                                           | 88       | 20      |                                               | 28                       | 5 56  | 19                                            | 22 07          | 52  | 10 51          | 38 |   |
| 11  | 347                                    | 36.8 | -22 02.3                                      | 100                                                                                                     | 40.2 <sup>129</sup> | +22 04.2                                       | 90       | 10 N    |                                               | 5 13                     | 5 40  | 6 02                                          | 22 24          | 48  | 10 33          | 41 |   |
| 12  | 2                                      | 36.5 | -22 02.7                                      | 115                                                                                                     | 12.2 <sup>130</sup> | +21 55.2                                       | 90       | 0       |                                               | 4 58                     | 5 24  | 5 46                                          | 22 39          | 45  | 10 16          | 45 |   |
| 13  | 17                                     | 36.3 | 03.1                                          | 129                                                                                                     | 44.2 <sup>130</sup> | 46.1                                           | 91       | 10 S    |                                               | 40                       | 5 07  | 29                                            | 22 55          | 40  | 9 58           | 49 |   |
| 14  | 32                                     | 36.0 | 03.4                                          | 144                                                                                                     | 16.2 <sup>130</sup> | 36.8                                           | 93       | 20      |                                               | 4 19                     | 4 47  | 5 12                                          | 23 11          | 37  | 40 53          |    |   |
| 15  | 47                                     | 35.8 | 03.8                                          | 158                                                                                                     | 48.4 <sup>132</sup> | 27.5                                           | 93       | 30      |                                               | 3 52                     | 24    | 4 51                                          | 30 32          |     | 19 57          |    |   |
| 16  | 62                                     | 35.5 | 04.1                                          | 173                                                                                                     | 20.5 <sup>131</sup> | 18.1                                           | 94       | 35      |                                               | 34                       | 4 10  | 39                                            | 40 30          |     | 9 06           | 60 |   |
| 17  | 77                                     | 35.3 | -22 04.5                                      | 187                                                                                                     | 52.7 <sup>132</sup> | +21 08.5                                       | 96       | 40      |                                               | 3 13                     | 3 53  | 4 25                                          | 23 53          | 26  | 8 52           | 63 |   |
| 18  | 92                                     | 35.0 | -22 04.8                                      | 202                                                                                                     | 25.0 <sup>133</sup> | +20 58.9                                       | 96       | 45      |                                               | 2 45                     | 3 32  | 4 09                                          | ** ** *        | **  | 8 35           | 66 |   |
| 19  | 107                                    | 34.8 | 05.2                                          | 216                                                                                                     | 57.3 <sup>133</sup> | 49.2                                           | 97       | 50      |                                               | 2 05                     | 3 05  | 3 48                                          | 0 03           | 22  | 13 72          |    |   |
| 20  | 122                                    | 34.6 | 05.6                                          | 231                                                                                                     | 29.7 <sup>134</sup> | 39.4                                           | 98       | 52      |                                               | 1 42                     | 2 52  | 38                                            | 14 19          |     | 8 03           | 74 |   |
| 21  | 137                                    | 34.3 | 05.9                                          | 246                                                                                                     | 02.2 <sup>135</sup> | 29.5                                           | 99       | 54      |                                               | 1 11                     | 36    | 27                                            | 26 17          |     | 7 51           | 77 |   |
| 22  | 152                                    | 34.1 | 06.3                                          | 260                                                                                                     | 34.6 <sup>134</sup> | 19.5                                           | 100      | 56      |                                               | ** ** *                  | 2 17  | 3 14                                          | 40 13          |     | 38 81          |    |   |
| 23  | 167                                    | 33.8 | 06.6                                          | 275                                                                                                     | 07.2 <sup>136</sup> | +20 09.5                                       | 100      | 58      |                                               | ** ** *                  | 1 53  | 2 59                                          | 0 56           | 9   | 22 85          |    |   |
| 24  | 182                                    | 33.6 | -22 07.0                                      | 289                                                                                                     | 39.8 <sup>136</sup> | +19 59.3                                       | 102      | 60 S    |                                               | ** ** *                  | 1 19  | 2 42                                          | 1 15           | 4   | 7 04           | 90 |   |
| UT  | ARIES                                  |      | VENUS                                         |                                                                                                         |                     | MARTE                                          |          |         | JÚPITER                                       |                          |       | SATURNO                                       |                |     |                |    |   |
|     | PMG: 19 <sup>h</sup> 12 <sup>m</sup> 2 |      | Mag: -3.9 PMG: 9 <sup>h</sup> 55 <sup>m</sup> |                                                                                                         |                     | Mag: +1.7 PMG: 10 <sup>h</sup> 01 <sup>m</sup> |          |         | Mag: -1.9 PMG: 8 <sup>h</sup> 05 <sup>m</sup> |                          |       | Mag: -0.1 PMG: 3 <sup>h</sup> 10 <sup>m</sup> |                |     |                |    |   |
|     | hG ♈                                   |      | hG ♀                                          |                                                                                                         | Dec                 | hG ♂                                           |          | Dec     | hG ♃                                          |                          | Dec   | hG ♄                                          |                | Dec |                |    |   |
| h   | °                                      | '    | °                                             | °                                                                                                       | '                   | °                                              | °        | '       | °                                             | °                        | '     | °                                             | °              | '   | °              | °  | ' |
| 0   | 71                                     | 10.4 | 211 23.8                                      | -13 44.5                                                                                                | 209 35.2            | -15 35.2                                       | 238 23.0 | -4 11.4 | 312 19.5                                      | +20 43.7                 |       |                                               |                |     |                |    |   |
| 1   | 86                                     | 12.9 | 226 23.2                                      | 45.5                                                                                                    | 224 36.0            | 35.8                                           | 253 25.1 | 11.5    | 327 22.0                                      | 43.7                     |       |                                               |                |     |                |    |   |
| 2   | 101                                    | 15.4 | 241 22.6                                      | 46.5                                                                                                    | 239 36.8            | 36.3                                           | 268 27.1 | 11.7    | 342 24.6                                      | 43.7                     |       |                                               |                |     |                |    |   |
| 3   | 116                                    | 17.8 | 256 22.1                                      | 47.4                                                                                                    | 254 37.6            | 36.8                                           | 283 29.2 | 11.8    | 357 27.2                                      | 43.8                     |       |                                               |                |     |                |    |   |
| 4   | 131                                    | 20.3 | 271 21.5                                      | 48.4                                                                                                    | 269 38.4            | 37.3                                           | 298 31.3 | 12.0    | 12 29.8                                       | 43.8                     |       |                                               |                |     |                |    |   |
| 5   | 146                                    | 22.7 | 286 20.9                                      | -13 49.4                                                                                                | 284 39.2            | -15 37.9                                       | 313 33.4 | -4 12.1 | 27 32.3                                       | +20 43.8                 |       |                                               |                |     |                |    |   |
| 6   | 161                                    | 25.2 | 301 20.4                                      | -13 50.4                                                                                                | 299 40.0            | -15 38.4                                       | 328 35.5 | -4 12.3 | 42 34.9                                       | +20 43.8                 |       |                                               |                |     |                |    |   |
| 7   | 176                                    | 27.7 | 316 19.8                                      | 51.4                                                                                                    | 314 40.8            | 38.9                                           | 343 37.6 | 12.4    | 57 37.5                                       | 43.9                     |       |                                               |                |     |                |    |   |
| 8   | 191                                    | 30.1 | 331 19.2                                      | 52.4                                                                                                    | 329 41.6            | 39.4                                           | 358 39.7 | 12.6    | 72 40.1                                       | 43.9                     |       |                                               |                |     |                |    |   |
| 9   | 206                                    | 32.6 | 346 18.7                                      | 53.4                                                                                                    | 344 42.4            | 39.9                                           | 13 41.8  | 12.7    | 87 42.7                                       | 43.9                     |       |                                               |                |     |                |    |   |
| 10  | 221                                    | 35.1 | 1 18.1                                        | 54.3                                                                                                    | 359 43.2            | 40.5                                           | 28 43.9  | 12.9    | 102 45.2                                      | 43.9                     |       |                                               |                |     |                |    |   |
| 11  | 236                                    | 37.5 | 16 17.5                                       | -13 55.3                                                                                                | 14 44.0             | -15 41.0                                       | 43 46.0  | -4 13.0 | 117 47.8                                      | +20 44.0                 |       |                                               |                |     |                |    |   |
| 12  | 251                                    | 40.0 | 31 17.0                                       | -13 56.3                                                                                                | 29 44.8             | -15 41.5                                       | 58 48.1  | -4 13.2 | 132 50.4                                      | +20 44.0                 |       |                                               |                |     |                |    |   |
| 13  | 266                                    | 42.5 | 46 16.4                                       | 57.3                                                                                                    | 44 45.5             | 42.0                                           | 73 50.2  | 13.3    | 147 53.0                                      | 44.0                     |       |                                               |                |     |                |    |   |
| 14  | 281                                    | 44.9 | 61 15.8                                       | 58.3                                                                                                    | 59 46.3             | 42.5                                           | 88 52.3  | 13.5    | 162 55.5                                      | 44.0                     |       |                                               |                |     |                |    |   |
| 15  | 296                                    | 47.4 | 76 15.3                                       | -13 59.3                                                                                                | 74 47.1             | 43.1                                           | 103 54.4 | 13.6    | 177 58.1                                      | 44.1                     |       |                                               |                |     |                |    |   |
| 16  | 311                                    | 49.9 | 91 14.7                                       | -14 00.2                                                                                                | 89 47.9             | 43.6                                           | 118 56.4 | 13.7    | 193 00.7                                      | 44.1                     |       |                                               |                |     |                |    |   |
| 17  | 326                                    | 52.3 | 106 14.1                                      | -14 01.2                                                                                                | 104 48.7            | -15 44.1                                       | 133 58.5 | -4 13.9 | 208 03.3                                      | +20 44.1                 |       |                                               |                |     |                |    |   |
| 18  | 341                                    | 54.8 | 121 13.6                                      | -14 02.2                                                                                                | 119 49.5            | -15 44.6                                       | 149 00.6 | -4 14.0 | 223 05.9                                      | +20 44.1                 |       |                                               |                |     |                |    |   |
| 19  | 356                                    | 57.2 | 136 13.0                                      | 03.2                                                                                                    | 134 50.3            | 45.1                                           | 164 02.7 | 14.2    | 238 08.4                                      | 44.2                     |       |                                               |                |     |                |    |   |
| 20  | 11                                     | 59.7 | 151 12.4                                      | 04.2                                                                                                    | 149 51.1            | 45.6                                           | 179 04.8 | 14.3    | 253 11.0                                      | 44.2                     |       |                                               |                |     |                |    |   |
| 21  | 27                                     | 02.2 | 166 11.8                                      | 05.1                                                                                                    | 164 51.9            | 46.2                                           | 194 06.9 | 14.5    | 268 13.6                                      | 44.2                     |       |                                               |                |     |                |    |   |
| 22  | 42                                     | 04.6 | 181 11.3                                      | 06.1                                                                                                    | 179 52.7            | 46.7                                           | 209 09.0 | 14.6    | 283 16.2                                      | 44.2                     |       |                                               |                |     |                |    |   |
| 23  | 57                                     | 07.1 | 196 10.7                                      | 07.1                                                                                                    | 194 53.5            | 47.2                                           | 224 11.1 | 14.8    | 298 18.7                                      | 44.3                     |       |                                               |                |     |                |    |   |
| 24  | 72                                     | 09.6 | 211 10.1                                      | -14 08.1                                                                                                | 209 54.3            | -15 47.7                                       | 239 13.2 | -4 14.9 | 313 21.3                                      | +20 44.3                 |       |                                               |                |     |                |    |   |
| Dif | —                                      |      | -6                                            | -10                                                                                                     | +8                  |                                                | -5       | +21     |                                               | -1                       | +26   |                                               | 0              |     |                |    |   |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                             |     |                                                   | Latitud | Puesta de Sol       | Final del crepúsculo                             |      |     | Salida de Luna                                   |      | Puesta de Luna |      |      |    |    |    |    |    |    |
|-----|----------------------------------------------------|------|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|---------------------------------------------------|---------|---------------------|--------------------------------------------------|------|-----|--------------------------------------------------|------|----------------|------|------|----|----|----|----|----|----|
|     | SD: 16:2<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 0 |      |                                                  | Edad: 20 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 54:5<br>12 <sup>h</sup> : 54:7<br>20 <sup>h</sup> : 54:8<br>PMG: 4 <sup>h</sup> 50 <sup>m</sup> R°: 44 <sup>m</sup> |     |                                                   |         |                     | Civil                                            |      |     | Náutico                                          | Hora | R°             | Hora | R°   |    |    |    |    |    |    |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                               | Dif | Dec                                               |         |                     | Dif                                              |      |     |                                                  |      |                |      |      |    |    |    |    |    |    |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °       | '                   | h                                                | m    | h   | m                                                | h    | m              | h    | m    |    |    |    |    |    |    |
| 0   | 182                                                | 33.6 | -22                                              | 07.0                                                                                                                                                               | 289 | 39.8                                              | +19     | 59.3                | 60 N                                             | 15   | 00  | 15                                               | 55   | 16             | 50   | 21   | 21 |    |    |    |    |    |
| 1   | 197                                                | 33.3 |                                                  | 07.3                                                                                                                                                               | 304 | 12.4 <sup>136</sup>                               |         | 49.0 <sup>103</sup> | 58                                               | 16   | 16  | 06                                               | 16   | 57             | 32   | 83   |    |    |    |    |    |    |
| 2   | 212                                                | 33.1 |                                                  | 07.7                                                                                                                                                               | 318 | 45.1 <sup>137</sup>                               |         | 38.7 <sup>103</sup> | 56                                               | 29   | 15  | 17                                               | 03   | 41             | 80   | 12   | 57 |    |    |    |    |    |
| 3   | 227                                                | 32.8 |                                                  | 08.0                                                                                                                                                               | 333 | 17.8 <sup>137</sup>                               |         | 28.3 <sup>104</sup> | 54                                               | 41   | 23  | 09                                               | 49   | 77             | 48   | 11   |    |    |    |    |    |    |
| 4   | 242                                                | 32.6 |                                                  | 08.4                                                                                                                                                               | 347 | 50.6 <sup>138</sup>                               |         | 17.8 <sup>105</sup> | 52                                               | 15   | 51  | 31                                               | 14   | 21             | 56   | 74   | 40 | 14 |    |    |    |    |
| 5   | 257                                                | 32.3 | -22                                              | 08.7                                                                                                                                                               | 2   | 23.4 <sup>138</sup>                               | +19     | 07.2 <sup>106</sup> | 50                                               | 16   | 00  | 16                                               | 38   | 17             | 18   | 22   | 02 | 72 |    |    |    |    |
| 6   | 272                                                | 32.1 | -22                                              | 09.1                                                                                                                                                               | 16  | 56.3 <sup>139</sup>                               | +18     | 56.5 <sup>107</sup> | 45                                               | 16   | 19  | 16                                               | 52   | 17             | 29   | 22   | 16 | 67 |    |    |    |    |
| 7   | 287                                                | 31.8 |                                                  | 09.4                                                                                                                                                               | 31  | 29.2 <sup>139</sup>                               |         | 45.7 <sup>108</sup> | 40                                               | 35   | 17  | 05                                               | 39   | 27             | 63   | 12   | 05 | 25 |    |    |    |    |
| 8   | 302                                                | 31.6 |                                                  | 09.8                                                                                                                                                               | 46  | 02.2 <sup>140</sup>                               |         | 34.9 <sup>108</sup> | 35                                               | 16   | 48  | 16                                               | 47   | 37             | 59   | 11   | 55 | 27 |    |    |    |    |
| 9   | 317                                                | 31.4 |                                                  | 10.1                                                                                                                                                               | 60  | 35.2 <sup>140</sup>                               |         | 23.9 <sup>110</sup> | 30                                               | 17   | 00  | 26                                               | 17   | 55             | 45   | 57   | 45 | 31 |    |    |    |    |
| 10  | 332                                                | 31.1 |                                                  | 10.4                                                                                                                                                               | 75  | 08.2 <sup>140</sup>                               |         | 12.9 <sup>110</sup> | 20                                               | 20   | 17  | 44                                               | 18   | 11             | 22   | 59   | 52 | 29 | 35 |    |    |    |
| 11  | 347                                                | 30.9 | -22                                              | 10.8                                                                                                                                                               | 89  | 41.3 <sup>141</sup>                               | +18     | 01.8 <sup>111</sup> | 10 N                                             | 17   | 37  | 18                                               | 00   | 18             | 26   | 23   | 12 | 47 | 11 | 14 |    |    |
| 12  | 2                                                  | 30.6 | -22                                              | 11.1                                                                                                                                                               | 104 | 14.5 <sup>142</sup>                               | +17     | 50.7 <sup>111</sup> | 0                                                | 17   | 54  | 18                                               | 16   | 18             | 42   | 23   | 24 | 43 | 11 | 01 |    |    |
| 13  | 17                                                 | 30.4 |                                                  | 11.5                                                                                                                                                               | 118 | 47.7 <sup>142</sup>                               |         | 39.4 <sup>113</sup> | 10 S                                             | 18   | 10  | 33                                               | 19   | 00             | 35   | 39   | 10 | 47 | 48 |    |    |    |
| 14  | 32                                                 | 30.1 |                                                  | 11.8                                                                                                                                                               | 133 | 20.9 <sup>142</sup>                               |         | 28.1 <sup>113</sup> | 20                                               | 28   | 18  | 52                                               | 21   | 23             | 48   | 34   | 33 | 51 |    |    |    |    |
| 15  | 47                                                 | 29.9 |                                                  | 12.2                                                                                                                                                               | 147 | 54.2 <sup>143</sup>                               |         | 16.7 <sup>114</sup> | 30                                               | 18   | 49  | 19                                               | 16   | 19             | 49   | **   | *  | *  | 16 | 56 |    |    |
| 16  | 62                                                 | 29.6 |                                                  | 12.5                                                                                                                                                               | 162 | 27.5 <sup>143</sup>                               | +17     | 05.2 <sup>115</sup> | 35                                               | 19   | 01  | 30                                               | 20   | 06             | **   | *    | *  | 10 | 06 | 59 |    |    |
| 17  | 77                                                 | 29.4 | -22                                              | 12.8                                                                                                                                                               | 177 | 00.8 <sup>143</sup>                               | +16     | 53.6 <sup>116</sup> | 40                                               | 19   | 15  | 19                                               | 48   | 20             | 28   | **   | *  | *  | 9  | 55 | 62 |    |
| 18  | 92                                                 | 29.1 | -22                                              | 13.2                                                                                                                                                               | 191 | 34.2 <sup>144</sup>                               | +16     | 41.9 <sup>117</sup> | 45                                               | 19   | 32  | 20                                               | 09   | 20             | 56   | 0    | 07 | 23 | 9  | 41 | 67 |    |
| 19  | 107                                                | 28.9 |                                                  | 13.5                                                                                                                                                               | 206 | 07.7 <sup>145</sup>                               |         | 30.2 <sup>117</sup> | 50                                               | 19   | 53  | 36                                               | 21   | 37             | 25   | 18   | 25 | 18 | 25 | 72 |    |    |
| 20  | 122                                                | 28.6 |                                                  | 13.9                                                                                                                                                               | 220 | 41.1 <sup>144</sup>                               |         | 18.4 <sup>118</sup> | 52                                               | 20   | 03  | 20                                               | 50   | 22             | 01   | 33   | 16 | 17 | 74 |    |    |    |
| 21  | 137                                                | 28.4 |                                                  | 14.2                                                                                                                                                               | 235 | 14.6 <sup>145</sup>                               | +16     | 06.6 <sup>118</sup> | 54                                               | 15   | 21  | 06                                               | 22   | 34             | 43   | 12   | 9  | 08 | 78 |    |    |    |
| 22  | 152                                                | 28.1 |                                                  | 14.5                                                                                                                                                               | 249 | 48.2 <sup>146</sup>                               | +15     | 54.6 <sup>120</sup> | 56                                               | 28   |     | 26                                               | **   | *              | *    | 0    | 53 | 10 | 8  | 59 | 80 |    |
| 23  | 167                                                | 27.8 |                                                  | 14.9                                                                                                                                                               | 264 | 21.8 <sup>146</sup>                               |         | 42.6 <sup>120</sup> | 58                                               | 20   | 43  | 21                                               | 51   | **             | *    | *    | 1  | 05 | 6  | 47 | 85 |    |
| 24  | 182                                                | 27.6 | -22                                              | 15.2                                                                                                                                                               | 278 | 55.4 <sup>146</sup>                               | +15     | 30.5 <sup>121</sup> | 60 S                                             | 21   | 01  | 22                                               | 27   | **             | *    | *    | 1  | 19 | 1  | 8  | 34 | 89 |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                    |     | MARTE                                             |         |                     | JÚPITER                                          |      |     | SATURNO                                          |      |                |      |      |    |    |    |    |    |    |
|     | PMG: 19 <sup>h</sup> 08 <sup>m</sup> 2             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 56 <sup>m</sup> |                                                                                                                                                                    |     | Mag: +1.7<br>PMG: 10 <sup>h</sup> 00 <sup>m</sup> |         |                     | Mag: -1.9<br>PMG: 8 <sup>h</sup> 02 <sup>m</sup> |      |     | Mag: -0.1<br>PMG: 3 <sup>h</sup> 06 <sup>m</sup> |      |                |      |      |    |    |    |    |    |    |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                |     | hG ♂                                              | Dec     |                     | hG ♃                                             | Dec  |     | hG ♄                                             | Dec  |                | hG ♅ | Dec  |    |    |    |    |    |    |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                  | °   | '                                                 | °       | '                   | °                                                | '    | °   | '                                                | °    | '              | °    | '    |    |    |    |    |    |    |
| 0   | 72                                                 | 09.6 | 211                                              | 10.1                                                                                                                                                               | -14 | 08.1                                              | 209     | 54.3                | -15                                              | 47.7 | 239 | 13.2                                             | -4   | 14.9           | 313  | 21.3 |    |    |    |    |    |    |
| 1   | 87                                                 | 12.0 | 226                                              | 09.6                                                                                                                                                               |     | 09.1                                              | 224     | 55.1                |                                                  | 48.2 | 254 | 15.3                                             |      | 15.1           | 328  | 23.9 |    |    |    |    |    |    |
| 2   | 102                                                | 14.5 | 241                                              | 09.0                                                                                                                                                               |     | 10.0                                              | 239     | 55.9                |                                                  | 48.8 | 269 | 17.4                                             |      | 15.2           | 343  | 26.5 |    |    |    |    |    |    |
| 3   | 117                                                | 17.0 | 256                                              | 08.4                                                                                                                                                               |     | 11.0                                              | 254     | 56.7                |                                                  | 49.3 | 284 | 19.5                                             |      | 15.4           | 358  | 29.1 |    |    |    |    |    |    |
| 4   | 132                                                | 19.4 | 271                                              | 07.8                                                                                                                                                               |     | 12.0                                              | 269     | 57.5                |                                                  | 49.8 | 299 | 21.6                                             |      | 15.5           | 13   | 31.6 |    |    |    |    |    |    |
| 5   | 147                                                | 21.9 | 286                                              | 07.3                                                                                                                                                               | -14 | 13.0                                              | 284     | 58.3                | -15                                              | 50.3 | 314 | 23.7                                             | -4   | 15.7           | 28   | 34.2 |    |    |    |    |    |    |
| 6   | 162                                                | 24.4 | 301                                              | 06.7                                                                                                                                                               | -14 | 13.9                                              | 299     | 59.1                | -15                                              | 50.8 | 329 | 25.8                                             | -4   | 15.8           | 43   | 36.8 |    |    |    |    |    |    |
| 7   | 177                                                | 26.8 | 316                                              | 06.1                                                                                                                                                               |     | 14.9                                              | 314     | 59.9                |                                                  | 51.3 | 344 | 27.9                                             |      | 15.9           | 58   | 39.4 |    |    |    |    |    |    |
| 8   | 192                                                | 29.3 | 331                                              | 05.5                                                                                                                                                               |     | 15.9                                              | 330     | 00.7                |                                                  | 51.9 | 359 | 30.0                                             |      | 16.1           | 73   | 42.0 |    |    |    |    |    |    |
| 9   | 207                                                | 31.7 | 346                                              | 05.0                                                                                                                                                               |     | 16.8                                              | 345     | 01.5                |                                                  | 52.4 | 14  | 32.1                                             |      | 16.2           | 88   | 44.6 |    |    |    |    |    |    |
| 10  | 222                                                | 34.2 | 1                                                | 04.4                                                                                                                                                               |     | 17.8                                              | 0       | 02.3                |                                                  | 52.9 | 29  | 34.2                                             |      | 16.4           | 103  | 47.1 |    |    |    |    |    |    |
| 11  | 237                                                | 36.7 | 16                                               | 03.8                                                                                                                                                               | -14 | 18.8                                              | 15      | 03.1                | -15                                              | 53.4 | 44  | 36.3                                             | -4   | 16.5           | 118  | 49.7 |    |    |    |    |    |    |
| 12  | 252                                                | 39.1 | 31                                               | 03.2                                                                                                                                                               | -14 | 19.8                                              | 30      | 03.9                | -15                                              | 53.9 | 59  | 38.4                                             | -4   | 16.7           | 133  | 52.3 |    |    |    |    |    |    |
| 13  | 267                                                | 41.6 | 46                                               | 02.6                                                                                                                                                               |     | 20.7                                              | 45      | 04.6                |                                                  | 54.4 | 74  | 40.5                                             |      | 16.8           | 148  | 54.9 |    |    |    |    |    |    |
| 14  | 282                                                | 44.1 | 61                                               | 02.1                                                                                                                                                               |     | 21.7                                              | 60      | 05.4                |                                                  | 54.9 | 89  | 42.6                                             |      | 17.0           | 163  | 57.5 |    |    |    |    |    |    |
| 15  | 297                                                | 46.5 | 76                                               | 01.5                                                                                                                                                               |     | 22.7                                              | 75      | 06.2                |                                                  | 55.5 | 104 | 44.7                                             |      | 17.1           | 179  | 00.0 |    |    |    |    |    |    |
| 16  | 312                                                | 49.0 | 91                                               | 00.9                                                                                                                                                               |     | 23.6                                              | 90      | 07.0                |                                                  | 56.0 | 119 | 46.8                                             |      | 17.3           | 194  | 02.6 |    |    |    |    |    |    |
| 17  | 327                                                | 51.5 | 106                                              | 00.3                                                                                                                                                               | -14 | 24.6                                              | 105     | 07.8                | -15                                              | 56.5 | 134 | 48.9                                             | -4   | 17.4           | 209  | 05.2 |    |    |    |    |    |    |
| 18  | 342                                                | 53.9 | 120                                              | 59.7                                                                                                                                                               | -14 | 25.6                                              | 120     | 08.6                | -15                                              | 57.0 | 149 | 51.0                                             | -4   | 17.5           | 224  | 07.8 |    |    |    |    |    |    |
| 19  | 357                                                | 56.4 | 135                                              | 59.1                                                                                                                                                               |     | 26.5                                              | 135     | 09.4                |                                                  | 57.5 | 164 | 53.1                                             |      | 17.7           | 239  | 10.4 |    |    |    |    |    |    |
| 20  | 12                                                 | 58.8 | 150                                              | 58.6                                                                                                                                                               |     | 27.5                                              | 150     | 10.2                |                                                  | 58.0 | 179 | 55.2                                             |      | 17.8           | 254  | 13.0 |    |    |    |    |    |    |
| 21  | 28                                                 | 01.3 | 165                                              | 58.0                                                                                                                                                               |     | 28.5                                              | 165     | 11.0                |                                                  | 58.5 | 194 | 57.3                                             |      | 18.0           | 269  | 15.5 |    |    |    |    |    |    |
| 22  | 43                                                 | 03.8 | 180                                              | 57.4                                                                                                                                                               |     | 29.4                                              | 180     | 11.8                |                                                  | 59.1 | 209 | 59.4                                             |      | 18.1           | 284  | 18.1 |    |    |    |    |    |    |
| 23  | 58                                                 | 06.2 | 195                                              | 56.8                                                                                                                                                               |     | 30.4                                              | 195     | 12.6                | -15                                              | 59.6 | 225 | 01.5                                             |      | 18.3           | 299  | 20.7 |    |    |    |    |    |    |
| 24  | 73                                                 | 08.7 | 210                                              | 56.2                                                                                                                                                               | -14 | 31.4                                              | 210     | 13.4                | -16                                              | 00.1 | 240 | 03.6                                             | -4   | 18.4           | 314  | 23.3 |    |    |    |    |    |    |
| Dif | —                                                  |      | -6                                               | -10                                                                                                                                                                |     | +8                                                | -5      | -5                  |                                                  | +21  |     | -1                                               |      |                | +26  | 0    |    |    |    |    |    |    |

| UT  | SOL                                                |      |                                                  |      | ☾ LUNA                                                                                                                                                                            |                     |                                                  |                     | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |       | Puesta de Luna                                   |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|---------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|-------|--------------------------------------------------|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 4 |      |                                                  |      | Edad: 21 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 55'0<br>12 <sup>h</sup> : 55'2<br>20 <sup>h</sup> : 55'4<br>SD: 15'0<br>PMG: 5 <sup>h</sup> 34 <sup>m</sup> R°: 43 <sup>m</sup> |                     |                                                  |                     |         |                          |                                                  |               |                |       |                                                  |      |     |      |
|     | hG ☉                                               |      | Dec                                              |      | hG ☾                                                                                                                                                                              |                     | Dif                                              |                     |         | Náutico                  | Civil                                            |               | Hora           | R°    | Hora                                             | R°   |     |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                                 | '                   | °                                                | '                   | °       | h                        | m                                                | h             | m              | h     | m                                                | h    | m   |      |
| 0   | 182                                                | 27.6 | -22                                              | 15.2 | 278                                                                                                                                                                               | 55.4                | +15                                              | 30.5                | 60 N    | 6 51                     | 7 46                                             | 8 41          | 22 49          | 88    | 13 19                                            | 0    |     |      |
| 1   | 197                                                | 27.3 |                                                  | 15.5 | 293                                                                                                                                                                               | 29.0 <sup>146</sup> |                                                  | 18.3 <sup>122</sup> | 58      | 44                       | 35                                               | 26            | 22 55          | 84    | 11                                               | 4    |     |      |
| 2   | 212                                                | 27.1 |                                                  | 15.9 | 308                                                                                                                                                                               | 02.7 <sup>147</sup> | +15                                              | 06.1 <sup>122</sup> | 56      | 38                       | 26                                               | 12            | 23 01          | 81    | 13 05                                            | 6    |     |      |
| 3   | 227                                                | 26.8 |                                                  | 16.2 | 322                                                                                                                                                                               | 36.4 <sup>147</sup> | +14                                              | 53.8 <sup>123</sup> | 54      | 32                       | 18                                               | 8 00          | 06 78          | 12 59 | 9                                                |      |     |      |
| 4   | 242                                                | 26.6 |                                                  | 16.5 | 337                                                                                                                                                                               | 10.2 <sup>148</sup> |                                                  | 41.4 <sup>124</sup> | 52      | 27                       | 10                                               | 7 50          | 10 75          | 54    | 11                                               |      |     |      |
| 5   | 257                                                | 26.3 | -22                                              | 16.9 | 351                                                                                                                                                                               | 44.0 <sup>148</sup> | +14                                              | 29.0 <sup>124</sup> | 50      | 6 22                     | 7 03                                             | 7 41          | 23 14          | 73    | 12 49                                            | 14   |     |      |
| 6   | 272                                                | 26.1 | -22                                              | 17.2 | 6                                                                                                                                                                                 | 17.8 <sup>148</sup> | +14                                              | 16.5 <sup>125</sup> | 45      | 6 11                     | 6 48                                             | 7 22          | 23 23          | 68    | 12 39                                            | 18   |     |      |
| 7   | 287                                                | 25.8 |                                                  | 17.5 | 20                                                                                                                                                                                | 51.6 <sup>148</sup> | +14                                              | 03.9 <sup>126</sup> | 40      | 6 02                     | 36                                               | 7 06          | 30 64          |       | 30                                               | 22   |     |      |
| 8   | 302                                                | 25.6 |                                                  | 17.8 | 35                                                                                                                                                                                | 25.5 <sup>149</sup> | +13                                              | 51.2 <sup>127</sup> | 35      | 5 53                     | 25                                               | 6 52          | 36 60          |       | 22                                               | 26   |     |      |
| 9   | 317                                                | 25.3 |                                                  | 18.2 | 49                                                                                                                                                                                | 59.4 <sup>149</sup> |                                                  | 38.5 <sup>127</sup> | 30      | 45                       | 6 15                                             | 41            | 42 56          |       | 16                                               | 28   |     |      |
| 10  | 332                                                | 25.1 |                                                  | 18.5 | 64                                                                                                                                                                                | 33.3 <sup>149</sup> |                                                  | 25.8 <sup>127</sup> | 20      | 30                       | 5 57                                             | 21            | 51 51          |       | 12 04                                            | 34   |     |      |
| 11  | 347                                                | 24.8 | -22                                              | 18.8 | 79                                                                                                                                                                                | 07.2 <sup>149</sup> | +13                                              | 12.9 <sup>129</sup> | 10 N    | 5 14                     | 5 41                                             | 6 03          | 23 59          | 47    | 11 54                                            | 38   |     |      |
| 12  | 2                                                  | 24.5 | -22                                              | 19.1 | 93                                                                                                                                                                                | 41.2 <sup>150</sup> | +13                                              | 00.0 <sup>129</sup> | 0       | 4 58                     | 5 24                                             | 5 47          | ** ** *        |       | 11 44                                            | 43   |     |      |
| 13  | 17                                                 | 24.3 |                                                  | 19.5 | 108                                                                                                                                                                               | 15.2 <sup>150</sup> | +12                                              | 47.0 <sup>130</sup> | 10 S    | 40                       | 5 07                                             | 30            | ** ** *        |       | 35                                               | 46   |     |      |
| 14  | 32                                                 | 24.0 |                                                  | 19.8 | 122                                                                                                                                                                               | 49.2 <sup>150</sup> |                                                  | 34.0 <sup>130</sup> | 20      | 4 19                     | 4 48                                             | 5 12          | ** ** *        |       | 24                                               | 52   |     |      |
| 15  | 47                                                 | 23.8 |                                                  | 20.1 | 137                                                                                                                                                                               | 23.3 <sup>151</sup> |                                                  | 20.9 <sup>131</sup> | 30      | 3 51                     | 24                                               | 4 51          | 0 02           | 29    | 12                                               | 57   |     |      |
| 16  | 62                                                 | 23.5 |                                                  | 20.4 | 151                                                                                                                                                                               | 57.3 <sup>150</sup> | +12                                              | 07.8 <sup>131</sup> | 35      | 34                       | 4 10                                             | 39            | 10 27          |       | 11 05                                            | 60   |     |      |
| 17  | 77                                                 | 23.3 | -22                                              | 20.8 | 166                                                                                                                                                                               | 31.4 <sup>151</sup> | +11                                              | 54.5 <sup>133</sup> | 40      | 3 12                     | 3 53                                             | 4 25          | 0 19           | 23    | 10 57                                            | 63   |     |      |
| 18  | 92                                                 | 23.0 | -22                                              | 21.1 | 181                                                                                                                                                                               | 05.5 <sup>151</sup> | +11                                              | 41.3 <sup>132</sup> | 45      | 2 44                     | 3 31                                             | 4 08          | 0 30           | 19    | 10 48                                            | 67   |     |      |
| 19  | 107                                                | 22.8 |                                                  | 21.4 | 195                                                                                                                                                                               | 39.6 <sup>151</sup> |                                                  | 27.9 <sup>134</sup> | 50      | 2 03                     | 3 04                                             | 3 47          | 43 14          |       | 37                                               | 72   |     |      |
| 20  | 122                                                | 22.5 |                                                  | 21.7 | 210                                                                                                                                                                               | 13.7 <sup>151</sup> |                                                  | 14.5 <sup>134</sup> | 52      | 1 39                     | 2 50                                             | 37            | 49 12          |       | 31                                               | 75   |     |      |
| 21  | 137                                                | 22.2 |                                                  | 22.0 | 224                                                                                                                                                                               | 47.9 <sup>152</sup> | +11                                              | 01.1 <sup>134</sup> | 54      | 1 06                     | 34                                               | 25            | 0 55           | 10    | 26                                               | 77   |     |      |
| 22  | 152                                                | 22.0 |                                                  | 22.4 | 239                                                                                                                                                                               | 22.1 <sup>152</sup> | +10                                              | 47.6 <sup>135</sup> | 56      | ** ** *                  | 2 14                                             | 3 12          | 1 03           | 7     | 19                                               | 80   |     |      |
| 23  | 167                                                | 21.7 |                                                  | 22.7 | 253                                                                                                                                                                               | 56.2 <sup>151</sup> |                                                  | 34.0 <sup>136</sup> | 58      | ** ** *                  | 1 49                                             | 2 57          | 11             | 4     | 12                                               | 83   |     |      |
| 24  | 182                                                | 21.5 | -22                                              | 23.0 | 268                                                                                                                                                                               | 30.4 <sup>152</sup> | +10                                              | 20.4 <sup>136</sup> | 60 S    | ** ** *                  | 1 13                                             | 2 39          | 1 20           | 1     | 10 03                                            | 88   |     |      |
| UT  | ARIES                                              |      | VENUS                                            |      |                                                                                                                                                                                   |                     | MARTE                                            |                     |         |                          | JÚPITER                                          |               |                |       | SATURNO                                          |      |     |      |
|     | PMG: 19 <sup>h</sup> 04 <sup>m</sup> 3             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 57 <sup>m</sup> |      |                                                                                                                                                                                   |                     | Mag: +1.7<br>PMG: 9 <sup>h</sup> 59 <sup>m</sup> |                     |         |                          | Mag: -1.9<br>PMG: 7 <sup>h</sup> 59 <sup>m</sup> |               |                |       | Mag: -0.1<br>PMG: 3 <sup>h</sup> 02 <sup>m</sup> |      |     |      |
| h   | hG ♈                                               |      | hG ♀                                             |      | Dec                                                                                                                                                                               |                     | hG ♂                                             |                     | Dec     |                          | hG ♃                                             |               | Dec            |       | hG ♄                                             |      | Dec |      |
| 0   | 73                                                 | 08.7 | 210                                              | 56.2 | -14                                                                                                                                                                               | 31.4                | 210                                              | 13.4                | -16     | 00.1                     | 240                                              | 03.6          | -4             | 18.4  | 314                                              | 23.3 | +20 | 44.9 |
| 1   | 88                                                 | 11.2 | 225                                              | 55.6 |                                                                                                                                                                                   | 32.3                | 225                                              | 14.2                |         | 00.6                     | 255                                              | 05.7          |                | 18.6  | 329                                              | 25.9 |     | 44.9 |
| 2   | 103                                                | 13.6 | 240                                              | 55.1 |                                                                                                                                                                                   | 33.3                | 240                                              | 14.9                |         | 01.1                     | 270                                              | 07.8          |                | 18.7  | 344                                              | 28.5 |     | 45.0 |
| 3   | 118                                                | 16.1 | 255                                              | 54.5 |                                                                                                                                                                                   | 34.2                | 255                                              | 15.7                |         | 01.6                     | 285                                              | 09.9          |                | 18.9  | 359                                              | 31.0 |     | 45.0 |
| 4   | 133                                                | 18.6 | 270                                              | 53.9 |                                                                                                                                                                                   | 35.2                | 270                                              | 16.5                |         | 02.1                     | 300                                              | 12.0          |                | 19.0  | 14                                               | 33.6 |     | 45.0 |
| 5   | 148                                                | 21.0 | 285                                              | 53.3 | -14                                                                                                                                                                               | 36.2                | 285                                              | 17.3                | -16     | 02.6                     | 315                                              | 14.1          | -4             | 19.1  | 29                                               | 36.2 | +20 | 45.0 |
| 6   | 163                                                | 23.5 | 300                                              | 52.7 | -14                                                                                                                                                                               | 37.1                | 300                                              | 18.1                | -16     | 03.2                     | 330                                              | 16.2          | -4             | 19.3  | 44                                               | 38.8 | +20 | 45.1 |
| 7   | 178                                                | 26.0 | 315                                              | 52.1 |                                                                                                                                                                                   | 38.1                | 315                                              | 18.9                |         | 03.7                     | 345                                              | 18.3          |                | 19.4  | 59                                               | 41.4 |     | 45.1 |
| 8   | 193                                                | 28.4 | 330                                              | 51.5 |                                                                                                                                                                                   | 39.0                | 330                                              | 19.7                |         | 04.2                     | 0                                                | 20.4          |                | 19.6  | 74                                               | 44.0 |     | 45.1 |
| 9   | 208                                                | 30.9 | 345                                              | 50.9 |                                                                                                                                                                                   | 40.0                | 345                                              | 20.5                |         | 04.7                     | 15                                               | 22.5          |                | 19.7  | 89                                               | 46.6 |     | 45.1 |
| 10  | 223                                                | 33.3 | 0                                                | 50.4 |                                                                                                                                                                                   | 40.9                | 0                                                | 21.3                |         | 05.2                     | 30                                               | 24.6          |                | 19.9  | 104                                              | 49.1 |     | 45.2 |
| 11  | 238                                                | 35.8 | 15                                               | 49.8 | -14                                                                                                                                                                               | 41.9                | 15                                               | 22.1                | -16     | 05.7                     | 45                                               | 26.7          | -4             | 20.0  | 119                                              | 51.7 | +20 | 45.2 |
| 12  | 253                                                | 38.3 | 30                                               | 49.2 | -14                                                                                                                                                                               | 42.9                | 30                                               | 22.8                | -16     | 06.2                     | 60                                               | 28.8          | -4             | 20.1  | 134                                              | 54.3 | +20 | 45.2 |
| 13  | 268                                                | 40.7 | 45                                               | 48.6 |                                                                                                                                                                                   | 43.8                | 45                                               | 23.6                |         | 06.7                     | 75                                               | 30.9          |                | 20.3  | 149                                              | 56.9 |     | 45.3 |
| 14  | 283                                                | 43.2 | 60                                               | 48.0 |                                                                                                                                                                                   | 44.8                | 60                                               | 24.4                |         | 07.2                     | 90                                               | 33.0          |                | 20.4  | 164                                              | 59.5 |     | 45.3 |
| 15  | 298                                                | 45.7 | 75                                               | 47.4 |                                                                                                                                                                                   | 45.7                | 75                                               | 25.2                |         | 07.8                     | 105                                              | 35.1          |                | 20.6  | 180                                              | 02.1 |     | 45.3 |
| 16  | 313                                                | 48.1 | 90                                               | 46.8 |                                                                                                                                                                                   | 46.7                | 90                                               | 26.0                |         | 08.3                     | 120                                              | 37.2          |                | 20.7  | 195                                              | 04.7 |     | 45.3 |
| 17  | 328                                                | 50.6 | 105                                              | 46.2 | -14                                                                                                                                                                               | 47.6                | 105                                              | 26.8                | -16     | 08.8                     | 135                                              | 39.3          | -4             | 20.9  | 210                                              | 07.2 | +20 | 45.4 |
| 18  | 343                                                | 53.1 | 120                                              | 45.6 | -14                                                                                                                                                                               | 48.6                | 120                                              | 27.6                | -16     | 09.3                     | 150                                              | 41.4          | -4             | 21.0  | 225                                              | 09.8 | +20 | 45.4 |
| 19  | 358                                                | 55.5 | 135                                              | 45.0 |                                                                                                                                                                                   | 49.5                | 135                                              | 28.4                |         | 09.8                     | 165                                              | 43.5          |                | 21.2  | 240                                              | 12.4 |     | 45.4 |
| 20  | 13                                                 | 58.0 | 150                                              | 44.4 |                                                                                                                                                                                   | 50.5                | 150                                              | 29.1                |         | 10.3                     | 180                                              | 45.6          |                | 21.3  | 255                                              | 15.0 |     | 45.4 |
| 21  | 29                                                 | 00.5 | 165                                              | 43.8 |                                                                                                                                                                                   | 51.4                | 165                                              | 29.9                |         | 10.8                     | 195                                              | 47.7          |                | 21.4  | 270                                              | 17.6 |     | 45.5 |
| 22  | 44                                                 | 02.9 | 180                                              | 43.2 |                                                                                                                                                                                   | 52.4                | 180                                              | 30.7                |         | 11.3                     | 210                                              | 49.8          |                | 21.6  | 285                                              | 20.2 |     | 45.5 |
| 23  | 59                                                 | 05.4 | 195                                              | 42.6 |                                                                                                                                                                                   | 53.3                | 195                                              | 31.5                |         | 11.8                     | 225                                              | 51.9          |                | 21.7  | 300                                              | 22.8 |     | 45.5 |
| 24  | 74                                                 | 07.8 | 210                                              | 42.0 | -14                                                                                                                                                                               | 54.3                | 210                                              | 32.3                | -16     | 12.3                     | 240                                              | 54.0          | -4             | 21.9  | 315                                              | 25.4 | +20 | 45.5 |
| Dif | —                                                  |      | -6                                               |      | -10                                                                                                                                                                               |                     | +8                                               |                     | -5      |                          | +21                                              |               | -1             |       | +26                                              |      |     |      |

| UT  | SOL                                                |      |                                                  | ☾ LUNA                                                                                                                                                                |                                                  |                     | Latitud                                          | Puesta de Sol       | Final del crepúsculo                             |       | Salida de Luna |         | Puesta de Luna |       |       |
|-----|----------------------------------------------------|------|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------------------|--------------------------------------------------|---------------------|--------------------------------------------------|-------|----------------|---------|----------------|-------|-------|
|     | SD: 16:2<br>PMG: 11 <sup>h</sup> 50 <sup>m</sup> 8 |      |                                                  | Edad: 22 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 55:6<br>12 <sup>h</sup> : 55:9<br>20 <sup>h</sup> : 56:1<br>PMG: 6 <sup>h</sup> 17 <sup>m</sup> R°: 42 <sup>m</sup> |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     | hG ☉                                               | Dec  |                                                  | hG ☾                                                                                                                                                                  | Dif                                              | Dec                 |                                                  |                     | Dif                                              | Civil | Náutico        | Hora    | R°             | Hora  | R°    |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                     | °                                                | '                   | °                                                | '                   | h m                                              | h m   | h m            | h m m   | h m m          | h m m | h m m |
| 0   | 182                                                | 21.5 | -22                                              | 23.0                                                                                                                                                                  | 268                                              | 30.4                | +10                                              | 20.4                | 60 N                                             | 14 58 | 15 53          | 16 49   | ** ** *        | 13 19 | **    |
| 1   | 197                                                | 21.2 |                                                  | 23.3                                                                                                                                                                  | 283                                              | 04.6 <sup>152</sup> | +10                                              | 06.7 <sup>137</sup> | 58                                               | 15 14 | 16 04          | 16 56   | ** ** *        | 15    | 3     |
| 2   | 212                                                | 20.9 |                                                  | 23.6                                                                                                                                                                  | 297                                              | 38.8 <sup>152</sup> | +9                                               | 53.0 <sup>137</sup> | 56                                               | 28    | 14             | 17 02   | ** ** *        | 11    | 6     |
| 3   | 227                                                | 20.7 |                                                  | 23.9                                                                                                                                                                  | 312                                              | 13.1 <sup>153</sup> |                                                  | 39.2 <sup>138</sup> | 54                                               | 39    | 22             | 08      | ** ** *        | 08    | 9     |
| 4   | 242                                                | 20.4 |                                                  | 24.2                                                                                                                                                                  | 326                                              | 47.3 <sup>152</sup> |                                                  | 25.4 <sup>138</sup> | 52                                               | 50    | 30             | 13      | ** ** *        | 05    | 11    |
| 5   | 257                                                | 20.2 | -22                                              | 24.6                                                                                                                                                                  | 341                                              | 21.5 <sup>152</sup> | +9                                               | 11.5 <sup>139</sup> | 50                                               | 15 59 | 16 37          | 17 18   | ** ** *        | 13 03 | 13    |
| 6   | 272                                                | 19.9 | -22                                              | 24.9                                                                                                                                                                  | 355                                              | 55.8 <sup>153</sup> | +8                                               | 57.5 <sup>140</sup> | 45                                               | 16 19 | 16 52          | 17 29   | ** ** *        | 12 57 | 18    |
| 7   | 287                                                | 19.6 |                                                  | 25.2                                                                                                                                                                  | 10                                               | 30.0 <sup>152</sup> |                                                  | 43.5 <sup>140</sup> | 40                                               | 35    | 17 05          | 39      | ** ** *        | 52    | 22    |
| 8   | 302                                                | 19.4 |                                                  | 25.5                                                                                                                                                                  | 25                                               | 04.3 <sup>153</sup> |                                                  | 29.5 <sup>140</sup> | 35                                               | 16 48 | 16             | 47      | ** ** *        | 48    | 25    |
| 9   | 317                                                | 19.1 |                                                  | 25.8                                                                                                                                                                  | 39                                               | 38.5 <sup>152</sup> |                                                  | 15.4 <sup>141</sup> | 30                                               | 17 00 | 26             | 17 56   | ** ** *        | 44    | 29    |
| 10  | 332                                                | 18.9 |                                                  | 26.1                                                                                                                                                                  | 54                                               | 12.8 <sup>153</sup> | +8                                               | 01.3 <sup>141</sup> | 20                                               | 20    | 17 44          | 18 11   | ** ** *        | 38    | 33    |
| 11  | 347                                                | 18.6 | -22                                              | 26.4                                                                                                                                                                  | 68                                               | 47.1 <sup>153</sup> | +7                                               | 47.1 <sup>142</sup> | 10 N                                             | 17 38 | 18 00          | 18 27   | ** ** *        | 12 32 | 38    |
| 12  | 2                                                  | 18.3 | -22                                              | 26.7                                                                                                                                                                  | 83                                               | 21.3 <sup>152</sup> | +7                                               | 32.8 <sup>143</sup> | 0                                                | 17 54 | 18 17          | 18 43   | 0 07 42        | 12 27 | 43    |
| 13  | 17                                                 | 18.1 |                                                  | 27.0                                                                                                                                                                  | 97                                               | 55.6 <sup>153</sup> |                                                  | 18.6 <sup>142</sup> | 10 S                                             | 18 11 | 34             | 19 01   | 14 38          | 21    | 48    |
| 14  | 32                                                 | 17.8 |                                                  | 27.3                                                                                                                                                                  | 112                                              | 29.8 <sup>152</sup> | +7                                               | 04.2 <sup>144</sup> | 20                                               | 29    | 18 54          | 23      | 22 34          | 16    | 51    |
| 15  | 47                                                 | 17.6 |                                                  | 27.6                                                                                                                                                                  | 127                                              | 04.1 <sup>153</sup> | +6                                               | 49.8 <sup>144</sup> | 30                                               | 18 50 | 19 18          | 19 51   | 31 29          | 09    | 57    |
| 16  | 62                                                 | 17.3 |                                                  | 27.9                                                                                                                                                                  | 141                                              | 38.3 <sup>152</sup> |                                                  | 35.4 <sup>144</sup> | 35                                               | 19 03 | 32             | 20 08   | 37 25          | 05    | 60    |
| 17  | 77                                                 | 17.0 | -22                                              | 28.2                                                                                                                                                                  | 156                                              | 12.6 <sup>153</sup> | +6                                               | 21.0 <sup>144</sup> | 40                                               | 19 17 | 19 50          | 20 30   | 0 42 22        | 12 00 | 65    |
| 18  | 92                                                 | 16.8 | -22                                              | 28.5                                                                                                                                                                  | 170                                              | 46.8 <sup>152</sup> | +6                                               | 06.5 <sup>145</sup> | 45                                               | 19 34 | 20 11          | 20 59   | 0 49 18        | 11 55 | 69    |
| 19  | 107                                                | 16.5 |                                                  | 28.8                                                                                                                                                                  | 185                                              | 21.0 <sup>152</sup> | +5                                               | 51.9 <sup>146</sup> | 50                                               | 19 56 | 39             | 21 41   | 0 57 14        | 49    | 73    |
| 20  | 122                                                | 16.2 |                                                  | 29.2                                                                                                                                                                  | 199                                              | 55.3 <sup>153</sup> |                                                  | 37.3 <sup>146</sup> | 52                                               | 20 06 | 20 53          | 22 05   | 1 01 11        | 46    | 76    |
| 21  | 137                                                | 16.0 |                                                  | 29.5                                                                                                                                                                  | 214                                              | 29.5 <sup>152</sup> |                                                  | 22.7 <sup>146</sup> | 54                                               | 17    | 21 10          | 22 40   | 05 9           | 43    | 78    |
| 22  | 152                                                | 15.7 |                                                  | 29.8                                                                                                                                                                  | 229                                              | 03.7 <sup>152</sup> | +5                                               | 08.0 <sup>147</sup> | 56                                               | 31    | 30             | ** ** * | 10 6           | 39    | 82    |
| 23  | 167                                                | 15.5 |                                                  | 30.0                                                                                                                                                                  | 243                                              | 37.8 <sup>151</sup> | +4                                               | 53.3 <sup>147</sup> | 58                                               | 20 46 | 21 56          | ** ** * | 15 3           | 35    | 85    |
| 24  | 182                                                | 15.2 | -22                                              | 30.3                                                                                                                                                                  | 258                                              | 12.0 <sup>152</sup> | +4                                               | 38.6 <sup>147</sup> | 60 S                                             | 21 05 | 22 34          | ** ** * | 1 21 **        | 11 31 | 88    |
| UT  | ARIES                                              |      | VENUS                                            |                                                                                                                                                                       | MARTE                                            |                     | JÚPITER                                          |                     | SATURNO                                          |       |                |         |                |       |       |
|     | PMG: 19 <sup>h</sup> 00 <sup>m</sup> 4             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 58 <sup>m</sup> |                                                                                                                                                                       | Mag: +1.7<br>PMG: 9 <sup>h</sup> 57 <sup>m</sup> |                     | Mag: -1.9<br>PMG: 7 <sup>h</sup> 55 <sup>m</sup> |                     | Mag: -0.1<br>PMG: 2 <sup>h</sup> 58 <sup>m</sup> |       |                |         |                |       |       |
|     | hG ♈                                               |      | hG ♀                                             | Dec                                                                                                                                                                   | hG ♂                                             | Dec                 | hG ♃                                             | Dec                 | hG ♄                                             | Dec   |                |         |                |       |       |
| h   | °                                                  | '    | °                                                | '                                                                                                                                                                     | °                                                | '                   | °                                                | '                   | °                                                | '     |                |         |                |       |       |
| 0   | 74                                                 | 07.8 | 210                                              | 42.0                                                                                                                                                                  | -14                                              | 54.3                | 240                                              | 54.0                | -4                                               | 21.9  |                |         |                |       |       |
| 1   | 89                                                 | 10.3 | 225                                              | 41.4                                                                                                                                                                  |                                                  | 55.2                | 255                                              | 56.1                |                                                  | 22.0  |                |         |                |       |       |
| 2   | 104                                                | 12.8 | 240                                              | 40.8                                                                                                                                                                  |                                                  | 56.2                | 270                                              | 58.2                |                                                  | 22.2  |                |         |                |       |       |
| 3   | 119                                                | 15.2 | 255                                              | 40.2                                                                                                                                                                  |                                                  | 57.1                | 286                                              | 00.3                |                                                  | 22.3  |                |         |                |       |       |
| 4   | 134                                                | 17.7 | 270                                              | 39.6                                                                                                                                                                  |                                                  | 58.1                | 301                                              | 02.4                |                                                  | 22.4  |                |         |                |       |       |
| 5   | 149                                                | 20.2 | 285                                              | 39.0                                                                                                                                                                  | -14                                              | 59.0                | 316                                              | 04.5                | -4                                               | 22.6  |                |         |                |       |       |
| 6   | 164                                                | 22.6 | 300                                              | 38.4                                                                                                                                                                  | -14                                              | 59.9                | 331                                              | 06.6                | -4                                               | 22.7  |                |         |                |       |       |
| 7   | 179                                                | 25.1 | 315                                              | 37.8                                                                                                                                                                  | -15                                              | 00.9                | 346                                              | 08.7                |                                                  | 22.9  |                |         |                |       |       |
| 8   | 194                                                | 27.6 | 330                                              | 37.2                                                                                                                                                                  |                                                  | 01.8                | 1                                                | 10.8                |                                                  | 23.0  |                |         |                |       |       |
| 9   | 209                                                | 30.0 | 345                                              | 36.6                                                                                                                                                                  |                                                  | 02.8                | 16                                               | 12.9                |                                                  | 23.2  |                |         |                |       |       |
| 10  | 224                                                | 32.5 | 0                                                | 36.0                                                                                                                                                                  |                                                  | 03.7                | 31                                               | 15.0                |                                                  | 23.3  |                |         |                |       |       |
| 11  | 239                                                | 34.9 | 15                                               | 35.4                                                                                                                                                                  | -15                                              | 04.7                | 46                                               | 17.2                | -4                                               | 23.4  |                |         |                |       |       |
| 12  | 254                                                | 37.4 | 30                                               | 34.8                                                                                                                                                                  | -15                                              | 05.6                | 61                                               | 19.3                | -4                                               | 23.6  |                |         |                |       |       |
| 13  | 269                                                | 39.9 | 45                                               | 34.2                                                                                                                                                                  |                                                  | 06.5                | 76                                               | 21.4                |                                                  | 23.7  |                |         |                |       |       |
| 14  | 284                                                | 42.3 | 60                                               | 33.6                                                                                                                                                                  |                                                  | 07.5                | 91                                               | 23.5                |                                                  | 23.9  |                |         |                |       |       |
| 15  | 299                                                | 44.8 | 75                                               | 33.0                                                                                                                                                                  |                                                  | 08.4                | 106                                              | 25.6                |                                                  | 24.0  |                |         |                |       |       |
| 16  | 314                                                | 47.3 | 90                                               | 32.4                                                                                                                                                                  |                                                  | 09.4                | 121                                              | 27.7                |                                                  | 24.1  |                |         |                |       |       |
| 17  | 329                                                | 49.7 | 105                                              | 31.8                                                                                                                                                                  | -15                                              | 10.3                | 136                                              | 29.8                | -4                                               | 24.3  |                |         |                |       |       |
| 18  | 344                                                | 52.2 | 120                                              | 31.2                                                                                                                                                                  | -15                                              | 11.2                | 151                                              | 31.9                | -4                                               | 24.4  |                |         |                |       |       |
| 19  | 359                                                | 54.7 | 135                                              | 30.6                                                                                                                                                                  |                                                  | 12.2                | 166                                              | 34.0                |                                                  | 24.6  |                |         |                |       |       |
| 20  | 14                                                 | 57.1 | 150                                              | 30.0                                                                                                                                                                  |                                                  | 13.1                | 181                                              | 36.1                |                                                  | 24.7  |                |         |                |       |       |
| 21  | 29                                                 | 59.6 | 165                                              | 29.4                                                                                                                                                                  |                                                  | 14.0                | 196                                              | 38.2                |                                                  | 24.8  |                |         |                |       |       |
| 22  | 45                                                 | 02.1 | 180                                              | 28.8                                                                                                                                                                  |                                                  | 15.0                | 211                                              | 40.3                |                                                  | 25.0  |                |         |                |       |       |
| 23  | 60                                                 | 04.5 | 195                                              | 28.2                                                                                                                                                                  |                                                  | 15.9                | 226                                              | 42.4                |                                                  | 25.1  |                |         |                |       |       |
| 24  | 75                                                 | 07.0 | 210                                              | 27.6                                                                                                                                                                  | -15                                              | 16.8                | 241                                              | 44.5                | -4                                               | 25.3  |                |         |                |       |       |
| Dif | —                                                  |      | -6                                               |                                                                                                                                                                       | -9                                               |                     | +8                                               |                     | -1                                               |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |
|     |                                                    |      |                                                  |                                                                                                                                                                       |                                                  |                     |                                                  |                     |                                                  |       |                |         |                |       |       |

| UT  | SOL                                                |      |                                                  |      | ☾ LUNA                                                                                                                                                                |                     |                                                  |                     | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |      | Puesta de Luna                                   |      |     |      |
|-----|----------------------------------------------------|------|--------------------------------------------------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|---------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|------|--------------------------------------------------|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 51 <sup>m</sup> 2 |      |                                                  |      | Edad: 23 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 56'4<br>12 <sup>h</sup> : 56'7<br>20 <sup>h</sup> : 57'0<br>PMG: 6 <sup>h</sup> 59 <sup>m</sup> R°: 44 <sup>m</sup> |                     |                                                  |                     |         |                          |                                                  |               |                |      |                                                  |      |     |      |
|     | hG ☉                                               |      | Dec                                              |      | hG ☾                                                                                                                                                                  |                     | Dif                                              |                     |         | Náutico                  | Civil                                            |               | Hora           | R°   | Hora                                             | R°   |     |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                     | '                   | °                                                | '                   | °       | h                        | m                                                | h             | m              | h    | m                                                | h    | m   | m    |
| 0   | 182                                                | 15.2 | -22                                              | 30.3 | 258                                                                                                                                                                   | 12.0                | +4                                               | 38.6                | 60 N    | 6 53                     | 7 49                                             | 8 45          | 0 17           | 89   | 13 18                                            | 0    |     |      |
| 1   | 197                                                | 14.9 |                                                  | 30.6 | 272                                                                                                                                                                   | 46.1 <sup>151</sup> |                                                  | 23.8 <sup>148</sup> | 58      | 47                       | 38                                               | 29            | 19             | 86   | 18                                               | 3    |     |      |
| 2   | 212                                                | 14.7 |                                                  | 30.9 | 287                                                                                                                                                                   | 20.3 <sup>152</sup> | +4                                               | 09.0 <sup>148</sup> | 56      | 40                       | 29                                               | 15            | 22             | 82   | 17                                               | 6    |     |      |
| 3   | 227                                                | 14.4 |                                                  | 31.2 | 301                                                                                                                                                                   | 54.4 <sup>151</sup> | +3                                               | 54.1 <sup>149</sup> | 54      | 34                       | 20                                               | 8 03          | 24             | 79   | 17                                               | 8    |     |      |
| 4   | 242                                                | 14.1 |                                                  | 31.5 | 316                                                                                                                                                                   | 28.5 <sup>151</sup> |                                                  | 39.2 <sup>149</sup> | 52      | 29                       | 12                                               | 7 53          | 25             | 77   | 16                                               | 11   |     |      |
| 5   | 257                                                | 13.9 | -22                                              | 31.8 | 331                                                                                                                                                                   | 02.5 <sup>150</sup> | +3                                               | 24.3 <sup>149</sup> | 50      | 6 24                     | 7 05                                             | 7 43          | 0 27           | 75   | 13 16                                            | 13   |     |      |
| 6   | 272                                                | 13.6 | -22                                              | 32.1 | 345                                                                                                                                                                   | 36.6 <sup>151</sup> | +3                                               | 09.4 <sup>149</sup> | 45      | 6 13                     | 6 50                                             | 7 24          | 0 31           | 69   | 13 15                                            | 18   |     |      |
| 7   | 287                                                | 13.3 |                                                  | 32.4 | 0                                                                                                                                                                     | 10.6 <sup>150</sup> | +2                                               | 54.4 <sup>150</sup> | 40      | 6 04                     | 37                                               | 7 08          | 34             | 65   | 14                                               | 22   |     |      |
| 8   | 302                                                | 13.1 |                                                  | 32.7 | 14                                                                                                                                                                    | 44.6 <sup>150</sup> |                                                  | 39.3 <sup>151</sup> | 35      | 5 55                     | 26                                               | 6 54          | 36             | 62   | 13                                               | 26   |     |      |
| 9   | 317                                                | 12.8 |                                                  | 33.0 | 29                                                                                                                                                                    | 18.6 <sup>150</sup> |                                                  | 24.3 <sup>150</sup> | 30      | 46                       | 6 16                                             | 42            | 38             | 59   | 13                                               | 29   |     |      |
| 10  | 332                                                | 12.5 |                                                  | 33.3 | 43                                                                                                                                                                    | 52.5 <sup>149</sup> | +2                                               | 09.2 <sup>151</sup> | 20      | 31                       | 5 58                                             | 22            | 42             | 53   | 11                                               | 35   |     |      |
| 11  | 347                                                | 12.3 | -22                                              | 33.6 | 58                                                                                                                                                                    | 26.5 <sup>150</sup> | +1                                               | 54.1 <sup>151</sup> | 10 N    | 5 15                     | 5 42                                             | 6 04          | 0 46           | 48   | 13 10                                            | 40   |     |      |
| 12  | 2                                                  | 12.0 | -22                                              | 33.9 | 73                                                                                                                                                                    | 00.3 <sup>148</sup> | +1                                               | 39.0 <sup>151</sup> | 0       | 4 59                     | 5 25                                             | 5 47          | 0 49           | 43   | 13 10                                            | 44   |     |      |
| 13  | 17                                                 | 11.7 |                                                  | 34.2 | 87                                                                                                                                                                    | 34.2 <sup>149</sup> |                                                  | 23.8 <sup>152</sup> | 10 S    | 41                       | 5 08                                             | 31            | 52             | 39   | 09                                               | 48   |     |      |
| 14  | 32                                                 | 11.5 |                                                  | 34.4 | 102                                                                                                                                                                   | 08.0 <sup>148</sup> | +1                                               | 08.6 <sup>152</sup> | 20      | 4 19                     | 4 48                                             | 5 12          | 0 56           | 34   | 07                                               | 54   |     |      |
| 15  | 47                                                 | 11.2 |                                                  | 34.7 | 116                                                                                                                                                                   | 41.8 <sup>148</sup> | +0                                               | 53.4 <sup>152</sup> | 30      | 3 51                     | 24                                               | 4 51          | 1 00           | 28   | 06                                               | 59   |     |      |
| 16  | 62                                                 | 10.9 |                                                  | 35.0 | 131                                                                                                                                                                   | 15.6 <sup>148</sup> |                                                  | 38.1 <sup>153</sup> | 35      | 33                       | 4 10                                             | 39            | 02             | 25   | 05                                               | 63   |     |      |
| 17  | 77                                                 | 10.7 | -22                                              | 35.3 | 145                                                                                                                                                                   | 49.3 <sup>147</sup> | +0                                               | 22.9 <sup>152</sup> | 40      | 3 11                     | 3 52                                             | 4 25          | 1 04           | 22   | 13 05                                            | 66   |     |      |
| 18  | 92                                                 | 10.4 | -22                                              | 35.6 | 160                                                                                                                                                                   | 23.0 <sup>147</sup> | +0                                               | 07.6 <sup>153</sup> | 45      | 2 43                     | 3 31                                             | 4 07          | 1 07           | 18   | 13 04                                            | 70   |     |      |
| 19  | 107                                                | 10.1 |                                                  | 35.9 | 174                                                                                                                                                                   | 56.6 <sup>146</sup> | -0                                               | 07.7 <sup>153</sup> | 50      | 2 01                     | 3 03                                             | 3 46          | 11             | 13   | 02                                               | 76   |     |      |
| 20  | 122                                                | 09.9 |                                                  | 36.1 | 189                                                                                                                                                                   | 30.2 <sup>146</sup> |                                                  | 23.1 <sup>154</sup> | 52      | 1 36                     | 2 49                                             | 36            | 12             | 11   | 02                                               | 78   |     |      |
| 21  | 137                                                | 09.6 |                                                  | 36.4 | 204                                                                                                                                                                   | 03.8 <sup>146</sup> |                                                  | 38.4 <sup>153</sup> | 54      | 1 01                     | 32                                               | 24            | 14             | 9    | 01                                               | 81   |     |      |
| 22  | 152                                                | 09.3 |                                                  | 36.7 | 218                                                                                                                                                                   | 37.3 <sup>145</sup> | -0                                               | 53.8 <sup>154</sup> | 56      | ** **                    | 2 12                                             | 3 11          | 16             | 6    | 01                                               | 84   |     |      |
| 23  | 167                                                | 09.1 |                                                  | 37.0 | 233                                                                                                                                                                   | 10.7 <sup>144</sup> | -1                                               | 09.2 <sup>154</sup> | 58      | ** **                    | 1 46                                             | 2 55          | 18             | 3    | 13 00                                            | 87   |     |      |
| 24  | 182                                                | 08.8 | -22                                              | 37.3 | 247                                                                                                                                                                   | 44.2 <sup>145</sup> | -1                                               | 24.6 <sup>154</sup> | 60 S    | ** **                    | 1 08                                             | 2 37          | 1 20           | 0    | 12 59                                            | 91   |     |      |
| UT  | ARIES                                              |      | VENUS                                            |      |                                                                                                                                                                       |                     | MARTE                                            |                     |         |                          | JÚPITER                                          |               |                |      | SATURNO                                          |      |     |      |
|     | PMG: 18 <sup>h</sup> 56 <sup>m</sup> 4             |      | Mag: -3.9<br>PMG: 9 <sup>h</sup> 59 <sup>m</sup> |      |                                                                                                                                                                       |                     | Mag: +1.7<br>PMG: 9 <sup>h</sup> 56 <sup>m</sup> |                     |         |                          | Mag: -1.9<br>PMG: 7 <sup>h</sup> 52 <sup>m</sup> |               |                |      | Mag: -0.1<br>PMG: 2 <sup>h</sup> 54 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | hG ♀                                             |      | Dec                                                                                                                                                                   |                     | hG ♂                                             |                     | Dec     |                          | hG ♃                                             |               | Dec            |      | hG ♄                                             |      | Dec |      |
| h   | °                                                  | '    | °                                                | '    | °                                                                                                                                                                     | '                   | °                                                | '                   | °       | '                        | °                                                | '             | °              | '    | °                                                | '    | °   | '    |
| 0   | 75                                                 | 07.0 | 210                                              | 27.6 | -15                                                                                                                                                                   | 16.8                | 210                                              | 51.1                | -16     | 24.5                     | 241                                              | 44.5          | -4             | 25.3 | 316                                              | 27.5 | +20 | 46.2 |
| 1   | 90                                                 | 09.4 | 225                                              | 27.0 |                                                                                                                                                                       | 17.8                | 225                                              | 51.9                |         | 25.0                     | 256                                              | 46.6          |                | 25.4 | 331                                              | 30.1 |     | 46.2 |
| 2   | 105                                                | 11.9 | 240                                              | 26.3 |                                                                                                                                                                       | 18.7                | 240                                              | 52.7                |         | 25.5                     | 271                                              | 48.8          |                | 25.6 | 346                                              | 32.7 |     | 46.3 |
| 3   | 120                                                | 14.4 | 255                                              | 25.7 |                                                                                                                                                                       | 19.6                | 255                                              | 53.5                |         | 26.0                     | 286                                              | 50.9          |                | 25.7 | 1                                                | 35.3 |     | 46.3 |
| 4   | 135                                                | 16.8 | 270                                              | 25.1 |                                                                                                                                                                       | 20.6                | 270                                              | 54.2                |         | 26.5                     | 301                                              | 53.0          |                | 25.8 | 16                                               | 37.9 |     | 46.3 |
| 5   | 150                                                | 19.3 | 285                                              | 24.5 | -15                                                                                                                                                                   | 21.5                | 285                                              | 55.0                | -16     | 27.0                     | 316                                              | 55.1          | -4             | 26.0 | 31                                               | 40.5 | +20 | 46.3 |
| 6   | 165                                                | 21.8 | 300                                              | 23.9 | -15                                                                                                                                                                   | 22.4                | 300                                              | 55.8                | -16     | 27.5                     | 331                                              | 57.2          | -4             | 26.1 | 46                                               | 43.1 | +20 | 46.4 |
| 7   | 180                                                | 24.2 | 315                                              | 23.3 |                                                                                                                                                                       | 23.3                | 315                                              | 56.6                |         | 28.0                     | 346                                              | 59.3          |                | 26.3 | 61                                               | 45.7 |     | 46.4 |
| 8   | 195                                                | 26.7 | 330                                              | 22.7 |                                                                                                                                                                       | 24.3                | 330                                              | 57.4                |         | 28.5                     | 2                                                | 01.4          |                | 26.4 | 76                                               | 48.3 |     | 46.4 |
| 9   | 210                                                | 29.2 | 345                                              | 22.1 |                                                                                                                                                                       | 25.2                | 345                                              | 58.1                |         | 29.0                     | 17                                               | 03.5          |                | 26.5 | 91                                               | 50.9 |     | 46.4 |
| 10  | 225                                                | 31.6 | 0                                                | 21.4 |                                                                                                                                                                       | 26.1                | 0                                                | 58.9                |         | 29.5                     | 32                                               | 05.6          |                | 26.7 | 106                                              | 53.4 |     | 46.5 |
| 11  | 240                                                | 34.1 | 15                                               | 20.8 | -15                                                                                                                                                                   | 27.1                | 15                                               | 59.7                | -16     | 30.0                     | 47                                               | 07.7          | -4             | 26.8 | 121                                              | 56.0 | +20 | 46.5 |
| 12  | 255                                                | 36.6 | 30                                               | 20.2 | -15                                                                                                                                                                   | 28.0                | 31                                               | 00.5                | -16     | 30.5                     | 62                                               | 09.8          | -4             | 27.0 | 136                                              | 58.6 | +20 | 46.5 |
| 13  | 270                                                | 39.0 | 45                                               | 19.6 |                                                                                                                                                                       | 28.9                | 46                                               | 01.3                |         | 31.0                     | 77                                               | 12.0          |                | 27.1 | 152                                              | 01.2 |     | 46.6 |
| 14  | 285                                                | 41.5 | 60                                               | 19.0 |                                                                                                                                                                       | 29.8                | 61                                               | 02.0                |         | 31.5                     | 92                                               | 14.1          |                | 27.2 | 167                                              | 03.8 |     | 46.6 |
| 15  | 300                                                | 43.9 | 75                                               | 18.4 |                                                                                                                                                                       | 30.8                | 76                                               | 02.8                |         | 32.0                     | 107                                              | 16.2          |                | 27.4 | 182                                              | 06.4 |     | 46.6 |
| 16  | 315                                                | 46.4 | 90                                               | 17.8 |                                                                                                                                                                       | 31.7                | 91                                               | 03.6                |         | 32.5                     | 122                                              | 18.3          |                | 27.5 | 197                                              | 09.0 |     | 46.6 |
| 17  | 330                                                | 48.9 | 105                                              | 17.1 | -15                                                                                                                                                                   | 32.6                | 106                                              | 04.4                | -16     | 33.0                     | 137                                              | 20.4          | -4             | 27.7 | 212                                              | 11.6 | +20 | 46.7 |
| 18  | 345                                                | 51.3 | 120                                              | 16.5 | -15                                                                                                                                                                   | 33.5                | 121                                              | 05.2                | -16     | 33.5                     | 152                                              | 22.5          | -4             | 27.8 | 227                                              | 14.2 | +20 | 46.7 |
| 19  | 0                                                  | 53.8 | 135                                              | 15.9 |                                                                                                                                                                       | 34.4                | 136                                              | 05.9                |         | 34.0                     | 167                                              | 24.6          |                | 27.9 | 242                                              | 16.8 |     | 46.7 |
| 20  | 15                                                 | 56.3 | 150                                              | 15.3 |                                                                                                                                                                       | 35.4                | 151                                              | 06.7                |         | 34.5                     | 182                                              | 26.7          |                | 28.1 | 257                                              | 19.4 |     | 46.8 |
| 21  | 30                                                 | 58.7 | 165                                              | 14.7 |                                                                                                                                                                       | 36.3                | 166                                              | 07.5                |         | 35.0                     | 197                                              | 28.8          |                | 28.2 | 272                                              | 22.0 |     | 46.8 |
| 22  | 46                                                 | 01.2 | 180                                              | 14.0 |                                                                                                                                                                       | 37.2                | 181                                              | 08.3                |         | 35.5                     | 212                                              | 31.0          |                | 28.4 | 287                                              | 24.6 |     | 46.8 |
| 23  | 61                                                 | 03.7 | 195                                              | 13.4 |                                                                                                                                                                       | 38.1                | 196                                              | 09.0                |         | 36.0                     | 227                                              | 33.1          |                | 28.5 | 302                                              | 27.2 |     | 46.8 |
| 24  | 76                                                 | 06.1 | 210                                              | 12.8 | -15                                                                                                                                                                   | 39.0                | 211                                              | 09.8                | -16     | 36.5                     | 242                                              | 35.2          | -4             | 28.6 | 317                                              | 29.8 | +20 | 46.9 |
| Dif | —                                                  |      | -6                                               |      | -9                                                                                                                                                                    |                     | +8                                               |                     | -5      |                          | +21                                              |               | -1             |      | +26                                              |      |     |      |



| UT  | SOL                                    |      | ☾ LUNA                                                                                                                                         |          |                                               |                     | Latitud                                       | Puesta de Sol | Final del crepúsculo                          |          | Salida de Luna |         | Puesta de Luna |    |
|-----|----------------------------------------|------|------------------------------------------------------------------------------------------------------------------------------------------------|----------|-----------------------------------------------|---------------------|-----------------------------------------------|---------------|-----------------------------------------------|----------|----------------|---------|----------------|----|
|     | SD: 16 <sup>h</sup> 2                  |      | Edad: 24 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 57 <sup>m</sup> 3<br>12 <sup>h</sup> : 57 <sup>m</sup> 6<br>20 <sup>h</sup> : 58 <sup>m</sup> 0 |          |                                               |                     |                                               |               |                                               |          |                |         |                |    |
|     | PMG: 11 <sup>h</sup> 51 <sup>m</sup> 6 |      | SD: 15 <sup>h</sup> 6 PMG: 7 <sup>h</sup> 43 <sup>m</sup> R°: 46 <sup>m</sup>                                                                  |          |                                               |                     |                                               |               |                                               |          |                |         |                |    |
|     | hG ☉                                   | Dec  | hG ☾                                                                                                                                           | Dif      | Dec                                           | Dif                 |                                               |               | Civil                                         | Náutico  | Hora           | R°      | Hora           | R° |
| h   | °                                      | '    | °                                                                                                                                              | '        | °                                             | '                   | °                                             | h m           | h m                                           | h m      | h m m          | m       | h m m          | m  |
| 0   | 182                                    | 08.8 | -22                                                                                                                                            | 37.3     | 247                                           | 44.2                | -1 24.6                                       | 60 N          | 14 56                                         | 15 52    | 16 48          | 1 46 94 | 13 18          | 0  |
| 1   | 197                                    | 08.5 |                                                                                                                                                | 37.5     | 262                                           | 17.5 <sup>143</sup> | 40.0 <sup>154</sup>                           | 58            | 15 13                                         | 16 03    | 16 55          | 45 90   | 21             | 4  |
| 2   | 212                                    | 08.2 |                                                                                                                                                | 37.8     | 276                                           | 50.9 <sup>144</sup> | -1 55.4 <sup>154</sup>                        | 56            | 27                                            | 13       | 17 02          | 44 87   | 23             | 7  |
| 3   | 227                                    | 08.0 |                                                                                                                                                | 38.1     | 291                                           | 24.1 <sup>142</sup> | -2 10.9 <sup>155</sup>                        | 54            | 39                                            | 22       | 07             | 43 84   | 25             | 10 |
| 4   | 242                                    | 07.7 |                                                                                                                                                | 38.4     | 305                                           | 57.4 <sup>143</sup> | 26.3 <sup>154</sup>                           | 52            | 49                                            | 29       | 13             | 42 81   | 27             | 13 |
| 5   | 257                                    | 07.4 | -22                                                                                                                                            | 38.7     | 320                                           | 30.5 <sup>141</sup> | -2 41.8 <sup>155</sup>                        | 50            | 15 59                                         | 16 37    | 17 18          | 1 42 78 | 13 29          | 15 |
| 6   | 272                                    | 07.2 | -22                                                                                                                                            | 38.9     | 335                                           | 03.7 <sup>142</sup> | -2 57.3 <sup>155</sup>                        | 45            | 16 18                                         | 16 52    | 17 29          | 1 40 73 | 13 33          | 20 |
| 7   | 287                                    | 06.9 |                                                                                                                                                | 39.2     | 349                                           | 36.7 <sup>140</sup> | -3 12.8 <sup>155</sup>                        | 40            | 35                                            | 17 05    | 39             | 39 68   | 36             | 25 |
| 8   | 302                                    | 06.6 |                                                                                                                                                | 39.5     | 4                                             | 09.7 <sup>140</sup> | 28.3 <sup>155</sup>                           | 35            | 16 48                                         | 16       | 48             | 38 64   | 39             | 28 |
| 9   | 317                                    | 06.3 |                                                                                                                                                | 39.8     | 18                                            | 42.7 <sup>140</sup> | 43.8 <sup>155</sup>                           | 30            | 17 00                                         | 26       | 17 56          | 37 61   | 42             | 31 |
| 10  | 332                                    | 06.1 |                                                                                                                                                | 40.0     | 33                                            | 15.5 <sup>138</sup> | -3 59.3 <sup>155</sup>                        | 20            | 21                                            | 17 44    | 18 12          | 35 55   | 46             | 37 |
| 11  | 347                                    | 05.8 | -22                                                                                                                                            | 40.3     | 47                                            | 48.4 <sup>139</sup> | -4 14.8 <sup>155</sup>                        | 10 N          | 17 38                                         | 18 01    | 18 27          | 1 34 50 | 13 50          | 42 |
| 12  | 2                                      | 05.5 | -22                                                                                                                                            | 40.6     | 62                                            | 21.1 <sup>137</sup> | -4 30.3 <sup>155</sup>                        | 0             | 17 55                                         | 18 18    | 18 44          | 1 32 46 | 13 54          | 46 |
| 13  | 17                                     | 05.3 |                                                                                                                                                | 40.8     | 76                                            | 53.8 <sup>137</sup> | -4 45.9 <sup>156</sup>                        | 10 S          | 18 12                                         | 35       | 19 02          | 31 41   | 13 57          | 52 |
| 14  | 32                                     | 05.0 |                                                                                                                                                | 41.1     | 91                                            | 26.4 <sup>136</sup> | -5 01.4 <sup>155</sup>                        | 20            | 31                                            | 18 55    | 24             | 30 35   | 14 01          | 57 |
| 15  | 47                                     | 04.7 |                                                                                                                                                | 41.4     | 105                                           | 59.0 <sup>136</sup> | 16.9 <sup>155</sup>                           | 30            | 18 52                                         | 19 19    | 19 52          | 28 30   | 05             | 63 |
| 16  | 62                                     | 04.4 |                                                                                                                                                | 41.6     | 120                                           | 31.5 <sup>135</sup> | 32.4 <sup>155</sup>                           | 35            | 19 05                                         | 34       | 20 10          | 27 27   | 08             | 66 |
| 17  | 77                                     | 04.2 | -22                                                                                                                                            | 41.9     | 135                                           | 03.9 <sup>134</sup> | -5 47.9 <sup>155</sup>                        | 40            | 19 19                                         | 19 52    | 20 33          | 1 26 24 | 14 11          | 70 |
| 18  | 92                                     | 03.9 | -22                                                                                                                                            | 42.2     | 149                                           | 36.2 <sup>133</sup> | -6 03.5 <sup>156</sup>                        | 45            | 19 36                                         | 20 13    | 21 02          | 1 25 19 | 14 14          | 75 |
| 19  | 107                                    | 03.6 |                                                                                                                                                | 42.4     | 164                                           | 08.5 <sup>133</sup> | 19.0 <sup>155</sup>                           | 50            | 19 58                                         | 42       | 21 45          | 24 14   | 18             | 80 |
| 20  | 122                                    | 03.3 |                                                                                                                                                | 42.7     | 178                                           | 40.7 <sup>132</sup> | 34.5 <sup>155</sup>                           | 52            | 20 08                                         | 20 56    | 22 10          | 23 12   | 20             | 83 |
| 21  | 137                                    | 03.1 |                                                                                                                                                | 43.0     | 193                                           | 12.8 <sup>131</sup> | -6 50.0 <sup>155</sup>                        | 54            | 20                                            | 21 13    | 22 47          | 23 9    | 22             | 86 |
| 22  | 152                                    | 02.8 |                                                                                                                                                | 43.2     | 207                                           | 44.9 <sup>131</sup> | -7 05.5 <sup>155</sup>                        | 56            | 34                                            | 21 34    | ** **          | 22 7    | 25             | 88 |
| 23  | 167                                    | 02.5 |                                                                                                                                                | 43.5     | 222                                           | 16.8 <sup>129</sup> | 20.9 <sup>154</sup>                           | 58            | 20 49                                         | 22 00    | ** **          | 21 4    | 27             | 93 |
| 24  | 182                                    | 02.2 | -22                                                                                                                                            | 43.7     | 236                                           | 48.7 <sup>129</sup> | -7 36.4 <sup>155</sup>                        | 60 S          | 21 08                                         | 22 41    | ** **          | 1 20 0  | 14 30          | 97 |
| UT  | ARIES                                  |      | VENUS                                                                                                                                          |          | MARTE                                         |                     | JÚPITER                                       |               | SATURNO                                       |          |                |         |                |    |
|     | PMG: 18 <sup>h</sup> 52 <sup>m</sup> 5 |      | Mag: -3.9 PMG: 10 <sup>h</sup> 00 <sup>m</sup>                                                                                                 |          | Mag: +1.7 PMG: 9 <sup>h</sup> 55 <sup>m</sup> |                     | Mag: -1.9 PMG: 7 <sup>h</sup> 49 <sup>m</sup> |               | Mag: -0.1 PMG: 2 <sup>h</sup> 50 <sup>m</sup> |          |                |         |                |    |
|     | hG ♈                                   |      | hG ♀                                                                                                                                           | Dec      | hG ♂                                          | Dec                 | hG ♃                                          | Dec           | hG ♄                                          | Dec      |                |         |                |    |
| h   | °                                      | '    | °                                                                                                                                              | '        | °                                             | '                   | °                                             | '             | °                                             | '        |                |         |                |    |
| 0   | 76                                     | 06.1 | 210                                                                                                                                            | 12.8     | -15 39.0                                      | 211 09.8            | -16 36.5                                      | 242 35.2      | -4 28.6                                       | 317 29.8 | +20 46.9       |         |                |    |
| 1   | 91                                     | 08.6 | 225                                                                                                                                            | 12.2     | 39.9                                          | 226 10.6            | 37.0                                          | 257 37.3      | 28.8                                          | 332 32.4 | 46.9           |         |                |    |
| 2   | 106                                    | 11.0 | 240                                                                                                                                            | 11.6     | 40.9                                          | 241 11.4            | 37.5                                          | 272 39.4      | 28.9                                          | 347 35.0 | 46.9           |         |                |    |
| 3   | 121                                    | 13.5 | 255                                                                                                                                            | 10.9     | 41.8                                          | 256 12.1            | 38.0                                          | 287 41.5      | 29.0                                          | 2 37.6   | 47.0           |         |                |    |
| 4   | 136                                    | 16.0 | 270                                                                                                                                            | 10.3     | 42.7                                          | 271 12.9            | 38.5                                          | 302 43.6      | 29.2                                          | 17 40.2  | 47.0           |         |                |    |
| 5   | 151                                    | 18.4 | 285                                                                                                                                            | 09.7     | -15 43.6                                      | 286 13.7            | -16 39.0                                      | 317 45.7      | -4 29.3                                       | 32 42.8  | +20 47.0       |         |                |    |
| 6   | 166                                    | 20.9 | 300                                                                                                                                            | 09.1     | -15 44.5                                      | 301 14.5            | -16 39.5                                      | 332 47.9      | -4 29.5                                       | 47 45.4  | +20 47.0       |         |                |    |
| 7   | 181                                    | 23.4 | 315                                                                                                                                            | 08.4     | 45.4                                          | 316 15.3            | 39.9                                          | 347 50.0      | 29.6                                          | 62 48.0  | 47.1           |         |                |    |
| 8   | 196                                    | 25.8 | 330                                                                                                                                            | 07.8     | 46.3                                          | 331 16.0            | 40.4                                          | 2 52.1        | 29.7                                          | 77 50.6  | 47.1           |         |                |    |
| 9   | 211                                    | 28.3 | 345                                                                                                                                            | 07.2     | 47.2                                          | 346 16.8            | 40.9                                          | 17 54.2       | 29.9                                          | 92 53.1  | 47.1           |         |                |    |
| 10  | 226                                    | 30.8 | 0 06.6                                                                                                                                         | 48.2     | 1 17.6                                        | 1 17.6              | 41.4                                          | 32 56.3       | 30.0                                          | 107 55.7 | 47.2           |         |                |    |
| 11  | 241                                    | 33.2 | 15 05.9                                                                                                                                        | -15 49.1 | 16 18.4                                       | -16 41.9            | 47 58.4                                       | -4 30.2       | 122 58.3                                      | +20 47.2 |                |         |                |    |
| 12  | 256                                    | 35.7 | 30 05.3                                                                                                                                        | -15 50.0 | 31 19.1                                       | -16 42.4            | 63 00.5                                       | -4 30.3       | 138 00.9                                      | +20 47.2 |                |         |                |    |
| 13  | 271                                    | 38.2 | 45 04.7                                                                                                                                        | 50.9     | 46 19.9                                       | 42.9                | 78 02.6                                       | 30.4          | 153 03.5                                      | 47.2     |                |         |                |    |
| 14  | 286                                    | 40.6 | 60 04.0                                                                                                                                        | 51.8     | 61 20.7                                       | 43.4                | 93 04.8                                       | 30.6          | 168 06.1                                      | 47.3     |                |         |                |    |
| 15  | 301                                    | 43.1 | 75 03.4                                                                                                                                        | 52.7     | 76 21.4                                       | 43.9                | 108 06.9                                      | 30.7          | 183 08.7                                      | 47.3     |                |         |                |    |
| 16  | 316                                    | 45.5 | 90 02.8                                                                                                                                        | 53.6     | 91 22.2                                       | 44.4                | 123 09.0                                      | 30.8          | 198 11.3                                      | 47.3     |                |         |                |    |
| 17  | 331                                    | 48.0 | 105 02.2                                                                                                                                       | -15 54.5 | 106 23.0                                      | -16 44.9            | 138 11.1                                      | -4 31.0       | 213 13.9                                      | +20 47.4 |                |         |                |    |
| 18  | 346                                    | 50.5 | 120 01.5                                                                                                                                       | -15 55.4 | 121 23.8                                      | -16 45.4            | 153 13.2                                      | -4 31.1       | 228 16.5                                      | +20 47.4 |                |         |                |    |
| 19  | 1                                      | 52.9 | 135 00.9                                                                                                                                       | 56.3     | 136 24.5                                      | 45.9                | 168 15.3                                      | 31.3          | 243 19.1                                      | 47.4     |                |         |                |    |
| 20  | 16                                     | 55.4 | 150 00.3                                                                                                                                       | 57.2     | 151 25.3                                      | 46.4                | 183 17.5                                      | 31.4          | 258 21.7                                      | 47.4     |                |         |                |    |
| 21  | 31                                     | 57.9 | 164 59.6                                                                                                                                       | 58.1     | 166 26.1                                      | 46.9                | 198 19.6                                      | 31.5          | 273 24.3                                      | 47.5     |                |         |                |    |
| 22  | 47                                     | 00.3 | 179 59.0                                                                                                                                       | 59.0     | 181 26.9                                      | 47.4                | 213 21.7                                      | 31.7          | 288 26.9                                      | 47.5     |                |         |                |    |
| 23  | 62                                     | 02.8 | 194 58.4                                                                                                                                       | -15 59.9 | 196 27.6                                      | 47.9                | 228 23.8                                      | 31.8          | 303 29.5                                      | 47.5     |                |         |                |    |
| 24  | 77                                     | 05.3 | 209 57.7                                                                                                                                       | -16 00.8 | 211 28.4                                      | -16 48.4            | 243 25.9                                      | -4 31.9       | 318 32.1                                      | +20 47.6 |                |         |                |    |
| Dif | —                                      |      | -6                                                                                                                                             |          | -9                                            |                     | +8                                            |               | -1                                            |          | +26            |         | 0              |    |

| UT | SOL                                                |      |     |  LUNA                                            |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |     |       |     |   |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|-----|-------|-----|---|
|    | SD: 16'2<br>PMG: 11 <sup>h</sup> 52 <sup>m</sup> 1 |      |     | Edad: 25 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 58'3<br>12 <sup>h</sup> : 58'6<br>20 <sup>h</sup> : 58'9<br>R°: 50 <sup>m</sup> |     |                     |         |                          |         |               | Hora R°        |      | Hora R°        |     |       |     |   |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                              | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          |      |                |     |       |     |   |
| h  | °                                                  | '    | °   | '                                                                                                                                 | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m   | h     | m   | m |
| 0  | 182                                                | 02.2 | -22 | 43.7                                                                                                                              | 236 | 48.7                | -7      | 36.4                     | 60 N    | 6 56          | 7 52           | 8 48 | 3 20           | 101 | 13 18 | 1   |   |
| 1  | 197                                                | 02.0 |     | 44.0                                                                                                                              | 251 | 20.5 <sup>128</sup> | -7      | 51.9 <sup>155</sup>      | 58      | 49            | 41             | 32   | 15             | 96  | 25    | 5   |   |
| 2  | 212                                                | 01.7 |     | 44.3                                                                                                                              | 265 | 52.3 <sup>128</sup> | -8      | 07.3 <sup>154</sup>      | 56      | 43            | 31             | 18   | 11             | 92  | 30    | 10  |   |
| 3  | 227                                                | 01.4 |     | 44.5                                                                                                                              | 280 | 23.9 <sup>126</sup> |         | 22.7 <sup>154</sup>      | 54      | 37            | 22             | 8 06 | 07             | 88  | 35    | 13  |   |
| 4  | 242                                                | 01.1 |     | 44.8                                                                                                                              | 294 | 55.4 <sup>125</sup> |         | 38.1 <sup>154</sup>      | 52      | 31            | 15             | 7 55 | 03             | 86  | 40    | 16  |   |
| 5  | 257                                                | 00.9 | -22 | 45.0                                                                                                                              | 309 | 26.9 <sup>125</sup> | -8      | 53.5 <sup>154</sup>      | 50      | 6 26          | 7 08           | 7 46 | 3 00           | 83  | 13 44 | 18  |   |
| 6  | 272                                                | 00.6 | -22 | 45.3                                                                                                                              | 323 | 58.3 <sup>124</sup> | -9      | 08.9 <sup>154</sup>      | 45      | 6 15          | 6 52           | 7 26 | 2 53           | 77  | 13 53 | 24  |   |
| 7  | 287                                                | 00.3 |     | 45.6                                                                                                                              | 338 | 29.6 <sup>123</sup> |         | 24.2 <sup>153</sup>      | 40      | 6 05          | 39             | 7 09 | 47             | 72  | 14 01 | 28  |   |
| 8  | 302                                                | 00.0 |     | 45.8                                                                                                                              | 353 | 00.7 <sup>121</sup> |         | 39.6 <sup>154</sup>      | 35      | 5 56          | 28             | 6 56 | 42             | 68  | 07    | 33  |   |
| 9  | 316                                                | 59.8 |     | 46.1                                                                                                                              | 7   | 31.8 <sup>121</sup> | -9      | 54.8 <sup>152</sup>      | 30      | 48            | 6 18           | 44   | 38             | 64  | 13    | 36  |   |
| 10 | 331                                                | 59.5 |     | 46.3                                                                                                                              | 22  | 02.8 <sup>120</sup> | -10     | 10.1 <sup>153</sup>      | 20      | 32            | 5 59           | 23   | 30             | 59  | 23    | 42  |   |
| 11 | 346                                                | 59.2 | -22 | 46.6                                                                                                                              | 36  | 33.7 <sup>119</sup> | -10     | 25.4 <sup>153</sup>      | 10 N    | 5 16          | 5 43           | 6 05 | 2 24           | 53  | 14 32 | 46  |   |
| 12 | 1                                                  | 58.9 | -22 | 46.8                                                                                                                              | 51  | 04.5 <sup>118</sup> | -10     | 40.6 <sup>152</sup>      | 0       | 5 00          | 5 26           | 5 48 | 2 18           | 49  | 14 40 | 52  |   |
| 13 | 16                                                 | 58.6 |     | 47.1                                                                                                                              | 65  | 35.2 <sup>117</sup> | -10     | 55.7 <sup>151</sup>      | 10 S    | 4 41          | 5 08           | 31   | 12             | 44  | 49    | 56  |   |
| 14 | 31                                                 | 58.4 |     | 47.3                                                                                                                              | 80  | 05.9 <sup>117</sup> | -11     | 10.9 <sup>152</sup>      | 20      | 4 19          | 4 49           | 5 13 | 2 05           | 40  | 14 58 | 61  |   |
| 15 | 46                                                 | 58.1 |     | 47.6                                                                                                                              | 94  | 36.4 <sup>115</sup> |         | 26.0 <sup>151</sup>      | 30      | 3 51          | 24             | 4 52 | 1 58           | 34  | 15 08 | 67  |   |
| 16 | 61                                                 | 57.8 |     | 47.8                                                                                                                              | 109 | 06.8 <sup>114</sup> |         | 41.1 <sup>151</sup>      | 35      | 33            | 4 10           | 39   | 54             | 30  | 14    | 70  |   |
| 17 | 76                                                 | 57.5 | -22 | 48.1                                                                                                                              | 123 | 37.1 <sup>113</sup> | -11     | 56.1 <sup>150</sup>      | 40      | 3 11          | 3 52           | 4 24 | 1 50           | 26  | 15 21 | 74  |   |
| 18 | 91                                                 | 57.3 | -22 | 48.3                                                                                                                              | 138 | 07.2 <sup>111</sup> | -12     | 11.1 <sup>150</sup>      | 45      | 2 42          | 3 30           | 4 07 | 1 44           | 22  | 15 29 | 79  |   |
| 19 | 106                                                | 57.0 |     | 48.6                                                                                                                              | 152 | 37.3 <sup>111</sup> |         | 26.1 <sup>150</sup>      | 50      | 1 59          | 3 02           | 3 45 | 38             | 17  | 38    | 86  |   |
| 20 | 121                                                | 56.7 |     | 48.8                                                                                                                              | 167 | 07.3 <sup>110</sup> |         | 41.0 <sup>149</sup>      | 52      | 1 34          | 2 47           | 35   | 35             | 14  | 43    | 88  |   |
| 21 | 136                                                | 56.4 |     | 49.1                                                                                                                              | 181 | 37.2 <sup>109</sup> | -12     | 55.9 <sup>149</sup>      | 54      | 0 57          | 31             | 23   | 32             | 11  | 48    | 91  |   |
| 22 | 151                                                | 56.1 |     | 49.3                                                                                                                              | 196 | 06.9 <sup>107</sup> | -13     | 10.7 <sup>148</sup>      | 56      | ** ** *       | 2 10           | 3 10 | 29             | 8   | 15 53 | 96  |   |
| 23 | 166                                                | 55.9 |     | 49.5                                                                                                                              | 210 | 36.6 <sup>107</sup> |         | 25.5 <sup>148</sup>      | 58      | ** ** *       | 1 43           | 2 54 | 25             | 5   | 16 00 | 99  |   |
| 24 | 181                                                | 55.6 | -22 | 49.8                                                                                                                              | 225 | 06.1 <sup>105</sup> | -13     | 40.2 <sup>147</sup>      | 60 S    | ** ** *       | 1 03           | 2 35 | 1 20           | 1   | 16 07 | 104 |   |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 18 <sup>h</sup> 48 <sup>m</sup> 6 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 01 <sup>m</sup> |      | Mag: +1.7<br>PMG: 9 <sup>h</sup> 54 <sup>m</sup> |      | Mag: -1.9<br>PMG: 7 <sup>h</sup> 45 <sup>m</sup> |      | Mag: -0.1<br>PMG: 2 <sup>h</sup> 45 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 77                                     | 05.3 | 209                                               | 57.7 | -16                                              | 00.8 | 211                                              | 28.4 | -16                                              | 47.6 |
| 1   | 92                                     | 07.7 | 224                                               | 57.1 |                                                  | 01.7 | 226                                              | 29.2 |                                                  | 47.6 |
| 2   | 107                                    | 10.2 | 239                                               | 56.5 |                                                  | 02.6 | 241                                              | 30.0 |                                                  | 47.6 |
| 3   | 122                                    | 12.7 | 254                                               | 55.8 |                                                  | 03.5 | 256                                              | 30.7 |                                                  | 47.6 |
| 4   | 137                                    | 15.1 | 269                                               | 55.2 |                                                  | 04.4 | 271                                              | 31.5 |                                                  | 47.7 |
| 5   | 152                                    | 17.6 | 284                                               | 54.6 | -16                                              | 05.3 | 286                                              | 32.3 | -16                                              | 47.7 |
| 6   | 167                                    | 20.0 | 299                                               | 53.9 | -16                                              | 06.2 | 301                                              | 33.0 | -16                                              | 47.7 |
| 7   | 182                                    | 22.5 | 314                                               | 53.3 |                                                  | 07.1 | 316                                              | 33.8 |                                                  | 47.8 |
| 8   | 197                                    | 25.0 | 329                                               | 52.7 |                                                  | 08.0 | 331                                              | 34.6 |                                                  | 47.8 |
| 9   | 212                                    | 27.4 | 344                                               | 52.0 |                                                  | 08.9 | 346                                              | 35.3 |                                                  | 47.8 |
| 10  | 227                                    | 29.9 | 359                                               | 51.4 |                                                  | 09.8 | 1                                                | 36.1 |                                                  | 47.8 |
| 11  | 242                                    | 32.4 | 14                                                | 50.7 | -16                                              | 10.7 | 16                                               | 36.9 | -16                                              | 47.9 |
| 12  | 257                                    | 34.8 | 29                                                | 50.1 | -16                                              | 11.6 | 31                                               | 37.7 | -16                                              | 47.9 |
| 13  | 272                                    | 37.3 | 44                                                | 49.5 |                                                  | 12.5 | 46                                               | 38.4 |                                                  | 47.9 |
| 14  | 287                                    | 39.8 | 59                                                | 48.8 |                                                  | 13.4 | 61                                               | 39.2 |                                                  | 48.0 |
| 15  | 302                                    | 42.2 | 74                                                | 48.2 |                                                  | 14.3 | 76                                               | 40.0 |                                                  | 48.0 |
| 16  | 317                                    | 44.7 | 89                                                | 47.5 |                                                  | 15.1 | 91                                               | 40.7 |                                                  | 48.0 |
| 17  | 332                                    | 47.1 | 104                                               | 46.9 | -16                                              | 16.0 | 106                                              | 41.5 | -16                                              | 48.1 |
| 18  | 347                                    | 49.6 | 119                                               | 46.3 | -16                                              | 16.9 | 121                                              | 42.3 | -16                                              | 48.1 |
| 19  | 2                                      | 52.1 | 134                                               | 45.6 |                                                  | 17.8 | 136                                              | 43.0 |                                                  | 48.1 |
| 20  | 17                                     | 54.5 | 149                                               | 45.0 |                                                  | 18.7 | 151                                              | 43.8 |                                                  | 48.1 |
| 21  | 32                                     | 57.0 | 164                                               | 44.3 |                                                  | 19.6 | 166                                              | 44.6 |                                                  | 48.2 |
| 22  | 47                                     | 59.5 | 179                                               | 43.7 |                                                  | 20.5 | 181                                              | 45.3 |                                                  | 48.2 |
| 23  | 63                                     | 01.9 | 194                                               | 43.0 |                                                  | 21.3 | 196                                              | 46.1 | -16                                              | 48.2 |
| 24  | 78                                     | 04.4 | 209                                               | 42.4 | -16                                              | 22.2 | 211                                              | 46.9 | -17                                              | 48.3 |
| Dif | —                                      |      | -6                                                |      | -9                                               |      | +8                                               |      | -5                                               |      |
|     |                                        |      |                                                   |      |                                                  |      | +21                                              |      | -1                                               |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      | +26                                              |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      | 0                                                |      |

| UT  | SOL                                    |      | ● LUNA                                                                                                  |      |                         |                                                  | Latitud | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |                                                  | Puesta de Luna |          |
|-----|----------------------------------------|------|---------------------------------------------------------------------------------------------------------|------|-------------------------|--------------------------------------------------|---------|---------------|--------------------------------------------------|---------|----------------|--------------------------------------------------|----------------|----------|
|     | SD: 16:2                               |      | Edad: 26 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 59:2<br>12 <sup>h</sup> : 59:5<br>20 <sup>h</sup> : 59:8 |      |                         |                                                  |         |               |                                                  |         |                |                                                  |                |          |
|     | PMG: 11 <sup>h</sup> 52 <sup>m</sup> 5 |      | SD: 16:1<br>PMG: 9 <sup>h</sup> 19 <sup>m</sup> R°: 55 <sup>m</sup>                                     |      |                         |                                                  |         |               |                                                  |         |                |                                                  |                |          |
|     | hG ☉                                   | Dec  | hG ☾                                                                                                    | Dif  | Dec                     | Dif                                              |         |               | Civil                                            | Náutico | Hora           | R°                                               | Hora           | R°       |
| h   | °                                      | '    | °                                                                                                       | '    | °                       | '                                                | °       | h m           | h m                                              | h m     | h m m          | m                                                | h m m          | m        |
| 0   | 181                                    | 55.6 | -22 49.8                                                                                                |      | 225 06.1                | -13 40.2                                         | 60 N    | 14 55         | 15 51                                            | 16 48   | 5 01 110       |                                                  | 13 19 4        |          |
| 1   | 196                                    | 55.3 |                                                                                                         | 50.0 | 239 35.5 <sup>104</sup> | -13 54.9 <sup>147</sup>                          | 58      | 15 12         | 16 03                                            | 16 55   | 4 51 104       |                                                  | 30 10          |          |
| 2   | 211                                    | 55.0 |                                                                                                         | 50.3 | 254 04.8 <sup>103</sup> | -14 09.5 <sup>146</sup>                          | 56      | 26            | 12                                               | 17 01   | 43 99          |                                                  | 40 14          |          |
| 3   | 226                                    | 54.7 |                                                                                                         | 50.5 | 268 34.0 <sup>102</sup> | 24.0 <sup>145</sup>                              | 54      | 38            | 21                                               | 07      | 35 95          |                                                  | 48 18          |          |
| 4   | 241                                    | 54.5 |                                                                                                         | 50.7 | 283 03.0 <sup>100</sup> | 38.5 <sup>145</sup>                              | 52      | 49            | 29                                               | 13      | 29 91          |                                                  | 13 56 21       |          |
| 5   | 256                                    | 54.2 | -22 51.0                                                                                                |      | 297 32.0 <sup>100</sup> | -14 53.0 <sup>145</sup>                          | 50      | 15 58         | 16 36                                            | 17 18   | 4 23 88        |                                                  | 14 02 25       |          |
| 6   | 271                                    | 53.9 | -22 51.2                                                                                                |      | 312 00.8 <sup>98</sup>  | -15 07.4 <sup>144</sup>                          | 45      | 16 18         | 16 52                                            | 17 29   | 4 10 82        |                                                  | 14 17 31       |          |
| 7   | 286                                    | 53.6 |                                                                                                         | 51.5 | 326 29.5 <sup>97</sup>  | 21.7 <sup>143</sup>                              | 40      | 35            | 17 05                                            | 39      | 3 59 77        |                                                  | 29 35          |          |
| 8   | 301                                    | 53.3 |                                                                                                         | 51.7 | 340 58.1 <sup>96</sup>  | 35.9 <sup>142</sup>                              | 35      | 16 48         | 16                                               | 48      | 50 73          |                                                  | 40 39          |          |
| 9   | 316                                    | 53.1 |                                                                                                         | 51.9 | 355 26.5 <sup>94</sup>  | -15 50.1 <sup>142</sup>                          | 30      | 17 00         | 27                                               | 17 56   | 42 70          |                                                  | 14 49 42       |          |
| 10  | 331                                    | 52.8 |                                                                                                         | 52.2 | 9 54.8 <sup>93</sup>    | -16 04.2 <sup>141</sup>                          | 20      | 21            | 17 45                                            | 18 12   | 29 64          |                                                  | 15 05 47       |          |
| 11  | 346                                    | 52.5 | -22 52.4                                                                                                |      | 24 23.0 <sup>92</sup>   | -16 18.3 <sup>141</sup>                          | 10 N    | 17 39         | 18 02                                            | 18 28   | 3 17 59        |                                                  | 15 18 53       |          |
| 12  | 1                                      | 52.2 | -22 52.6                                                                                                |      | 38 51.1 <sup>91</sup>   | -16 32.2 <sup>139</sup>                          | 0       | 17 56         | 18 19                                            | 18 45   | 3 07 54        |                                                  | 15 32 56       |          |
| 13  | 16                                     | 51.9 |                                                                                                         | 52.9 | 53 19.0 <sup>89</sup>   | 46.1 <sup>139</sup>                              | 10 S    | 18 13         | 36                                               | 19 03   | 2 56 49        |                                                  | 45 61          |          |
| 14  | 31                                     | 51.6 |                                                                                                         | 53.1 | 67 46.9 <sup>89</sup>   | -16 59.9 <sup>138</sup>                          | 20      | 32            | 18 56                                            | 25      | 45 44          |                                                  | 15 59 65       |          |
| 15  | 46                                     | 51.4 |                                                                                                         | 53.3 | 82 14.5 <sup>86</sup>   | -17 13.7 <sup>138</sup>                          | 30      | 18 53         | 19 21                                            | 19 54   | 32 39          |                                                  | 16 15 71       |          |
| 16  | 61                                     | 51.1 |                                                                                                         | 53.6 | 96 42.1 <sup>86</sup>   | 27.3 <sup>136</sup>                              | 35      | 19 06         | 36                                               | 20 12   | 24 36          |                                                  | 24 75          |          |
| 17  | 76                                     | 50.8 | -22 53.8                                                                                                |      | 111 09.5 <sup>84</sup>  | -17 40.9 <sup>136</sup>                          | 40      | 19 21         | 19 53                                            | 20 35   | 2 16 32        |                                                  | 16 35 79       |          |
| 18  | 91                                     | 50.5 | -22 54.0                                                                                                |      | 125 36.8 <sup>83</sup>  | -17 54.3 <sup>134</sup>                          | 45      | 19 38         | 20 15                                            | 21 04   | 2 06 27        |                                                  | 16 48 83       |          |
| 19  | 106                                    | 50.2 |                                                                                                         | 54.2 | 140 04.0 <sup>82</sup>  | -18 07.7 <sup>134</sup>                          | 50      | 20 00         | 44                                               | 21 48   | 1 55 21        |                                                  | 17 04 89       |          |
| 20  | 121                                    | 49.9 |                                                                                                         | 54.5 | 154 31.0 <sup>80</sup>  | 21.0 <sup>133</sup>                              | 52      | 11            | 20 59                                            | 22 13   | 49 19          |                                                  | 11 93          |          |
| 21  | 136                                    | 49.7 |                                                                                                         | 54.7 | 168 57.9 <sup>79</sup>  | 34.2 <sup>132</sup>                              | 54      | 23            | 21 16                                            | 22 53   | 43 16          |                                                  | 19 97          |          |
| 22  | 151                                    | 49.4 |                                                                                                         | 54.9 | 183 24.6 <sup>77</sup>  | -18 47.3 <sup>131</sup>                          | 56      | 36            | 21 37                                            | ** **   | 37 12          |                                                  | 29 100         |          |
| 23  | 166                                    | 49.1 |                                                                                                         | 55.1 | 197 51.2 <sup>76</sup>  | -19 00.3 <sup>130</sup>                          | 58      | 20 52         | 22 05                                            | ** **   | 30 7           |                                                  | 39 106         |          |
| 24  | 181                                    | 48.8 | -22 55.4                                                                                                |      | 212 17.7 <sup>75</sup>  | -19 13.3 <sup>130</sup>                          | 60 S    | 21 12         | 22 47                                            | ** **   | 1 21 3         |                                                  | 17 51 114      |          |
| UT  | ARIES                                  |      | VENUS                                                                                                   |      |                         | MARTE                                            |         |               | JÚPITER                                          |         |                | SATURNO                                          |                |          |
|     | PMG: 18 <sup>h</sup> 44 <sup>m</sup> 6 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 02 <sup>m</sup>                                                       |      |                         | Mag: +1.7<br>PMG: 9 <sup>h</sup> 52 <sup>m</sup> |         |               | Mag: -1.9<br>PMG: 7 <sup>h</sup> 42 <sup>m</sup> |         |                | Mag: -0.1<br>PMG: 2 <sup>h</sup> 41 <sup>m</sup> |                |          |
|     | hG ♈                                   | hG ♀ | Dec                                                                                                     |      | hG ♂                    | Dec                                              |         | hG ♃          | Dec                                              |         | hG ♅           | Dec                                              |                |          |
| h   | °                                      | °    | °                                                                                                       | '    | °                       | °                                                | '       | °             | °                                                | '       | °              | °                                                | '              |          |
| 0   | 78                                     | 04.4 | 209                                                                                                     | 42.4 | -16 22.2                | 211                                              | 46.9    | -17 00.1      | 244                                              | 16.8    | -4 35.2        | 319                                              | 34.6           | +20 48.3 |
| 1   | 93                                     | 06.9 | 224                                                                                                     | 41.7 | 23.1                    | 226                                              | 47.7    | 00.6          | 259                                              | 18.9    | 35.3           | 334                                              | 37.2           | 48.3     |
| 2   | 108                                    | 09.3 | 239                                                                                                     | 41.1 | 24.0                    | 241                                              | 48.4    | 01.1          | 274                                              | 21.0    | 35.5           | 349                                              | 39.8           | 48.3     |
| 3   | 123                                    | 11.8 | 254                                                                                                     | 40.4 | 24.9                    | 256                                              | 49.2    | 01.6          | 289                                              | 23.1    | 35.6           | 4                                                | 42.4           | 48.3     |
| 4   | 138                                    | 14.3 | 269                                                                                                     | 39.8 | 25.8                    | 271                                              | 50.0    | 02.1          | 304                                              | 25.2    | 35.7           | 19                                               | 45.0           | 48.4     |
| 5   | 153                                    | 16.7 | 284                                                                                                     | 39.1 | -16 26.6                | 286                                              | 50.7    | -17 02.6      | 319                                              | 27.4    | -4 35.9        | 34                                               | 47.6           | +20 48.4 |
| 6   | 168                                    | 19.2 | 299                                                                                                     | 38.5 | -16 27.5                | 301                                              | 51.5    | -17 03.0      | 334                                              | 29.5    | -4 36.0        | 49                                               | 50.2           | +20 48.4 |
| 7   | 183                                    | 21.6 | 314                                                                                                     | 37.8 | 28.4                    | 316                                              | 52.2    | 03.5          | 349                                              | 31.6    | 36.1           | 64                                               | 52.8           | 48.5     |
| 8   | 198                                    | 24.1 | 329                                                                                                     | 37.2 | 29.3                    | 331                                              | 53.0    | 04.0          | 4                                                | 33.7    | 36.3           | 79                                               | 55.4           | 48.5     |
| 9   | 213                                    | 26.6 | 344                                                                                                     | 36.5 | 30.1                    | 346                                              | 53.8    | 04.5          | 19                                               | 35.8    | 36.4           | 94                                               | 58.0           | 48.5     |
| 10  | 228                                    | 29.0 | 359                                                                                                     | 35.9 | 31.0                    | 1                                                | 54.5    | 05.0          | 34                                               | 38.0    | 36.5           | 110                                              | 00.6           | 48.6     |
| 11  | 243                                    | 31.5 | 14                                                                                                      | 35.2 | -16 31.9                | 16                                               | 55.3    | -17 05.5      | 49                                               | 40.1    | -4 36.7        | 125                                              | 03.2           | +20 48.6 |
| 12  | 258                                    | 34.0 | 29                                                                                                      | 34.6 | -16 32.8                | 31                                               | 56.1    | -17 06.0      | 64                                               | 42.2    | -4 36.8        | 140                                              | 05.9           | +20 48.6 |
| 13  | 273                                    | 36.4 | 44                                                                                                      | 33.9 | 33.6                    | 46                                               | 56.8    | 06.4          | 79                                               | 44.3    | 37.0           | 155                                              | 08.5           | 48.6     |
| 14  | 288                                    | 38.9 | 59                                                                                                      | 33.3 | 34.5                    | 61                                               | 57.6    | 06.9          | 94                                               | 46.5    | 37.1           | 170                                              | 11.1           | 48.7     |
| 15  | 303                                    | 41.4 | 74                                                                                                      | 32.6 | 35.4                    | 76                                               | 58.4    | 07.4          | 109                                              | 48.6    | 37.2           | 185                                              | 13.7           | 48.7     |
| 16  | 318                                    | 43.8 | 89                                                                                                      | 32.0 | 36.3                    | 91                                               | 59.1    | 07.9          | 124                                              | 50.7    | 37.4           | 200                                              | 16.3           | 48.7     |
| 17  | 333                                    | 46.3 | 104                                                                                                     | 31.3 | -16 37.1                | 106                                              | 59.9    | -17 08.4      | 139                                              | 52.8    | -4 37.5        | 215                                              | 18.9           | +20 48.8 |
| 18  | 348                                    | 48.8 | 119                                                                                                     | 30.7 | -16 38.0                | 122                                              | 00.7    | -17 08.9      | 154                                              | 55.0    | -4 37.6        | 230                                              | 21.5           | +20 48.8 |
| 19  | 3                                      | 51.2 | 134                                                                                                     | 30.0 | 38.9                    | 137                                              | 01.4    | 09.3          | 169                                              | 57.1    | 37.8           | 245                                              | 24.1           | 48.8     |
| 20  | 18                                     | 53.7 | 149                                                                                                     | 29.4 | 39.7                    | 152                                              | 02.2    | 09.8          | 184                                              | 59.2    | 37.9           | 260                                              | 26.7           | 48.9     |
| 21  | 33                                     | 56.1 | 164                                                                                                     | 28.7 | 40.6                    | 167                                              | 03.0    | 10.3          | 200                                              | 01.3    | 38.0           | 275                                              | 29.3           | 48.9     |
| 22  | 48                                     | 58.6 | 179                                                                                                     | 28.0 | 41.5                    | 182                                              | 03.7    | 10.8          | 215                                              | 03.5    | 38.2           | 290                                              | 31.9           | 48.9     |
| 23  | 64                                     | 01.1 | 194                                                                                                     | 27.4 | 42.4                    | 197                                              | 04.5    | 11.3          | 230                                              | 05.6    | 38.3           | 305                                              | 34.5           | 48.9     |
| 24  | 79                                     | 03.5 | 209                                                                                                     | 26.7 | -16 43.2                | 212                                              | 05.2    | -17 11.8      | 245                                              | 07.7    | -4 38.4        | 320                                              | 37.1           | +20 49.0 |
| Dif | —                                      | —    | -7                                                                                                      | -9   | —                       | +8                                               | -5      | —             | +21                                              | -1      | —              | +26                                              | —              | 0        |

| UT  | SOL                                                |          |          | ● LUNA                                                                                                                         |          |             |                                                  |         | Latitud  | Principio del crepúsculo                         |      | Salida de Sol | Salida de Luna                                   |       | Puesta de Luna |   |
|-----|----------------------------------------------------|----------|----------|--------------------------------------------------------------------------------------------------------------------------------|----------|-------------|--------------------------------------------------|---------|----------|--------------------------------------------------|------|---------------|--------------------------------------------------|-------|----------------|---|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 53 <sup>m</sup> 0 |          |          | Edad: 27 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 60'1<br>12 <sup>h</sup> : 60'4<br>20 <sup>h</sup> : 60'6<br>R°: 61 <sup>m</sup> |          |             |                                                  |         |          |                                                  |      |               |                                                  |       |                |   |
|     | hG ☉                                               | Dec      |          | hG ☾                                                                                                                           | Dif      | Dec         | Dif                                              | Náutico |          | Civil                                            | Hora |               | R°                                               | Hora  | R°             |   |
| h   | °                                                  | '        | °        | °                                                                                                                              | '        | °           | '                                                | °       | h        | m                                                | h    | m             | h                                                | m     | h              | m |
| 0   | 181                                                | 48.8     | -22 55.4 | 212                                                                                                                            | 17.7     | -19 13.3    |                                                  | 60 N    | 6 58     | 7 55                                             | 8 51 | 6 51          | 118                                              | 13 23 | 9              |   |
| 1   | 196                                                | 48.5     | 55.6     | 226                                                                                                                            | 44.0     | 73 26.1     | 128                                              | 58      | 51       | 43                                               | 34   | 35            | 109                                              | 40    | 18             |   |
| 2   | 211                                                | 48.2     | 55.8     | 241                                                                                                                            | 10.2     | 72 38.8     | 127                                              | 56      | 45       | 33                                               | 20   | 22            | 102                                              | 13 54 | 24             |   |
| 3   | 226                                                | 48.0     | 56.0     | 255                                                                                                                            | 36.3     | 71 -19 51.4 | 126                                              | 54      | 39       | 25                                               | 8 08 | 10            | 98                                               | 14 06 | 29             |   |
| 4   | 241                                                | 47.7     | 56.3     | 270                                                                                                                            | 02.2     | 69 -20 03.8 | 124                                              | 52      | 33       | 17                                               | 7 57 | 6 00          | 94                                               | 17    | 32             |   |
| 5   | 256                                                | 47.4     | -22 56.5 | 284                                                                                                                            | 28.0     | 68 -20 16.2 | 124                                              | 50      | 6 28     | 7 09                                             | 7 48 | 5 51          | 90                                               | 14 27 | 35             |   |
| 6   | 271                                                | 47.1     | -22 56.7 | 298                                                                                                                            | 53.7     | 67 -20 28.5 | 123                                              | 45      | 6 17     | 6 54                                             | 7 27 | 5 32          | 84                                               | 14 48 | 41             |   |
| 7   | 286                                                | 46.8     | 56.9     | 313                                                                                                                            | 19.2     | 65 40.6     | 121                                              | 40      | 6 07     | 41                                               | 7 11 | 16            | 80                                               | 15 04 | 45             |   |
| 8   | 301                                                | 46.5     | 57.1     | 327                                                                                                                            | 44.6     | 64 -20 52.6 | 120                                              | 35      | 5 58     | 29                                               | 6 57 | 5 03          | 76                                               | 19    | 48             |   |
| 9   | 316                                                | 46.2     | 57.3     | 342                                                                                                                            | 09.8     | 62 -21 04.5 | 119                                              | 30      | 49       | 19                                               | 45   | 4 52          | 73                                               | 31    | 51             |   |
| 10  | 331                                                | 46.0     | 57.6     | 356                                                                                                                            | 34.9     | 61 16.3     | 118                                              | 20      | 33       | 6 00                                             | 24   | 33            | 68                                               | 15 52 | 56             |   |
| 11  | 346                                                | 45.7     | -22 57.8 | 10                                                                                                                             | 59.8     | 59 -21 28.0 | 117                                              | 10 N    | 5 17     | 5 44                                             | 6 06 | 4 16          | 64                                               | 16 11 | 59             |   |
| 12  | 1                                                  | 45.4     | -22 58.0 | 25                                                                                                                             | 24.6     | 58 -21 39.5 | 115                                              | 0       | 5 01     | 5 27                                             | 5 49 | 4 01          | 59                                               | 16 28 | 63             |   |
| 13  | 16                                                 | 45.1     | 58.2     | 39                                                                                                                             | 49.3     | 57 -21 50.9 | 114                                              | 10 S    | 4 42     | 5 09                                             | 32   | 3 45          | 56                                               | 16 46 | 66             |   |
| 14  | 31                                                 | 44.8     | 58.4     | 54                                                                                                                             | 13.9     | 56 -22 02.2 | 113                                              | 20      | 4 20     | 4 49                                             | 5 13 | 29            | 52                                               | 17 04 | 70             |   |
| 15  | 46                                                 | 44.5     | 58.6     | 68                                                                                                                             | 38.3     | 54 13.3     | 111                                              | 30      | 3 51     | 25                                               | 4 52 | 11            | 46                                               | 26    | 74             |   |
| 16  | 61                                                 | 44.2     | 58.8     | 83                                                                                                                             | 02.5     | 52 24.3     | 110                                              | 35      | 33       | 4 10                                             | 39   | 3 00          | 43                                               | 39    | 76             |   |
| 17  | 76                                                 | 43.9     | -22 59.0 | 97                                                                                                                             | 26.6     | 51 -22 35.1 | 108                                              | 40      | 3 11     | 3 52                                             | 4 25 | 2 48          | 40                                               | 17 54 | 79             |   |
| 18  | 91                                                 | 43.7     | -22 59.3 | 111                                                                                                                            | 50.6     | 50 -22 45.8 | 107                                              | 45      | 2 41     | 3 30                                             | 4 07 | 2 33          | 36                                               | 18 11 | 84             |   |
| 19  | 106                                                | 43.4     | 59.5     | 126                                                                                                                            | 14.5     | 49 -22 56.4 | 106                                              | 50      | 1 58     | 3 01                                             | 3 45 | 16            | 30                                               | 33    | 89             |   |
| 20  | 121                                                | 43.1     | 59.7     | 140                                                                                                                            | 38.2     | 47 -23 06.8 | 104                                              | 52      | 1 32     | 2 47                                             | 35   | 2 08          | 27                                               | 44    | 91             |   |
| 21  | 136                                                | 42.8     | -22 59.9 | 155                                                                                                                            | 01.8     | 46 17.1     | 103                                              | 54      | 0 53     | 29                                               | 23   | 1 59          | 23                                               | 18 56 | 95             |   |
| 22  | 151                                                | 42.5     | -23 00.1 | 169                                                                                                                            | 25.2     | 44 27.2     | 101                                              | 56      | ** **    | 2 08                                             | 3 09 | 49            | 19                                               | 19 09 | 100            |   |
| 23  | 166                                                | 42.2     | 00.3     | 183                                                                                                                            | 48.5     | 43 37.2     | 100                                              | 58      | ** **    | 1 41                                             | 2 53 | 37            | 14                                               | 25    | 106            |   |
| 24  | 181                                                | 41.9     | -23 00.5 | 198                                                                                                                            | 11.7     | 42 -23 47.0 | 98                                               | 60 S    | ** **    | 0 58                                             | 2 33 | 1 24          | 7                                                | 19 45 | 115            |   |
| UT  | ARIES                                              |          |          | VENUS                                                                                                                          |          |             | MARTE                                            |         |          | JÚPITER                                          |      |               | SATURNO                                          |       |                |   |
|     | PMG 18 <sup>h</sup> 40 <sup>m</sup> 7              |          |          | Mag: -3.9<br>PMG: 10 <sup>h</sup> 03 <sup>m</sup>                                                                              |          |             | Mag: +1.7<br>PMG: 9 <sup>h</sup> 51 <sup>m</sup> |         |          | Mag: -1.9<br>PMG: 7 <sup>h</sup> 38 <sup>m</sup> |      |               | Mag: -0.1<br>PMG: 2 <sup>h</sup> 37 <sup>m</sup> |       |                |   |
|     | hG ♊                                               | Dec      |          | hG ♀                                                                                                                           | Dec      | hG ♂        | Dec                                              | hG ♃    | Dec      | hG ♄                                             | Dec  | hG ♅          | Dec                                              |       |                |   |
| h   | °                                                  | '        | °        | °                                                                                                                              | '        | °           | '                                                | °       | '        | °                                                | '    | °             | '                                                |       |                |   |
| 0   | 79                                                 | 03.5     | 209 26.7 | -16 43.2                                                                                                                       | 212 05.2 | -17 11.8    | 245 07.7                                         | -4 38.4 | 320 37.1 | +20 49.0                                         |      |               |                                                  |       |                |   |
| 1   | 94                                                 | 06.0     | 224 26.1 | 44.1                                                                                                                           | 227 06.0 | 12.2        | 260 09.8                                         | 38.6    | 335 39.7 | 49.0                                             |      |               |                                                  |       |                |   |
| 2   | 109                                                | 08.5     | 239 25.4 | 44.9                                                                                                                           | 242 06.8 | 12.7        | 275 12.0                                         | 38.7    | 350 42.4 | 49.0                                             |      |               |                                                  |       |                |   |
| 3   | 124                                                | 10.9     | 254 24.8 | 45.8                                                                                                                           | 257 07.5 | 13.2        | 290 14.1                                         | 38.8    | 5 45.0   | 49.1                                             |      |               |                                                  |       |                |   |
| 4   | 139                                                | 13.4     | 269 24.1 | 46.7                                                                                                                           | 272 08.3 | 13.7        | 305 16.2                                         | 38.9    | 20 47.6  | 49.1                                             |      |               |                                                  |       |                |   |
| 5   | 154                                                | 15.9     | 284 23.4 | -16 47.5                                                                                                                       | 287 09.1 | -17 14.2    | 320 18.3                                         | -4 39.1 | 35 50.2  | 49.1                                             |      |               |                                                  |       |                |   |
| 6   | 169                                                | 18.3     | 299 22.8 | -16 48.4                                                                                                                       | 302 09.8 | -17 14.7    | 335 20.5                                         | -4 39.2 | 50 52.8  | 49.2                                             |      |               |                                                  |       |                |   |
| 7   | 184                                                | 20.8     | 314 22.1 | 49.3                                                                                                                           | 317 10.6 | 15.1        | 350 22.6                                         | 39.3    | 65 55.4  | 49.2                                             |      |               |                                                  |       |                |   |
| 8   | 199                                                | 23.2     | 329 21.5 | 50.1                                                                                                                           | 332 11.3 | 15.6        | 5 24.7                                           | 39.5    | 80 58.0  | 49.2                                             |      |               |                                                  |       |                |   |
| 9   | 214                                                | 25.7     | 344 20.8 | 51.0                                                                                                                           | 347 12.1 | 16.1        | 20 26.8                                          | 39.6    | 96 00.6  | 49.2                                             |      |               |                                                  |       |                |   |
| 10  | 229                                                | 28.2     | 359 20.1 | 51.8                                                                                                                           | 2 12.9   | 16.6        | 35 29.0                                          | 39.7    | 111 03.2 | 49.3                                             |      |               |                                                  |       |                |   |
| 11  | 244                                                | 30.6     | 14 19.5  | -16 52.7                                                                                                                       | 17 13.6  | -17 17.1    | 50 31.1                                          | -4 39.9 | 126 05.8 | 49.3                                             |      |               |                                                  |       |                |   |
| 12  | 259                                                | 33.1     | 29 18.8  | -16 53.6                                                                                                                       | 32 14.4  | -17 17.5    | 65 33.2                                          | -4 40.0 | 141 08.4 | 49.3                                             |      |               |                                                  |       |                |   |
| 13  | 274                                                | 35.6     | 44 18.1  | 54.4                                                                                                                           | 47 15.1  | 18.0        | 80 35.3                                          | 40.1    | 156 11.1 | 49.4                                             |      |               |                                                  |       |                |   |
| 14  | 289                                                | 38.0     | 59 17.5  | 55.3                                                                                                                           | 62 15.9  | 18.5        | 95 37.5                                          | 40.3    | 171 13.7 | 49.4                                             |      |               |                                                  |       |                |   |
| 15  | 304                                                | 40.5     | 74 16.8  | 56.1                                                                                                                           | 77 16.7  | 19.0        | 110 39.6                                         | 40.4    | 186 16.3 | 49.4                                             |      |               |                                                  |       |                |   |
| 16  | 319                                                | 43.0     | 89 16.1  | 57.0                                                                                                                           | 92 17.4  | 19.4        | 125 41.7                                         | 40.5    | 201 18.9 | 49.5                                             |      |               |                                                  |       |                |   |
| 17  | 334                                                | 45.4     | 104 15.5 | -16 57.8                                                                                                                       | 107 18.2 | -17 19.9    | 140 43.9                                         | -4 40.7 | 216 21.5 | 49.5                                             |      |               |                                                  |       |                |   |
| 18  | 349                                                | 47.9     | 119 14.8 | -16 58.7                                                                                                                       | 122 18.9 | -17 20.4    | 155 46.0                                         | -4 40.8 | 231 24.1 | 49.5                                             |      |               |                                                  |       |                |   |
| 19  | 4 50.4                                             | 134 14.1 | -16 59.5 | 137 19.7                                                                                                                       | 20.9     | 170 48.1    | 40.9                                             |         | 246 26.7 | 49.6                                             |      |               |                                                  |       |                |   |
| 20  | 19 52.8                                            | 149 13.5 | -17 00.4 | 152 20.5                                                                                                                       | 21.4     | 185 50.2    | 41.1                                             |         | 261 29.3 | 49.6                                             |      |               |                                                  |       |                |   |
| 21  | 34 55.3                                            | 164 12.8 | 01.2     | 167 21.2                                                                                                                       | 21.8     | 200 52.4    | 41.2                                             |         | 276 31.9 | 49.6                                             |      |               |                                                  |       |                |   |
| 22  | 49 57.7                                            | 179 12.1 | 02.1     | 182 22.0                                                                                                                       | 22.3     | 215 54.5    | 41.3                                             |         | 291 34.6 | 49.6                                             |      |               |                                                  |       |                |   |
| 23  | 65 00.2                                            | 194 11.5 | 02.9     | 197 22.7                                                                                                                       | 22.8     | 230 56.6    | 41.5                                             |         | 306 37.2 | 49.7                                             |      |               |                                                  |       |                |   |
| 24  | 80 02.7                                            | 209 10.8 | -17 03.8 | 212 23.5                                                                                                                       | -17 23.3 | 245 58.8    | -4 41.6                                          |         | 321 39.8 | 49.7                                             |      |               |                                                  |       |                |   |
| Dif | —                                                  | -7       | -9       | +8                                                                                                                             | -5       | +21         | -1                                               | +26     | 0        |                                                  |      |               |                                                  |       |                |   |

| UT  | SOL                                    |      |                                                   | ● LUNA                                                                                                  |                                                  |             |                                                  | Latitud | Puesta de Sol                                    | Final del crepúsculo |         | Salida de Luna |    | Puesta de Luna |    |
|-----|----------------------------------------|------|---------------------------------------------------|---------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------|--------------------------------------------------|---------|--------------------------------------------------|----------------------|---------|----------------|----|----------------|----|
|     | SD: 16'2                               |      |                                                   | Edad: 28 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 60'8<br>12 <sup>h</sup> : 60'9<br>20 <sup>h</sup> : 61'1 |                                                  |             |                                                  |         |                                                  |                      |         |                |    |                |    |
|     | PMG: 11 <sup>h</sup> 53 <sup>m</sup> 4 |      |                                                   | SD: 16'5<br>PMG: 11 <sup>h</sup> 15 <sup>m</sup> R°: 66 <sup>m</sup>                                    |                                                  |             |                                                  |         |                                                  |                      |         |                |    |                |    |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                                                                                                    | Dif                                              | Dec         | Dif                                              |         |                                                  | Civil                | Náutico | Hora           | R° | Hora           | R° |
| h   | °                                      | '    | °                                                 | °                                                                                                       | '                                                | °           | '                                                | °       | h m                                              | h m                  | h m     | h m m          | m  | h m m          | m  |
| 0   | 181                                    | 41.9 | -23 00.5                                          | 198                                                                                                     | 11.7                                             | -23 47.0    |                                                  | 60 N    | 14 54                                            | 15 51                | 16 47   | 8 49 111       |    | 13 32 28       |    |
| 1   | 196                                    | 41.6 | 00.7                                              | 212                                                                                                     | 34.8 41                                          | -23 56.6 96 |                                                  | 58      | 15 11                                            | 16 02                | 16 54   | 24 100         |    | 13 58 37       |    |
| 2   | 211                                    | 41.3 | 00.9                                              | 226                                                                                                     | 57.7 39                                          | -24 06.1 95 |                                                  | 56      | 25                                               | 12                   | 17 01   | 8 04 95        |    | 14 18 43       |    |
| 3   | 226                                    | 41.1 | 01.1                                              | 241                                                                                                     | 20.5 38                                          | 15.4 93     |                                                  | 54      | 38                                               | 21                   | 07      | 7 48 90        |    | 35 47          |    |
| 4   | 241                                    | 40.8 | 01.3                                              | 255                                                                                                     | 43.1 36                                          | 24.6 92     |                                                  | 52      | 48                                               | 29                   | 13      | 34 87          |    | 14 49 50       |    |
| 5   | 256                                    | 40.5 | -23 01.5                                          | 270                                                                                                     | 05.7 36                                          | -24 33.6 90 |                                                  | 50      | 15 58                                            | 16 36                | 17 18   | 7 21 86        |    | 15 02 52       |    |
| 6   | 271                                    | 40.2 | -23 01.7                                          | 284                                                                                                     | 28.1 34                                          | -24 42.4 88 |                                                  | 45      | 16 18                                            | 16 52                | 17 29   | 6 56 81        |    | 15 29 55       |    |
| 7   | 286                                    | 39.9 | 01.9                                              | 298                                                                                                     | 50.4 33                                          | 51.0 86     |                                                  | 40      | 35                                               | 17 05                | 39      | 36 78          |    | 15 49 58       |    |
| 8   | 301                                    | 39.6 | 02.1                                              | 313                                                                                                     | 12.5 31                                          | -24 59.5 85 |                                                  | 35      | 16 49                                            | 17                   | 48      | 19 76          |    | 16 07 59       |    |
| 9   | 316                                    | 39.3 | 02.3                                              | 327                                                                                                     | 34.6 31                                          | -25 07.8 83 |                                                  | 30      | 17 01                                            | 27                   | 17 57   | 6 05 73        |    | 22 61          |    |
| 10  | 331                                    | 39.0 | 02.5                                              | 341                                                                                                     | 56.5 29                                          | 15.9 81     |                                                  | 20      | 22                                               | 17 46                | 18 13   | 5 41 70        |    | 16 48 63       |    |
| 11  | 346                                    | 38.7 | -23 02.7                                          | 356                                                                                                     | 18.3 28                                          | -25 23.9 80 |                                                  | 10 N    | 17 40                                            | 18 03                | 18 29   | 5 20 67        |    | 17 10 65       |    |
| 12  | 1                                      | 38.4 | -23 02.9                                          | 10                                                                                                      | 40.0 27                                          | -25 31.6 77 |                                                  | 0       | 17 57                                            | 18 20                | 18 46   | 5 00 65        |    | 17 31 67       |    |
| 13  | 16                                     | 38.2 | 03.1                                              | 25                                                                                                      | 01.6 26                                          | 39.2 76     |                                                  | 10 S    | 18 14                                            | 37                   | 19 05   | 4 41 63        |    | 17 52 68       |    |
| 14  | 31                                     | 37.9 | 03.3                                              | 39                                                                                                      | 23.0 24                                          | 46.6 74     |                                                  | 20      | 33                                               | 18 58                | 27      | 4 21 59        |    | 18 14 70       |    |
| 15  | 46                                     | 37.6 | 03.5                                              | 53                                                                                                      | 44.4 24                                          | -25 53.8 72 |                                                  | 30      | 18 55                                            | 19 22                | 19 55   | 3 57 56        |    | 40 72          |    |
| 16  | 61                                     | 37.3 | 03.7                                              | 68                                                                                                      | 05.7 23                                          | -26 00.8 70 |                                                  | 35      | 19 08                                            | 37                   | 20 14   | 43 54          |    | 18 55 73       |    |
| 17  | 76                                     | 37.0 | -23 03.9                                          | 82                                                                                                      | 26.8 21                                          | -26 07.6 68 |                                                  | 40      | 19 22                                            | 19 55                | 20 37   | 3 28 51        |    | 19 13 75       |    |
| 18  | 91                                     | 36.7 | -23 04.0                                          | 96                                                                                                      | 47.9 21                                          | -26 14.3 67 |                                                  | 45      | 19 40                                            | 20 17                | 21 06   | 3 09 48        |    | 19 35 76       |    |
| 19  | 106                                    | 36.4 | 04.2                                              | 111                                                                                                     | 08.8 19                                          | 20.7 64     |                                                  | 50      | 20 02                                            | 20 46                | 21 51   | 2 46 43        |    | 20 02 79       |    |
| 20  | 121                                    | 36.1 | 04.4                                              | 125                                                                                                     | 29.7 19                                          | 26.9 62     |                                                  | 52      | 13                                               | 21 01                | 22 17   | 35 40          |    | 15 80          |    |
| 21  | 136                                    | 35.8 | 04.6                                              | 139                                                                                                     | 50.4 17                                          | 33.0 61     |                                                  | 54      | 25                                               | 19                   | 22 58   | 22 37          |    | 31 82          |    |
| 22  | 151                                    | 35.5 | 04.8                                              | 154                                                                                                     | 11.1 17                                          | 38.8 58     |                                                  | 56      | 39                                               | 21 40                | ** **   | 2 08 33        |    | 20 49 84       |    |
| 23  | 166                                    | 35.2 | 05.0                                              | 168                                                                                                     | 31.7 16                                          | 44.4 56     |                                                  | 58      | 20 55                                            | 22 08                | ** **   | 1 51 27        |    | 21 11 88       |    |
| 24  | 181                                    | 34.9 | -23 05.2                                          | 182                                                                                                     | 52.2 15                                          | -26 49.9 55 |                                                  | 60 S    | 21 15                                            | 22 53                | ** **   | 1 31 18        |    | 21 40 94       |    |
| UT  | ARIES                                  |      | VENUS                                             |                                                                                                         | MARTE                                            |             | JÚPITER                                          |         | SATURNO                                          |                      |         |                |    |                |    |
|     | PMG: 18 <sup>h</sup> 36 <sup>m</sup> 8 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 04 <sup>m</sup> |                                                                                                         | Mag: +1.7<br>PMG: 9 <sup>h</sup> 50 <sup>m</sup> |             | Mag: -1.9<br>PMG: 7 <sup>h</sup> 35 <sup>m</sup> |         | Mag: -0.2<br>PMG: 2 <sup>h</sup> 33 <sup>m</sup> |                      |         |                |    |                |    |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec                                                                                                     | hG ♂                                             | Dec         | hG ♃                                             | Dec     | hG ♄                                             | Dec                  |         |                |    |                |    |
| h   | °                                      | '    | °                                                 | '                                                                                                       | °                                                | '           | °                                                | '       | °                                                | '                    |         |                |    |                |    |
| 0   | 80                                     | 02.7 | 209                                               | 10.8                                                                                                    | 212                                              | 23.5        | 245                                              | 58.8    | 321                                              | 39.8                 |         |                |    |                |    |
| 1   | 95                                     | 05.1 | 224                                               | 10.1                                                                                                    | 227                                              | 24.2        | 261                                              | 00.9    | 336                                              | 42.4                 |         |                |    |                |    |
| 2   | 110                                    | 07.6 | 239                                               | 09.4                                                                                                    | 242                                              | 25.0        | 276                                              | 03.0    | 351                                              | 45.0                 |         |                |    |                |    |
| 3   | 125                                    | 10.1 | 254                                               | 08.8                                                                                                    | 257                                              | 25.8        | 291                                              | 05.1    | 6                                                | 47.6                 |         |                |    |                |    |
| 4   | 140                                    | 12.5 | 269                                               | 08.1                                                                                                    | 272                                              | 26.5        | 306                                              | 07.3    | 21                                               | 50.2                 |         |                |    |                |    |
| 5   | 155                                    | 15.0 | 284                                               | 07.4                                                                                                    | 287                                              | 27.3        | 321                                              | 09.4    | 36                                               | 52.8                 |         |                |    |                |    |
| 6   | 170                                    | 17.5 | 299                                               | 06.8                                                                                                    | 302                                              | 28.0        | 336                                              | 11.5    | 51                                               | 55.5                 |         |                |    |                |    |
| 7   | 185                                    | 19.9 | 314                                               | 06.1                                                                                                    | 317                                              | 28.8        | 351                                              | 13.7    | 66                                               | 58.1                 |         |                |    |                |    |
| 8   | 200                                    | 22.4 | 329                                               | 05.4                                                                                                    | 332                                              | 29.5        | 6                                                | 15.8    | 82                                               | 00.7                 |         |                |    |                |    |
| 9   | 215                                    | 24.9 | 344                                               | 04.7                                                                                                    | 347                                              | 30.3        | 21                                               | 17.9    | 97                                               | 03.3                 |         |                |    |                |    |
| 10  | 230                                    | 27.3 | 359                                               | 04.1                                                                                                    | 2                                                | 31.1        | 36                                               | 20.1    | 112                                              | 05.9                 |         |                |    |                |    |
| 11  | 245                                    | 29.8 | 14                                                | 03.4                                                                                                    | 17                                               | 31.8        | 51                                               | 22.2    | 127                                              | 08.5                 |         |                |    |                |    |
| 12  | 260                                    | 32.2 | 29                                                | 02.7                                                                                                    | 32                                               | 32.6        | 66                                               | 24.3    | 142                                              | 11.1                 |         |                |    |                |    |
| 13  | 275                                    | 34.7 | 44                                                | 02.0                                                                                                    | 47                                               | 33.3        | 81                                               | 26.5    | 157                                              | 13.7                 |         |                |    |                |    |
| 14  | 290                                    | 37.2 | 59                                                | 01.3                                                                                                    | 62                                               | 34.1        | 96                                               | 28.6    | 172                                              | 16.4                 |         |                |    |                |    |
| 15  | 305                                    | 39.6 | 74                                                | 00.7                                                                                                    | 77                                               | 34.8        | 111                                              | 30.7    | 187                                              | 19.0                 |         |                |    |                |    |
| 16  | 320                                    | 42.1 | 89                                                | 00.0                                                                                                    | 92                                               | 35.6        | 126                                              | 32.9    | 202                                              | 21.6                 |         |                |    |                |    |
| 17  | 335                                    | 44.6 | 103                                               | 59.3                                                                                                    | 107                                              | 36.3        | 141                                              | 35.0    | 217                                              | 24.2                 |         |                |    |                |    |
| 18  | 350                                    | 47.0 | 118                                               | 58.6                                                                                                    | 122                                              | 37.1        | 156                                              | 37.1    | 232                                              | 26.8                 |         |                |    |                |    |
| 19  | 5                                      | 49.5 | 133                                               | 58.0                                                                                                    | 137                                              | 37.9        | 171                                              | 39.3    | 247                                              | 29.4                 |         |                |    |                |    |
| 20  | 20                                     | 52.0 | 148                                               | 57.3                                                                                                    | 152                                              | 38.6        | 186                                              | 41.4    | 262                                              | 32.0                 |         |                |    |                |    |
| 21  | 35                                     | 54.4 | 163                                               | 56.6                                                                                                    | 167                                              | 39.4        | 201                                              | 43.5    | 277                                              | 34.7                 |         |                |    |                |    |
| 22  | 50                                     | 56.9 | 178                                               | 55.9                                                                                                    | 182                                              | 40.1        | 216                                              | 45.7    | 292                                              | 37.3                 |         |                |    |                |    |
| 23  | 65                                     | 59.4 | 193                                               | 55.2                                                                                                    | 197                                              | 40.9        | 231                                              | 47.8    | 307                                              | 39.9                 |         |                |    |                |    |
| 24  | 81                                     | 01.8 | 208                                               | 54.5                                                                                                    | 212                                              | 41.6        | 246                                              | 49.9    | 322                                              | 42.5                 |         |                |    |                |    |
| Dif | —                                      |      | -7                                                | -8                                                                                                      | +8                                               | -5          | +21                                              | -1      | +26                                              | 0                    |         |                |    |                |    |

| UT | SOL                                                |      |     |      | ● LUNA                                                                                                                            |      |         |      | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |      | Puesta de Luna |       |    |
|----|----------------------------------------------------|------|-----|------|-----------------------------------------------------------------------------------------------------------------------------------|------|---------|------|---------|--------------------------|-------|---------------|----------------|------|----------------|-------|----|
|    | SD: 16/2<br>PMG: 11 <sup>h</sup> 53 <sup>m</sup> 9 |      |     |      | Edad: 29 <sup>d</sup> 4 PHE {<br>4 <sup>h</sup> : 61/2<br>12 <sup>h</sup> : 61/2<br>20 <sup>h</sup> : 61/3<br>R°: 68 <sup>m</sup> |      |         |      |         |                          |       |               |                |      |                |       |    |
|    | hG ☉                                               |      | Dec |      | hG ☾ Dif                                                                                                                          |      | Dec Dif |      |         | Náutico                  | Civil |               | Hora           | R°   | Hora           | R°    |    |
| h  | °                                                  | '    | °   | '    | °                                                                                                                                 | '    | °       | '    | °       | h                        | m     | h             | m              | h    | m              | h     | m  |
| 0  | 181                                                | 34.9 | -23 | 05.2 | 182                                                                                                                               | 52.2 | -26     | 49.9 | 60 N    | 7 01                     | 7 57  | 8 54          | 10 40          | 70   | 14 00          | 72    |    |
| 1  | 196                                                | 34.7 |     | 05.4 | 197                                                                                                                               | 12.6 | -26     | 55.1 | 58      | 6 53                     | 46    | 37            | 10 04          | 71   | 14 35          | 72    |    |
| 2  | 211                                                | 34.4 |     | 05.5 | 211                                                                                                                               | 32.9 | -27     | 00.1 | 56      | 47                       | 36    | 23            | 9 39           | 70   | 15 01          | 72    |    |
| 3  | 226                                                | 34.1 |     | 05.7 | 225                                                                                                                               | 53.2 |         | 04.9 | 54      | 41                       | 27    | 8 10          | 18 71          |      | 22 7           |       |    |
| 4  | 241                                                | 33.8 |     | 05.9 | 240                                                                                                                               | 13.3 |         | 09.5 | 52      | 35                       | 19    | 7 59          | 9 01           | 71   | 39 71          |       |    |
| 5  | 256                                                | 33.5 | -23 | 06.1 | 254                                                                                                                               | 33.5 | -27     | 13.9 | 50      | 6 30                     | 7 11  | 7 50          | 8 47           | 70   | 15 54          | 70    |    |
| 6  | 271                                                | 33.2 | -23 | 06.3 | 268                                                                                                                               | 53.5 | -27     | 18.1 | 45      | 6 18                     | 6 56  | 7 29          | 8 17           | 70   | 16 24          | 70    |    |
| 7  | 286                                                | 32.9 |     | 06.4 | 283                                                                                                                               | 13.5 |         | 22.1 | 40      | 6 08                     | 42    | 7 13          | 7 54           | 70   | 16 47          | 70    |    |
| 8  | 301                                                | 32.6 |     | 06.6 | 297                                                                                                                               | 33.4 |         | 25.8 | 35      | 5 59                     | 31    | 6 59          | 35             | 69   | 17 06          | 70    |    |
| 9  | 316                                                | 32.3 |     | 06.8 | 311                                                                                                                               | 53.3 |         | 29.3 | 30      | 50                       | 20    | 47            | 7 18           | 70   | 23 69          |       |    |
| 10 | 331                                                | 32.0 |     | 07.0 | 326                                                                                                                               | 13.1 |         | 32.7 | 20      | 34                       | 6 02  | 26            | 6 51           | 69   | 17 51          | 69    |    |
| 11 | 346                                                | 31.7 | -23 | 07.2 | 340                                                                                                                               | 32.8 | -27     | 35.8 | 10 N    | 5 18                     | 5 45  | 6 07          | 6 27           | 69   | 18 15          | 68    |    |
| 12 | 1                                                  | 31.4 | -23 | 07.3 | 354                                                                                                                               | 52.5 | -27     | 38.7 | 0       | 5 02                     | 5 28  | 5 50          | 6 05           | 68   | 18 38          | 67    |    |
| 13 | 16                                                 | 31.1 |     | 07.5 | 9                                                                                                                                 | 12.2 |         | 41.3 | 10 S    | 4 43                     | 5 10  | 33            | 5 44           | 67   | 19 00          | 67    |    |
| 14 | 31                                                 | 30.8 |     | 07.7 | 23                                                                                                                                | 31.8 |         | 43.8 | 25      | 4 20                     | 4 50  | 5 14          | 5 20           | 67   | 24 66          |       |    |
| 15 | 46                                                 | 30.5 |     | 07.9 | 37                                                                                                                                | 51.4 |         | 46.0 | 22      | 3 52                     | 25    | 4 52          | 4 53           | 66   | 19 52          | 65    |    |
| 16 | 61                                                 | 30.2 |     | 08.0 | 52                                                                                                                                | 11.0 |         | 48.0 | 20      | 35                       | 33    | 4 10          | 37             | 65   | 20 08          | 65    |    |
| 17 | 76                                                 | 30.0 | -23 | 08.2 | 66                                                                                                                                | 30.5 | -27     | 49.8 | 18      | 40                       | 3 11  | 3 52          | 4 19           | 64   | 20 28          | 63    |    |
| 18 | 91                                                 | 29.7 | -23 | 08.4 | 80                                                                                                                                | 50.0 | -27     | 51.4 | 16      | 45                       | 2 41  | 3 30          | 4 07           | 3 57 | 63             | 20 51 | 62 |
| 19 | 106                                                | 29.4 |     | 08.5 | 95                                                                                                                                | 09.5 |         | 52.7 | 13      | 50                       | 1 57  | 3 01          | 3 45           | 29   | 61             | 21 21 | 60 |
| 20 | 121                                                | 29.1 |     | 08.7 | 109                                                                                                                               | 29.0 |         | 53.8 | 11      | 52                       | 1 30  | 2 46          | 34             | 3 15 | 60             | 35 60 |    |
| 21 | 136                                                | 28.8 |     | 08.9 | 123                                                                                                                               | 48.5 |         | 54.7 | 9       | 54                       | 0 49  | 29            | 22             | 2 59 | 59             | 21 53 | 58 |
| 22 | 151                                                | 28.5 |     | 09.1 | 138                                                                                                                               | 07.9 |         | 55.4 | 7       | 56                       | ** ** | 2 07          | 3 08           | 41   | 57             | 22 13 | 56 |
| 23 | 166                                                | 28.2 |     | 09.2 | 152                                                                                                                               | 27.3 |         | 55.8 | 4       | 58                       | ** ** | 1 39          | 2 52           | 2 18 | 54             | 22 39 | 52 |
| 24 | 181                                                | 27.9 | -23 | 09.4 | 166                                                                                                                               | 46.8 | -27     | 56.1 | 3       | 60 S                     | ** ** | 0 54          | 2 32           | 1 49 | 48             | 23 14 | 46 |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 18 <sup>h</sup> 32 <sup>m</sup> 8 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 05 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 49 <sup>m</sup> |      | Mag: -1.9<br>PMG: 7 <sup>h</sup> 32 <sup>m</sup> |      | Mag: -0.2<br>PMG: 2 <sup>h</sup> 29 <sup>m</sup> |      |
|     | hG ♈                                   |      | hG ♀ Dec                                          |      | hG ♂ Dec                                         |      | hG ♃ Dec                                         |      | hG ♄ Dec                                         |      |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 81                                     | 01.8 | 208                                               | 54.5 | -17                                              | 23.9 | 212                                              | 41.6 | -17                                              | 34.7 |
| 1   | 96                                     | 04.3 | 223                                               | 53.9 |                                                  | 24.7 | 227                                              | 42.4 |                                                  | 35.1 |
| 2   | 111                                    | 06.7 | 238                                               | 53.2 |                                                  | 25.6 | 242                                              | 43.1 |                                                  | 35.6 |
| 3   | 126                                    | 09.2 | 253                                               | 52.5 |                                                  | 26.4 | 257                                              | 43.9 |                                                  | 36.1 |
| 4   | 141                                    | 11.7 | 268                                               | 51.8 |                                                  | 27.2 | 272                                              | 44.6 |                                                  | 36.5 |
| 5   | 156                                    | 14.1 | 283                                               | 51.1 | -17                                              | 28.0 | 287                                              | 45.4 | -17                                              | 37.0 |
| 6   | 171                                    | 16.6 | 298                                               | 50.4 | -17                                              | 28.9 | 302                                              | 46.1 | -17                                              | 37.5 |
| 7   | 186                                    | 19.1 | 313                                               | 49.8 |                                                  | 29.7 | 317                                              | 46.9 |                                                  | 37.9 |
| 8   | 201                                    | 21.5 | 328                                               | 49.1 |                                                  | 30.5 | 332                                              | 47.6 |                                                  | 38.4 |
| 9   | 216                                    | 24.0 | 343                                               | 48.4 |                                                  | 31.3 | 347                                              | 48.4 |                                                  | 38.9 |
| 10  | 231                                    | 26.5 | 358                                               | 47.7 |                                                  | 32.1 | 2                                                | 49.1 |                                                  | 39.4 |
| 11  | 246                                    | 28.9 | 13                                                | 47.0 | -17                                              | 33.0 | 17                                               | 49.9 | -17                                              | 39.8 |
| 12  | 261                                    | 31.4 | 28                                                | 46.3 | -17                                              | 33.8 | 32                                               | 50.6 | -17                                              | 40.3 |
| 13  | 276                                    | 33.9 | 43                                                | 45.6 |                                                  | 34.6 | 47                                               | 51.4 |                                                  | 40.8 |
| 14  | 291                                    | 36.3 | 58                                                | 44.9 |                                                  | 35.4 | 62                                               | 52.1 |                                                  | 41.2 |
| 15  | 306                                    | 38.8 | 73                                                | 44.2 |                                                  | 36.2 | 77                                               | 52.9 |                                                  | 41.7 |
| 16  | 321                                    | 41.2 | 88                                                | 43.6 |                                                  | 37.1 | 92                                               | 53.6 |                                                  | 42.2 |
| 17  | 336                                    | 43.7 | 103                                               | 42.9 | -17                                              | 37.9 | 107                                              | 54.4 | -17                                              | 42.6 |
| 18  | 351                                    | 46.2 | 118                                               | 42.2 | -17                                              | 38.7 | 122                                              | 55.1 | -17                                              | 43.1 |
| 19  | 6                                      | 48.6 | 133                                               | 41.5 |                                                  | 39.5 | 137                                              | 55.9 |                                                  | 43.6 |
| 20  | 21                                     | 51.1 | 148                                               | 40.8 |                                                  | 40.3 | 152                                              | 56.6 |                                                  | 44.0 |
| 21  | 36                                     | 53.6 | 163                                               | 40.1 |                                                  | 41.1 | 167                                              | 57.4 |                                                  | 44.5 |
| 22  | 51                                     | 56.0 | 178                                               | 39.4 |                                                  | 41.9 | 182                                              | 58.1 |                                                  | 45.0 |
| 23  | 66                                     | 58.5 | 193                                               | 38.7 |                                                  | 42.8 | 197                                              | 58.9 |                                                  | 45.4 |
| 24  | 82                                     | 01.0 | 208                                               | 38.0 | -17                                              | 43.6 | 212                                              | 59.6 | -17                                              | 45.9 |
| Dif | —                                      |      | -7 -8                                             |      | +8 -5                                            |      | +21 -1                                           |      | -1 0                                             |      |

| UT | SOL                                    |      |          | ● LUNA                                                                                                  |      |          | Latitud | Puesta de Sol | Final del crepúsculo |       |         | Salida de Luna |           | Puesta de Luna |    |
|----|----------------------------------------|------|----------|---------------------------------------------------------------------------------------------------------|------|----------|---------|---------------|----------------------|-------|---------|----------------|-----------|----------------|----|
|    | SD: 16:2                               |      |          | Edad: 30 <sup>d</sup> 4 PHE { 4 <sup>h</sup> : 61:2<br>12 <sup>h</sup> : 61:2<br>20 <sup>h</sup> : 61:1 |      |          |         |               |                      |       |         |                |           |                |    |
|    | PMG: 11 <sup>h</sup> 54 <sup>m</sup> 4 |      |          | SD: 16:7<br>PMG: 13 <sup>h</sup> 29 <sup>m</sup> R°: 66 <sup>m</sup>                                    |      |          |         |               |                      |       |         |                |           |                |    |
|    | hG ☉                                   | Dec  |          | hG ☾                                                                                                    | Dif  | Dec      |         |               | Dif                  | Civil | Náutico | Hora           | R°        | Hora           | R° |
| h  | °                                      | '    | °        | °                                                                                                       | '    | °        | '       | °             | h m                  | h m   | h m     | h m m          | h m m     | h m m          |    |
| 0  | 181                                    | 27.9 | -23 09.4 | 166                                                                                                     | 46.8 | -27 56.1 | 0       | 60 N          | 14 53                | 15 51 | 16 47   | 11 50 27       | 15 12 111 |                |    |
| 1  | 196                                    | 27.6 |          | 181                                                                                                     | 06.2 | 56.1     | 0       | 58            | 15 10                | 16 02 | 16 54   | 11 15 37       | 15 47 101 |                |    |
| 2  | 211                                    | 27.3 |          | 195                                                                                                     | 25.7 | 55.9     | 2       | 56            | 25                   | 12    | 17 01   | 10 49 42       | 16 13 94  |                |    |
| 3  | 226                                    | 27.0 |          | 209                                                                                                     | 45.1 | 55.4     | 5       | 54            | 37                   | 21    | 07      | 29 46          | 33 90     |                |    |
| 4  | 241                                    | 26.7 |          | 224                                                                                                     | 04.6 | 54.7     | 7       | 52            | 48                   | 29    | 13      | 10 12 48       | 16 50 87  |                |    |
| 5  | 256                                    | 26.4 | -23 10.2 | 238                                                                                                     | 24.1 | -27 53.9 | 8       | 50            | 15 58                | 16 36 | 17 18   | 9 57 51        | 17 04 86  |                |    |
| 6  | 271                                    | 26.1 | -23 10.4 | 252                                                                                                     | 43.6 | -27 52.8 | 11      | 45            | 16 19                | 16 52 | 17 30   | 9 27 54        | 17 34 81  |                |    |
| 7  | 286                                    | 25.8 |          | 267                                                                                                     | 03.1 | 51.4     | 14      | 40            | 35                   | 17 06 | 40      | 9 04 57        | 17 57 78  |                |    |
| 8  | 301                                    | 25.5 |          | 281                                                                                                     | 22.7 | 49.9     | 15      | 35            | 16 49                | 17    | 49      | 8 44 59        | 18 16 75  |                |    |
| 9  | 316                                    | 25.2 |          | 295                                                                                                     | 42.3 | 48.1     | 18      | 30            | 17 01                | 28    | 17 58   | 28 60          | 18 32 74  |                |    |
| 10 | 331                                    | 24.9 |          | 310                                                                                                     | 01.9 | 46.1     | 20      | 20            | 22                   | 17 46 | 18 14   | 8 00 62        | 19 00 70  |                |    |
| 11 | 346                                    | 24.6 | -23 11.2 | 324                                                                                                     | 21.6 | -27 43.9 | 22      | 10 N          | 17 41                | 18 04 | 18 30   | 7 36 64        | 19 23 67  |                |    |
| 12 | 1                                      | 24.3 | -23 11.3 | 338                                                                                                     | 41.3 | -27 41.5 | 24      | 0             | 17 58                | 18 21 | 18 47   | 7 13 67        | 19 45 65  |                |    |
| 13 | 16                                     | 24.0 |          | 353                                                                                                     | 01.1 | 38.8     | 27      | 10 S          | 18 16                | 39    | 19 06   | 6 51 68        | 20 07 62  |                |    |
| 14 | 31                                     | 23.7 |          | 7                                                                                                       | 20.9 | 35.9     | 29      | 20            | 34                   | 18 59 | 28      | 6 27 70        | 30 59     |                |    |
| 15 | 46                                     | 23.4 |          | 21                                                                                                      | 40.7 | 32.9     | 30      | 30            | 18 56                | 19 24 | 19 57   | 5 59 72        | 20 57 56  |                |    |
| 16 | 61                                     | 23.1 |          | 36                                                                                                      | 00.6 | 29.6     | 33      | 35            | 19 09                | 39    | 20 15   | 42 73          | 21 13 53  |                |    |
| 17 | 76                                     | 22.8 | -23 12.1 | 50                                                                                                      | 20.6 | -27 26.0 | 36      | 40            | 19 24                | 19 57 | 20 38   | 5 23 75        | 21 31 51  |                |    |
| 18 | 91                                     | 22.5 | -23 12.3 | 64                                                                                                      | 40.7 | -27 22.3 | 37      | 45            | 19 42                | 20 19 | 21 09   | 5 00 76        | 21 53 48  |                |    |
| 19 | 106                                    | 22.2 |          | 79                                                                                                      | 00.8 | 18.4     | 39      | 50            | 20 04                | 20 48 | 21 53   | 4 30 79        | 22 21 43  |                |    |
| 20 | 121                                    | 21.9 |          | 93                                                                                                      | 21.0 | 14.2     | 42      | 52            | 15                   | 21 03 | 22 20   | 4 15 81        | 35 40     |                |    |
| 21 | 136                                    | 21.6 |          | 107                                                                                                     | 41.2 | 09.9     | 43      | 54            | 27                   | 21    | 23 04   | 3 58 82        | 22 51 36  |                |    |
| 22 | 151                                    | 21.3 |          | 122                                                                                                     | 01.5 | 05.3     | 46      | 56            | 41                   | 21 43 | ** **   | 38 84          | 23 09 32  |                |    |
| 23 | 166                                    | 21.0 |          | 136                                                                                                     | 22.0 | -27 00.5 | 48      | 58            | 20 58                | 22 12 | ** **   | 3 12 88        | 23 31 27  |                |    |
| 24 | 181                                    | 20.7 | -23 13.1 | 150                                                                                                     | 42.5 | -26 55.5 | 50      | 60 S          | 21 18                | 22 59 | ** **   | 2 37 95        | ** **     | ** **          |    |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |     | JÚPITER                                          |          | SATURNO                                          |      |         |     |      |          |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|-----|--------------------------------------------------|----------|--------------------------------------------------|------|---------|-----|------|----------|
|     | PMG: 18 <sup>h</sup> 28 <sup>m</sup> 9 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 06 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 48 <sup>m</sup> |     | Mag: -1.9<br>PMG: 7 <sup>h</sup> 28 <sup>m</sup> |          | Mag: -0.2<br>PMG: 2 <sup>h</sup> 25 <sup>m</sup> |      |         |     |      |          |
|     | hG ♈                                   |      | hG ♀                                              | Dec  | hG ♂                                             | Dec | hG ♃                                             | Dec      | hG ♄                                             | Dec  |         |     |      |          |
| h   | °                                      | '    | °                                                 | '    | °                                                | '   | °                                                | '        | °                                                | '    |         |     |      |          |
| 0   | 82                                     | 01.0 | 208                                               | 38.0 | -17 43.6                                         | 212 | 59.6                                             | -17 45.9 | 247                                              | 41.2 | -4 47.8 | 323 | 45.3 | +20 51.2 |
| 1   | 97                                     | 03.4 | 223                                               | 37.3 | 44.4                                             | 228 | 00.4                                             | 46.4     | 262                                              | 43.3 | 47.9    | 338 | 47.9 | 51.3     |
| 2   | 112                                    | 05.9 | 238                                               | 36.6 | 45.2                                             | 243 | 01.1                                             | 46.8     | 277                                              | 45.5 | 48.0    | 353 | 50.6 | 51.3     |
| 3   | 127                                    | 08.4 | 253                                               | 35.9 | 46.0                                             | 258 | 01.9                                             | 47.3     | 292                                              | 47.6 | 48.1    | 8   | 53.2 | 51.3     |
| 4   | 142                                    | 10.8 | 268                                               | 35.2 | 46.8                                             | 273 | 02.6                                             | 47.8     | 307                                              | 49.7 | 48.3    | 23  | 55.8 | 51.4     |
| 5   | 157                                    | 13.3 | 283                                               | 34.5 | -17 47.6                                         | 288 | 03.4                                             | -17 48.2 | 322                                              | 51.9 | -4 48.4 | 38  | 58.4 | +20 51.4 |
| 6   | 172                                    | 15.7 | 298                                               | 33.8 | -17 48.4                                         | 303 | 04.1                                             | -17 48.7 | 337                                              | 54.0 | -4 48.5 | 54  | 01.0 | +20 51.4 |
| 7   | 187                                    | 18.2 | 313                                               | 33.1 | 49.2                                             | 318 | 04.9                                             | 49.2     | 352                                              | 56.2 | 48.6    | 69  | 03.7 | 51.4     |
| 8   | 202                                    | 20.7 | 328                                               | 32.4 | 50.0                                             | 333 | 05.6                                             | 49.6     | 7                                                | 58.3 | 48.8    | 84  | 06.3 | 51.5     |
| 9   | 217                                    | 23.1 | 343                                               | 31.7 | 50.8                                             | 348 | 06.4                                             | 50.1     | 23                                               | 00.4 | 48.9    | 99  | 08.9 | 51.5     |
| 10  | 232                                    | 25.6 | 358                                               | 31.0 | 51.6                                             | 3   | 07.1                                             | 50.5     | 38                                               | 02.6 | 49.0    | 114 | 11.5 | 51.5     |
| 11  | 247                                    | 28.1 | 13                                                | 30.3 | -17 52.4                                         | 18  | 07.9                                             | -17 51.0 | 53                                               | 04.7 | -4 49.1 | 129 | 14.2 | +20 51.6 |
| 12  | 262                                    | 30.5 | 28                                                | 29.6 | -17 53.2                                         | 33  | 08.6                                             | -17 51.5 | 68                                               | 06.9 | -4 49.3 | 144 | 16.8 | +20 51.6 |
| 13  | 277                                    | 33.0 | 43                                                | 28.9 | 54.0                                             | 48  | 09.4                                             | 51.9     | 83                                               | 09.0 | 49.4    | 159 | 19.4 | 51.6     |
| 14  | 292                                    | 35.5 | 58                                                | 28.2 | 54.8                                             | 63  | 10.1                                             | 52.4     | 98                                               | 11.2 | 49.5    | 174 | 22.0 | 51.7     |
| 15  | 307                                    | 37.9 | 73                                                | 27.5 | 55.6                                             | 78  | 10.8                                             | 52.9     | 113                                              | 13.3 | 49.7    | 189 | 24.6 | 51.7     |
| 16  | 322                                    | 40.4 | 88                                                | 26.8 | 56.4                                             | 93  | 11.6                                             | 53.3     | 128                                              | 15.4 | 49.8    | 204 | 27.3 | 51.7     |
| 17  | 337                                    | 42.9 | 103                                               | 26.1 | -17 57.2                                         | 108 | 12.3                                             | -17 53.8 | 143                                              | 17.6 | -4 49.9 | 219 | 29.9 | +20 51.8 |
| 18  | 352                                    | 45.3 | 118                                               | 25.4 | -17 58.0                                         | 123 | 13.1                                             | -17 54.2 | 158                                              | 19.7 | -4 50.0 | 234 | 32.5 | +20 51.8 |
| 19  | 7                                      | 47.8 | 133                                               | 24.7 | 58.8                                             | 138 | 13.8                                             | 54.7     | 173                                              | 21.9 | 50.2    | 249 | 35.1 | 51.8     |
| 20  | 22                                     | 50.2 | 148                                               | 24.0 | -17 59.6                                         | 153 | 14.6                                             | 55.2     | 188                                              | 24.0 | 50.3    | 264 | 37.7 | 51.9     |
| 21  | 37                                     | 52.7 | 163                                               | 23.3 | -18 00.4                                         | 168 | 15.3                                             | 55.6     | 203                                              | 26.1 | 50.4    | 279 | 40.4 | 51.9     |
| 22  | 52                                     | 55.2 | 178                                               | 22.6 | 01.2                                             | 183 | 16.1                                             | 56.1     | 218                                              | 28.3 | 50.5    | 294 | 43.0 | 51.9     |
| 23  | 67                                     | 57.6 | 193                                               | 21.9 | 02.0                                             | 198 | 16.8                                             | 56.5     | 233                                              | 30.4 | 50.7    | 309 | 45.6 | 52.0     |
| 24  | 83                                     | 00.1 | 208                                               | 21.2 | -18 02.8                                         | 213 | 17.5                                             | -17 57.0 | 248                                              | 32.6 | -4 50.8 | 324 | 48.2 | +20 52.0 |
| Dif | —                                      |      | -7                                                | -8   |                                                  | +7  | -5                                               |          | +21                                              | -1   |         | +26 |      | 0        |

| UT  | SOL                                                |      |                                                   | ● LUNA                                                                                                                        |     |                                                  |     |         | Latitud                                          | Principio del crepúsculo |      | Salida de Sol                                    | Salida de Luna |      | Puesta de Luna |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------|-----|---------|--------------------------------------------------|--------------------------|------|--------------------------------------------------|----------------|------|----------------|------|-----|------|
|     | SD: 16'2<br>PMG: 11 <sup>h</sup> 54 <sup>m</sup> 9 |      |                                                   | Edad: 1 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 61'0<br>12 <sup>h</sup> : 60'9<br>20 <sup>h</sup> : 60'7<br>R°: 60 <sup>m</sup> |     |                                                  |     |         |                                                  |                          |      |                                                  |                |      |                |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                          | Dif | Dec                                              | Dif | Náutico |                                                  | Civil                    | Hora |                                                  | R°             | Hora | R°             |      |     |      |
| h   | °                                                  | '    | °                                                 | °                                                                                                                             | '   | °                                                | '   | °       | h                                                | m                        | h    | m                                                | h              | m    | h              | m    |     |      |
| 0   | 181                                                | 20.7 | -23                                               | 13.1                                                                                                                          | 150 | 42.5                                             | -26 | 55.5    | 60 N                                             | 7 02                     | 7 59 | 8 56                                             | 12 17          | 9    | 17 03          | 117  |     |      |
| 1   | 196                                                | 20.4 |                                                   | 13.3                                                                                                                          | 165 | 03.0                                             | 15  | 50.4    | 58                                               | 6 55                     | 48   | 39                                               | 11 52          | 17   | 28             | 107  |     |      |
| 2   | 211                                                | 20.1 |                                                   | 13.4                                                                                                                          | 179 | 23.7                                             | 17  | 45.0    | 56                                               | 48                       | 37   | 25                                               | 31             | 24   | 17 47          | 102  |     |      |
| 3   | 226                                                | 19.8 |                                                   | 13.6                                                                                                                          | 193 | 44.5                                             | 18  | 39.4    | 54                                               | 42                       | 28   | 12                                               | 15             | 28   | 18 03          | 97   |     |      |
| 4   | 241                                                | 19.5 |                                                   | 13.7                                                                                                                          | 208 | 05.3                                             | 18  | 33.6    | 52                                               | 37                       | 20   | 8 01                                             | 11 00          | 32   | 17             | 93   |     |      |
| 5   | 256                                                | 19.2 | -23                                               | 13.9                                                                                                                          | 222 | 26.2                                             | 19  | -26     | 50                                               | 6 31                     | 7 13 | 7 51                                             | 10 48          | 34   | 18 30          | 89   |     |      |
| 6   | 271                                                | 18.9 | -23                                               | 14.0                                                                                                                          | 236 | 47.3                                             | 21  | -26     | 45                                               | 6 20                     | 6 57 | 7 31                                             | 10 21          | 41   | 18 55          | 83   |     |      |
| 7   | 286                                                | 18.6 |                                                   | 14.2                                                                                                                          | 251 | 08.4                                             | 21  | 15.0    | 40                                               | 10                       | 44   | 14                                               | 10 01          | 44   | 19 15          | 79   |     |      |
| 8   | 301                                                | 18.3 |                                                   | 14.3                                                                                                                          | 265 | 29.7                                             | 23  | 08.5    | 35                                               | 6 00                     | 32   | 7 00                                             | 9 43           | 48   | 31             | 76   |     |      |
| 9   | 316                                                | 18.0 |                                                   | 14.4                                                                                                                          | 279 | 51.0                                             | 23  | -26     | 30                                               | 5 52                     | 22   | 6 48                                             | 28             | 51   | 19 46          | 72   |     |      |
| 10  | 331                                                | 17.7 |                                                   | 14.6                                                                                                                          | 294 | 12.5                                             | 25  | -25     | 20                                               | 35                       | 6 03 | 27                                               | 9 02           | 55   | 20 10          | 67   |     |      |
| 11  | 346                                                | 17.4 | -23                                               | 14.7                                                                                                                          | 308 | 34.1                                             | 26  | -25     | 10 N                                             | 5 19                     | 5 46 | 6 08                                             | 8 40           | 59   | 20 30          | 64   |     |      |
| 12  | 1                                                  | 17.1 | -23                                               | 14.9                                                                                                                          | 322 | 55.8                                             | 27  | -25     | 0                                                | 5 02                     | 5 29 | 5 51                                             | 8 20           | 62   | 20 50          | 59   |     |      |
| 13  | 16                                                 | 16.8 |                                                   | 15.0                                                                                                                          | 337 | 17.6                                             | 28  | 32.8    | 10 S                                             | 4 44                     | 5 11 | 34                                               | 7 59           | 65   | 21 09          | 55   |     |      |
| 14  | 31                                                 | 16.5 |                                                   | 15.1                                                                                                                          | 351 | 39.5                                             | 29  | 25.1    | 20                                               | 4 21                     | 4 50 | 5 15                                             | 37             | 69   | 29             | 51   |     |      |
| 15  | 46                                                 | 16.2 |                                                   | 15.3                                                                                                                          | 6   | 01.5                                             | 30  | 17.3    | 30                                               | 3 52                     | 26   | 4 53                                             | 7 11           | 73   | 21 53          | 46   |     |      |
| 16  | 61                                                 | 15.9 |                                                   | 15.4                                                                                                                          | 20  | 23.7                                             | 32  | 09.2    | 35                                               | 34                       | 4 10 | 40                                               | 6 55           | 76   | 22 06          | 43   |     |      |
| 17  | 76                                                 | 15.6 | -23                                               | 15.5                                                                                                                          | 34  | 45.9                                             | 32  | -25     | 40                                               | 3 11                     | 3 52 | 4 25                                             | 6 38           | 79   | 22 22          | 39   |     |      |
| 18  | 91                                                 | 15.3 | -23                                               | 15.7                                                                                                                          | 49  | 08.3                                             | 34  | -24     | 45                                               | 2 41                     | 3 30 | 4 07                                             | 6 16           | 83   | 22 41          | 35   |     |      |
| 19  | 106                                                | 15.0 |                                                   | 15.8                                                                                                                          | 63  | 30.9                                             | 36  | 44.0    | 50                                               | 1 56                     | 3 01 | 3 45                                             | 5 49           | 88   | 23 04          | 29   |     |      |
| 20  | 121                                                | 14.7 |                                                   | 15.9                                                                                                                          | 77  | 53.5                                             | 36  | 35.3    | 52                                               | 1 29                     | 2 46 | 34                                               | 36             | 91   | 15             | 26   |     |      |
| 21  | 136                                                | 14.4 |                                                   | 16.1                                                                                                                          | 92  | 16.3                                             | 38  | 26.4    | 54                                               | 0 46                     | 28   | 22                                               | 20             | 95   | 27             | 23   |     |      |
| 22  | 151                                                | 14.1 |                                                   | 16.2                                                                                                                          | 106 | 39.2                                             | 39  | 17.4    | 56                                               | ** **                    | 2 06 | 3 08                                             | 5 02           | 99   | 41             | 19   |     |      |
| 23  | 166                                                | 13.8 |                                                   | 16.3                                                                                                                          | 121 | 02.2                                             | 40  | -24     | 58                                               | ** **                    | 1 37 | 2 52                                             | 4 40           | 106  | 23 58          | 13   |     |      |
| 24  | 181                                                | 13.5 | -23                                               | 16.4                                                                                                                          | 135 | 25.4                                             | 42  | -23     | 60 S                                             | ** **                    | 0 50 | 2 31                                             | 4 12           | 114  | 0 00           | 18   |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                               |     | MARTE                                            |     |         | JÚPITER                                          |                          |      | SATURNO                                          |                |      |                |      |     |      |
|     | PMG: 18 <sup>h</sup> 25 <sup>m</sup> 0             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 07 <sup>m</sup> |                                                                                                                               |     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 46 <sup>m</sup> |     |         | Mag: -1.9<br>PMG: 7 <sup>h</sup> 25 <sup>m</sup> |                          |      | Mag: -0.2<br>PMG: 2 <sup>h</sup> 20 <sup>m</sup> |                |      |                |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                           |     | hG ♂                                             | Dec |         | hG ♃                                             | Dec                      |      | hG ♄                                             | Dec            |      |                |      |     |      |
| h   | °                                                  | '    | °                                                 | °                                                                                                                             | '   | °                                                | °   | '       | °                                                | °                        | '    | °                                                | °              | '    | °              | °    | '   |      |
| 0   | 83                                                 | 00.1 | 208                                               | 21.2                                                                                                                          | -18 | 02.8                                             | 213 | 17.5    | -17                                              | 57.0                     | 248  | 32.6                                             | -4             | 50.8 | 324            | 48.2 | +20 | 52.0 |
| 1   | 98                                                 | 02.6 | 223                                               | 20.5                                                                                                                          |     | 03.6                                             | 228 | 18.3    |                                                  | 57.5                     | 263  | 34.7                                             |                | 50.9 | 339            | 50.9 |     | 52.0 |
| 2   | 113                                                | 05.0 | 238                                               | 19.8                                                                                                                          |     | 04.3                                             | 243 | 19.0    |                                                  | 57.9                     | 278  | 36.9                                             |                | 51.0 | 354            | 53.5 |     | 52.1 |
| 3   | 128                                                | 07.5 | 253                                               | 19.1                                                                                                                          |     | 05.1                                             | 258 | 19.8    |                                                  | 58.4                     | 293  | 39.0                                             |                | 51.1 | 9              | 56.1 |     | 52.1 |
| 4   | 143                                                | 10.0 | 268                                               | 18.3                                                                                                                          |     | 05.9                                             | 273 | 20.5    |                                                  | 58.8                     | 308  | 41.2                                             |                | 51.3 | 24             | 58.7 |     | 52.1 |
| 5   | 158                                                | 12.4 | 283                                               | 17.6                                                                                                                          | -18 | 06.7                                             | 288 | 21.3    | -17                                              | 59.3                     | 323  | 43.3                                             | -4             | 51.4 | 40             | 01.4 | +20 | 52.2 |
| 6   | 173                                                | 14.9 | 298                                               | 16.9                                                                                                                          | -18 | 07.5                                             | 303 | 22.0    | -17                                              | 59.8                     | 338  | 45.4                                             | -4             | 51.5 | 55             | 04.0 | +20 | 52.2 |
| 7   | 188                                                | 17.4 | 313                                               | 16.2                                                                                                                          |     | 08.3                                             | 318 | 22.7    | -18                                              | 00.2                     | 353  | 47.6                                             |                | 51.6 | 70             | 06.6 |     | 52.2 |
| 8   | 203                                                | 19.8 | 328                                               | 15.5                                                                                                                          |     | 09.1                                             | 333 | 23.5    |                                                  | 00.7                     | 8    | 49.7                                             |                | 51.8 | 85             | 09.2 |     | 52.3 |
| 9   | 218                                                | 22.3 | 343                                               | 14.8                                                                                                                          |     | 09.8                                             | 348 | 24.2    |                                                  | 01.1                     | 23   | 51.9                                             |                | 51.9 | 100            | 11.8 |     | 52.3 |
| 10  | 233                                                | 24.7 | 358                                               | 14.1                                                                                                                          |     | 10.6                                             | 3   | 25.0    |                                                  | 01.6                     | 38   | 54.0                                             |                | 52.0 | 115            | 14.5 |     | 52.3 |
| 11  | 248                                                | 27.2 | 13                                                | 13.4                                                                                                                          | -18 | 11.4                                             | 18  | 25.7    | -18                                              | 02.1                     | 53   | 56.2                                             | -4             | 52.1 | 130            | 17.1 | +20 | 52.4 |
| 12  | 263                                                | 29.7 | 28                                                | 12.7                                                                                                                          | -18 | 12.2                                             | 33  | 26.5    | -18                                              | 02.5                     | 68   | 58.3                                             | -4             | 52.3 | 145            | 19.7 | +20 | 52.4 |
| 13  | 278                                                | 32.1 | 43                                                | 11.9                                                                                                                          |     | 13.0                                             | 48  | 27.2    |                                                  | 03.0                     | 84   | 00.5                                             |                | 52.4 | 160            | 22.3 |     | 52.4 |
| 14  | 293                                                | 34.6 | 58                                                | 11.2                                                                                                                          |     | 13.7                                             | 63  | 27.9    |                                                  | 03.4                     | 99   | 02.6                                             |                | 52.5 | 175            | 25.0 |     | 52.5 |
| 15  | 308                                                | 37.1 | 73                                                | 10.5                                                                                                                          |     | 14.5                                             | 78  | 28.7    |                                                  | 03.9                     | 114  | 04.8                                             |                | 52.6 | 190            | 27.6 |     | 52.5 |
| 16  | 323                                                | 39.5 | 88                                                | 09.8                                                                                                                          |     | 15.3                                             | 93  | 29.4    |                                                  | 04.3                     | 129  | 06.9                                             |                | 52.8 | 205            | 30.2 |     | 52.5 |
| 17  | 338                                                | 42.0 | 103                                               | 09.1                                                                                                                          | -18 | 16.1                                             | 108 | 30.2    | -18                                              | 04.8                     | 144  | 09.0                                             | -4             | 52.9 | 220            | 32.8 | +20 | 52.6 |
| 18  | 353                                                | 44.5 | 118                                               | 08.4                                                                                                                          | -18 | 16.9                                             | 123 | 30.9    | -18                                              | 05.3                     | 159  | 11.2                                             | -4             | 53.0 | 235            | 35.5 | +20 | 52.6 |
| 19  | 8                                                  | 46.9 | 133                                               | 07.6                                                                                                                          |     | 17.6                                             | 138 | 31.6    |                                                  | 05.7                     | 174  | 13.3                                             |                | 53.1 | 250            | 38.1 |     | 52.6 |
| 20  | 23                                                 | 49.4 | 148                                               | 06.9                                                                                                                          |     | 18.4                                             | 153 | 32.4    |                                                  | 06.2                     | 189  | 15.5                                             |                | 53.2 | 265            | 40.7 |     | 52.7 |
| 21  | 38                                                 | 51.9 | 163                                               | 06.2                                                                                                                          |     | 19.2                                             | 168 | 33.1    |                                                  | 06.6                     | 204  | 17.6                                             |                | 53.4 | 280            | 43.3 |     | 52.7 |
| 22  | 53                                                 | 54.3 | 178                                               | 05.5                                                                                                                          |     | 19.9                                             | 183 | 33.9    |                                                  | 07.1                     | 219  | 19.8                                             |                | 53.5 | 295            | 46.0 |     | 52.7 |
| 23  | 68                                                 | 56.8 | 193                                               | 04.8                                                                                                                          |     | 20.7                                             | 198 | 34.6    |                                                  | 07.5                     | 234  | 21.9                                             |                | 53.6 | 310            | 48.6 |     | 52.8 |
| 24  | 83                                                 | 59.2 | 208                                               | 04.1                                                                                                                          | -18 | 21.5                                             | 213 | 35.3    | -18                                              | 08.0                     | 249  | 24.1                                             | -4             | 53.7 | 325            | 51.2 | +20 | 52.8 |
| Dif | —                                                  |      | -7 -8                                             |                                                                                                                               |     | +7 -5                                            |     |         | +21 -1                                           |                          |      | +26 0                                            |                |      |                |      |     |      |



| UT  | SOL                                                |      |                                                   | ● LUNA                                                                         |                                                  |      | Latitud                                          | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |         | Puesta de Luna |           |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------------------------|------|--------------------------------------------------|---------------|--------------------------------------------------|---------|----------------|---------|----------------|-----------|
|     | SD: 16/2<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> 3 |      |                                                   | Edad: 2 <sup>d</sup> 9 PHE<br>SD: 16/5<br>PMG: 15 <sup>h</sup> 35 <sup>m</sup> |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                           | Dif                                              |      |                                                  |               | Civil                                            | Náutico | Hora           | R°      | Hora           | R°        |
| h   | °                                                  | '    | °                                                 | '                                                                              | °                                                | '    | °                                                | h m           | h m                                              | h m     | h m m          | h m m   | h m m          |           |
| 0   | 181                                                | 13.5 | -23                                               | 16.4                                                                           | 135                                              | 25.4 | -23                                              | 58.7          | 60 N                                             | 14 53   | 15 50          | 16 47   | 12 26 3        | 19 00 109 |
| 1   | 196                                                | 13.2 |                                                   | 16.6                                                                           | 149                                              | 48.7 | 43                                               | 49.2          | 58                                               | 15 10   | 16 02          | 16 55   | 12 09 9        | 15 103    |
| 2   | 211                                                | 12.9 |                                                   | 16.7                                                                           | 164                                              | 12.1 | 44                                               | 39.5          | 56                                               | 25      | 12             | 17 01   | 11 55 14       | 29 98     |
| 3   | 226                                                | 12.6 |                                                   | 16.8                                                                           | 178                                              | 35.6 | 45                                               | 29.7          | 54                                               | 38      | 21             | 07      | 43 18          | 40 94     |
| 4   | 241                                                | 12.3 |                                                   | 16.9                                                                           | 192                                              | 59.3 | 47                                               | 19.7          | 52                                               | 49      | 29             | 13      | 32 21          | 50 91     |
| 5   | 256                                                | 12.0 | -23                                               | 17.1                                                                           | 207                                              | 23.2 | 49                                               | -23 09.5      | 50                                               | 15 58   | 16 37          | 17 18   | 11 22 24       | 19 59 88  |
| 6   | 271                                                | 11.7 | -23                                               | 17.2                                                                           | 221                                              | 47.1 | 49                                               | -22 59.2      | 45                                               | 16 19   | 16 53          | 17 30   | 11 02 30       | 20 18 82  |
| 7   | 286                                                | 11.4 |                                                   | 17.3                                                                           | 236                                              | 11.2 | 51                                               | 48.8          | 40                                               | 36      | 17 06          | 40      | 10 45 35       | 34 76     |
| 8   | 301                                                | 11.1 |                                                   | 17.4                                                                           | 250                                              | 35.5 | 53                                               | 38.2          | 35                                               | 16 50   | 18             | 50      | 31 38          | 47 72     |
| 9   | 316                                                | 10.8 |                                                   | 17.6                                                                           | 264                                              | 59.8 | 53                                               | 27.4          | 30                                               | 17 02   | 29             | 17 58   | 10 19 41       | 20 58 69  |
| 10  | 331                                                | 10.5 |                                                   | 17.7                                                                           | 279                                              | 24.3 | 55                                               | 16.6          | 20                                               | 23      | 17 47          | 18 15   | 9 57 48        | 21 17 63  |
| 11  | 346                                                | 10.2 | -23                                               | 17.8                                                                           | 293                                              | 49.0 | 57                                               | -22 05.6      | 10 N                                             | 17 42   | 18 05          | 18 31   | 9 39 52        | 21 34 58  |
| 12  | 1                                                  | 09.9 | -23                                               | 17.9                                                                           | 308                                              | 13.8 | 58                                               | -21 54.4      | 0                                                | 17 59   | 18 22          | 18 48   | 9 22 56        | 21 49 53  |
| 13  | 16                                                 | 09.6 |                                                   | 18.0                                                                           | 322                                              | 38.7 | 59                                               | 43.2          | 10 S                                             | 18 17   | 18 40          | 19 07   | 9 04 61        | 22 04 49  |
| 14  | 31                                                 | 09.3 |                                                   | 18.1                                                                           | 337                                              | 03.7 | 60                                               | 31.8          | 20                                               | 35      | 19 00          | 29      | 8 46 65        | 20 44     |
| 15  | 46                                                 | 09.0 |                                                   | 18.3                                                                           | 351                                              | 28.9 | 62                                               | 20.3          | 30                                               | 18 57   | 25             | 19 58   | 24 71          | 39 38     |
| 16  | 61                                                 | 08.7 |                                                   | 18.4                                                                           | 5                                                | 54.3 | 64                                               | -21 08.6      | 35                                               | 19 10   | 40             | 20 17   | 8 11 74        | 22 49 36  |
| 17  | 76                                                 | 08.4 | -23                                               | 18.5                                                                           | 20                                               | 19.7 | 64                                               | -20 56.8      | 40                                               | 19 25   | 19 58          | 20 40   | 7 57 77        | 23 01 32  |
| 18  | 91                                                 | 08.1 | -23                                               | 18.6                                                                           | 34                                               | 45.3 | 66                                               | -20 45.0      | 45                                               | 19 43   | 20 21          | 21 10   | 7 39 83        | 23 16 27  |
| 19  | 106                                                | 07.8 |                                                   | 18.7                                                                           | 49                                               | 11.1 | 68                                               | 33.0          | 50                                               | 20 06   | 20 50          | 21 55   | 17 89          | 33 21     |
| 20  | 121                                                | 07.5 |                                                   | 18.8                                                                           | 63                                               | 36.9 | 68                                               | 20.8          | 52                                               | 17      | 21 05          | 22 23   | 7 07 92        | 41 18     |
| 21  | 136                                                | 07.2 |                                                   | 18.9                                                                           | 78                                               | 03.0 | 71                                               | -20 08.6      | 54                                               | 29      | 23             | 23 08   | 6 55 95        | 23 50 15  |
| 22  | 151                                                | 06.9 |                                                   | 19.1                                                                           | 92                                               | 29.1 | 71                                               | -19 56.3      | 56                                               | 20 43   | 21 45          | ** ** * | 41 100         | ** ** *   |
| 23  | 166                                                | 06.6 |                                                   | 19.2                                                                           | 106                                              | 55.4 | 73                                               | 43.8          | 58                                               | 21 00   | 22 15          | ** ** * | 26 105         | ** ** *   |
| 24  | 181                                                | 06.2 | -23                                               | 19.3                                                                           | 121                                              | 21.8 | 74                                               | -19 31.2      | 60 S                                             | 21 20   | 23 03          | ** ** * | 6 06 113       | 0 18 6    |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                | MARTE                                            |      | JÚPITER                                          |               | SATURNO                                          |         |                |         |                |           |
|     | PMG: 18 <sup>h</sup> 21 <sup>m</sup> 0             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 08 <sup>m</sup> |                                                                                | Mag: +1.6<br>PMG: 9 <sup>h</sup> 45 <sup>m</sup> |      | Mag: -1.9<br>PMG: 7 <sup>h</sup> 21 <sup>m</sup> |               | Mag: -0.2<br>PMG: 2 <sup>h</sup> 16 <sup>m</sup> |         |                |         |                |           |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                            | hG ♂                                             | Dec  | hG ♃                                             | Dec           | hG ♄                                             | Dec     |                |         |                |           |
| h   | °                                                  | '    | °                                                 | '                                                                              | °                                                | '    | °                                                | '             | °                                                | '       |                |         |                |           |
| 0   | 83                                                 | 59.2 | 208                                               | 04.1                                                                           | -18                                              | 21.5 | 213                                              | 35.3          | -18                                              | 08.0    |                |         |                |           |
| 1   | 99                                                 | 01.7 | 223                                               | 03.3                                                                           |                                                  | 22.3 | 228                                              | 36.1          |                                                  | 08.4    |                |         |                |           |
| 2   | 114                                                | 04.2 | 238                                               | 02.6                                                                           |                                                  | 23.0 | 243                                              | 36.8          |                                                  | 08.9    |                |         |                |           |
| 3   | 129                                                | 06.6 | 253                                               | 01.9                                                                           |                                                  | 23.8 | 258                                              | 37.6          |                                                  | 09.3    |                |         |                |           |
| 4   | 144                                                | 09.1 | 268                                               | 01.2                                                                           |                                                  | 24.6 | 273                                              | 38.3          |                                                  | 09.8    |                |         |                |           |
| 5   | 159                                                | 11.6 | 283                                               | 00.5                                                                           | -18                                              | 25.3 | 288                                              | 39.0          | -18                                              | 10.3    |                |         |                |           |
| 6   | 174                                                | 14.0 | 297                                               | 59.7                                                                           | -18                                              | 26.1 | 303                                              | 39.8          | -18                                              | 10.7    |                |         |                |           |
| 7   | 189                                                | 16.5 | 312                                               | 59.0                                                                           |                                                  | 26.9 | 318                                              | 40.5          |                                                  | 11.2    |                |         |                |           |
| 8   | 204                                                | 19.0 | 327                                               | 58.3                                                                           |                                                  | 27.6 | 333                                              | 41.2          |                                                  | 11.6    |                |         |                |           |
| 9   | 219                                                | 21.4 | 342                                               | 57.6                                                                           |                                                  | 28.4 | 348                                              | 42.0          |                                                  | 12.1    |                |         |                |           |
| 10  | 234                                                | 23.9 | 357                                               | 56.8                                                                           |                                                  | 29.1 | 3                                                | 42.7          |                                                  | 12.5    |                |         |                |           |
| 11  | 249                                                | 26.4 | 12                                                | 56.1                                                                           | -18                                              | 29.9 | 18                                               | 43.5          | -18                                              | 13.0    |                |         |                |           |
| 12  | 264                                                | 28.8 | 27                                                | 55.4                                                                           | -18                                              | 30.7 | 33                                               | 44.2          | -18                                              | 13.4    |                |         |                |           |
| 13  | 279                                                | 31.3 | 42                                                | 54.7                                                                           |                                                  | 31.4 | 48                                               | 44.9          |                                                  | 13.9    |                |         |                |           |
| 14  | 294                                                | 33.7 | 57                                                | 53.9                                                                           |                                                  | 32.2 | 63                                               | 45.7          |                                                  | 14.3    |                |         |                |           |
| 15  | 309                                                | 36.2 | 72                                                | 53.2                                                                           |                                                  | 32.9 | 78                                               | 46.4          |                                                  | 14.8    |                |         |                |           |
| 16  | 324                                                | 38.7 | 87                                                | 52.5                                                                           |                                                  | 33.7 | 93                                               | 47.1          |                                                  | 15.2    |                |         |                |           |
| 17  | 339                                                | 41.1 | 102                                               | 51.8                                                                           | -18                                              | 34.5 | 108                                              | 47.9          | -18                                              | 15.7    |                |         |                |           |
| 18  | 354                                                | 43.6 | 117                                               | 51.0                                                                           | -18                                              | 35.2 | 123                                              | 48.6          | -18                                              | 16.1    |                |         |                |           |
| 19  | 9                                                  | 46.1 | 132                                               | 50.3                                                                           |                                                  | 36.0 | 138                                              | 49.3          |                                                  | 16.6    |                |         |                |           |
| 20  | 24                                                 | 48.5 | 147                                               | 49.6                                                                           |                                                  | 36.7 | 153                                              | 50.1          |                                                  | 17.0    |                |         |                |           |
| 21  | 39                                                 | 51.0 | 162                                               | 48.8                                                                           |                                                  | 37.5 | 168                                              | 50.8          |                                                  | 17.5    |                |         |                |           |
| 22  | 54                                                 | 53.5 | 177                                               | 48.1                                                                           |                                                  | 38.2 | 183                                              | 51.5          |                                                  | 17.9    |                |         |                |           |
| 23  | 69                                                 | 55.9 | 192                                               | 47.4                                                                           |                                                  | 39.0 | 198                                              | 52.3          |                                                  | 18.4    |                |         |                |           |
| 24  | 84                                                 | 58.4 | 207                                               | 46.6                                                                           | -18                                              | 39.7 | 213                                              | 53.0          | -18                                              | 18.8    |                |         |                |           |
| Dif | —                                                  |      | -7                                                |                                                                                | -8                                               |      | +7                                               |               | -5                                               |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      |                                                   |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |
|     |                                                    |      | </                                                |                                                                                |                                                  |      |                                                  |               |                                                  |         |                |         |                |           |

| UT | SOL                                                |      |     |  LUNA                                        |     |      |     |          | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |     |    |
|----|----------------------------------------------------|------|-----|-------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|----------|---------|--------------------------|-------|---------------|----------------|----|----------------|-----|----|
|    | SD: 16'3<br>PMG: 11 <sup>h</sup> 55 <sup>m</sup> 8 |      |     | Edad: 3 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 59'8<br>12 <sup>h</sup> : 59'5<br>20 <sup>h</sup> : 59'2<br>R°: 50 <sup>m</sup> |     |      |     |          |         |                          |       |               |                |    |                |     |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                          | Dif | Dec  |     | Dif      |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R°  |    |
| h  | °                                                  | '    | °   | '                                                                                                                             | °   | '    | °   | '        | °       | h                        | m     | h             | m              | h  | m              | h   | m  |
| 0  | 181                                                | 06.2 | -23 | 19.3                                                                                                                          | 121 | 21.8 | -19 | 31.2     | 60 N    | 7 04                     | 8 01  | 8 59          | 12 29          | 1  | 20 49          | 100 |    |
| 1  | 196                                                | 05.9 |     | 19.4                                                                                                                          | 135 | 48.4 | 76  | 18.6     | 58      | 6 57                     | 7 49  | 41            | 18 6           |    | 20 58          | 96  |    |
| 2  | 211                                                | 05.6 |     | 19.5                                                                                                                          | 150 | 15.1 | 77  | -19 05.8 | 56      | 50                       | 39    | 26            | 09 9           |    | 21 07          | 92  |    |
| 3  | 226                                                | 05.3 |     | 19.6                                                                                                                          | 164 | 41.9 | 78  | -18 52.9 | 54      | 44                       | 30    | 14            | 12 01          | 12 | 14             | 88  |    |
| 4  | 241                                                | 05.0 |     | 19.7                                                                                                                          | 179 | 08.8 | 79  | 40.0     | 52      | 38                       | 22    | 8 03          | 11 53          | 16 | 21             | 85  |    |
| 5  | 256                                                | 04.7 | -23 | 19.8                                                                                                                          | 193 | 35.9 | 81  | -18 26.9 | 50      | 6 33                     | 7 15  | 7 53          | 11 46          | 19 | 21 27          | 82  |    |
| 6  | 271                                                | 04.4 | -23 | 19.9                                                                                                                          | 208 | 03.2 | 83  | -18 13.8 | 45      | 6 21                     | 6 58  | 7 32          | 11 32          | 24 | 21 40          | 76  |    |
| 7  | 286                                                | 04.1 |     | 20.0                                                                                                                          | 222 | 30.5 | 83  | -18 00.5 | 40      | 11                       | 45    | 16            | 20 28          |    | 50             | 72  |    |
| 8  | 301                                                | 03.8 |     | 20.1                                                                                                                          | 236 | 58.0 | 85  | -17 47.2 | 35      | 6 02                     | 33    | 7 01          | 09 33          |    | 21 59          | 68  |    |
| 9  | 316                                                | 03.5 |     | 20.2                                                                                                                          | 251 | 25.6 | 86  | 33.8     | 30      | 5 53                     | 23    | 6 49          | 11 00          | 36 | 22 07          | 64  |    |
| 10 | 331                                                | 03.2 |     | 20.3                                                                                                                          | 265 | 53.3 | 87  | 20.2     | 20      | 36                       | 6 04  | 28            | 10 45          | 41 | 20             | 59  |    |
| 11 | 346                                                | 02.9 | -23 | 20.4                                                                                                                          | 280 | 21.2 | 89  | -17 06.7 | 10 N    | 5 20                     | 5 47  | 6 09          | 10 31          | 46 | 22 32          | 53  |    |
| 12 | 1                                                  | 02.6 | -23 | 20.5                                                                                                                          | 294 | 49.2 | 90  | -16 53.0 | 0       | 5 03                     | 5 30  | 5 52          | 10 18          | 51 | 22 42          | 49  |    |
| 13 | 16                                                 | 02.3 |     | 20.6                                                                                                                          | 309 | 17.3 | 91  | 39.2     | 10 S    | 4 44                     | 5 11  | 35            | 10 05          | 55 | 22 53          | 44  |    |
| 14 | 31                                                 | 02.0 |     | 20.7                                                                                                                          | 323 | 45.5 | 92  | 25.4     | 20      | 4 22                     | 4 51  | 5 16          | 9 51           | 60 | 23 04          | 39  |    |
| 15 | 46                                                 | 01.7 |     | 20.8                                                                                                                          | 338 | 13.9 | 94  | -16 11.5 | 30      | 3 53                     | 26    | 4 54          | 35             | 66 | 17             | 33  |    |
| 16 | 61                                                 | 01.4 |     | 20.9                                                                                                                          | 352 | 42.4 | 95  | -15 57.5 | 35      | 34                       | 4 11  | 41            | 25             | 70 | 25             | 30  |    |
| 17 | 76                                                 | 01.1 | -23 | 21.0                                                                                                                          | 7   | 11.0 | 96  | -15 43.5 | 40      | 3 11                     | 3 53  | 4 26          | 9 14           | 74 | 23 33          | 26  |    |
| 18 | 91                                                 | 00.8 | -23 | 21.1                                                                                                                          | 21  | 39.7 | 97  | -15 29.3 | 45      | 2 41                     | 3 30  | 4 08          | 9 02           | 78 | 23 43          | 21  |    |
| 19 | 106                                                | 00.5 |     | 21.2                                                                                                                          | 36  | 08.5 | 98  | 15.2     | 50      | 1 56                     | 3 01  | 3 45          | 8 46           | 85 | 54             | 17  |    |
| 20 | 121                                                | 00.1 |     | 21.3                                                                                                                          | 50  | 37.5 | 100 | -15 00.9 | 52      | 1 28                     | 2 46  | 35            | 39             | 87 | 23             | 59  | 14 |
| 21 | 135                                                | 59.8 |     | 21.4                                                                                                                          | 65  | 06.6 | 101 | -14 46.6 | 54      | 0 43                     | 28    | 22            | 30             | 91 | **             | **  | ** |
| 22 | 150                                                | 59.5 |     | 21.5                                                                                                                          | 79  | 35.8 | 102 | 32.2     | 56      | **                       | **    | 2 06          | 3 08           |    | 0 00           | 12  |    |
| 23 | 165                                                | 59.2 |     | 21.5                                                                                                                          | 94  | 05.1 | 103 | 17.8     | 58      | **                       | **    | 1 36          | 2 51           |    | 11 8           |     |    |
| 24 | 180                                                | 58.9 | -23 | 21.6                                                                                                                          | 108 | 34.5 | 104 | -14 03.3 | 60 S    | **                       | **    | 0 48          | 2 31           |    | 0 24           | 3   |    |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 18 <sup>h</sup> 17 <sup>m</sup> 1 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 09 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 44 <sup>m</sup> |      | Mag: -1.9<br>PMG: 7 <sup>h</sup> 18 <sup>m</sup> |      | Mag: -0.2<br>PMG: 2 <sup>h</sup> 12 <sup>m</sup> |      |
|     | hG ♊                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 84                                     | 58.4 | 207                                               | 46.6 | -18                                              | 39.7 | 213                                              | 53.0 | -18                                              | 18.8 |
| 1   | 100                                    | 00.8 | 222                                               | 45.9 |                                                  | 40.5 | 228                                              | 53.7 |                                                  | 19.3 |
| 2   | 115                                    | 03.3 | 237                                               | 45.2 |                                                  | 41.2 | 243                                              | 54.5 |                                                  | 19.7 |
| 3   | 130                                    | 05.8 | 252                                               | 44.4 |                                                  | 42.0 | 258                                              | 55.2 |                                                  | 20.2 |
| 4   | 145                                    | 08.2 | 267                                               | 43.7 |                                                  | 42.7 | 273                                              | 56.0 |                                                  | 20.6 |
| 5   | 160                                    | 10.7 | 282                                               | 43.0 | -18                                              | 43.5 | 288                                              | 56.7 | -18                                              | 21.1 |
| 6   | 175                                    | 13.2 | 297                                               | 42.2 | -18                                              | 44.2 | 303                                              | 57.4 | -18                                              | 21.5 |
| 7   | 190                                    | 15.6 | 312                                               | 41.5 |                                                  | 44.9 | 318                                              | 58.2 |                                                  | 22.0 |
| 8   | 205                                    | 18.1 | 327                                               | 40.8 |                                                  | 45.7 | 333                                              | 58.9 |                                                  | 22.4 |
| 9   | 220                                    | 20.6 | 342                                               | 40.0 |                                                  | 46.4 | 348                                              | 59.6 |                                                  | 22.8 |
| 10  | 235                                    | 23.0 | 357                                               | 39.3 |                                                  | 47.2 | 4                                                | 00.3 |                                                  | 23.3 |
| 11  | 250                                    | 25.5 | 12                                                | 38.6 | -18                                              | 47.9 | 19                                               | 01.1 | -18                                              | 23.7 |
| 12  | 265                                    | 28.0 | 27                                                | 37.8 | -18                                              | 48.6 | 34                                               | 01.8 | -18                                              | 24.2 |
| 13  | 280                                    | 30.4 | 42                                                | 37.1 |                                                  | 49.4 | 49                                               | 02.5 |                                                  | 24.6 |
| 14  | 295                                    | 32.9 | 57                                                | 36.4 |                                                  | 50.1 | 64                                               | 03.3 |                                                  | 25.1 |
| 15  | 310                                    | 35.3 | 72                                                | 35.6 |                                                  | 50.9 | 79                                               | 04.0 |                                                  | 25.5 |
| 16  | 325                                    | 37.8 | 87                                                | 34.9 |                                                  | 51.6 | 94                                               | 04.7 |                                                  | 26.0 |
| 17  | 340                                    | 40.3 | 102                                               | 34.1 | -18                                              | 52.3 | 109                                              | 05.5 | -18                                              | 26.4 |
| 18  | 355                                    | 42.7 | 117                                               | 33.4 | -18                                              | 53.1 | 124                                              | 06.2 | -18                                              | 26.9 |
| 19  | 10                                     | 45.2 | 132                                               | 32.7 |                                                  | 53.8 | 139                                              | 06.9 |                                                  | 27.3 |
| 20  | 25                                     | 47.7 | 147                                               | 31.9 |                                                  | 54.5 | 154                                              | 07.7 |                                                  | 27.7 |
| 21  | 40                                     | 50.1 | 162                                               | 31.2 |                                                  | 55.3 | 169                                              | 08.4 |                                                  | 28.2 |
| 22  | 55                                     | 52.6 | 177                                               | 30.4 |                                                  | 56.0 | 184                                              | 09.1 |                                                  | 28.6 |
| 23  | 70                                     | 55.1 | 192                                               | 29.7 |                                                  | 56.7 | 199                                              | 09.9 |                                                  | 29.1 |
| 24  | 85                                     | 57.5 | 207                                               | 28.9 | -18                                              | 57.4 | 214                                              | 10.6 | -18                                              | 29.5 |
| Dif | —                                      |      | -7                                                |      | -7                                               |      | +7                                               |      | -4                                               |      |
|     |                                        |      |                                                   |      |                                                  |      | +22                                              |      | -1                                               |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      | +26                                              |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      | 0                                                |      |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                           |     |                                                  | Latitud | Puesta de Sol       | Final del crepúsculo                             |       |         | Salida de Luna                                   |          | Puesta de Luna |       |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------|-----|--------------------------------------------------|---------|---------------------|--------------------------------------------------|-------|---------|--------------------------------------------------|----------|----------------|-------|------|-----|------|
|     | SD: 16:3<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 3 |      |                                                   | Edad: 4 <sup>d</sup> 9 PHE {<br>SD: 16:1<br>PMG: 17 <sup>h</sup> 20 <sup>m</sup> |     |                                                  |         |                     |                                                  |       |         |                                                  |          |                |       |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                             | Dif | Dec                                              |         |                     | Dif                                              | Civil | Náutico | Hora                                             | R°       | Hora           | R°    |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                | °   | '                                                | °       | '                   | h m                                              | h m   | h m     | h m m                                            | h m m    | h m m          | h m m |      |     |      |
| 0   | 180                                                | 58.9 | -23                                               | 21.6                                                                             | 108 | 34.5                                             | -14     | 03.3                | 60 N                                             | 14 53 | 15 51   | 16 48                                            | 12 30 0  | 22 29 94       |       |      |     |      |
| 1   | 195                                                | 58.6 |                                                   | 21.7                                                                             | 123 | 04.0 <sup>105</sup>                              | -13     | 48.7 <sup>146</sup> | 58                                               | 15 11 | 16 02   | 16 55                                            | 24 4     | 34 90          |       |      |     |      |
| 2   | 210                                                | 58.3 |                                                   | 21.8                                                                             | 137 | 33.7 <sup>107</sup>                              |         | 34.1 <sup>146</sup> | 56                                               | 25    | 13      | 17 02                                            | 18 7     | 39 86          |       |      |     |      |
| 3   | 225                                                | 58.0 |                                                   | 21.9                                                                             | 152 | 03.4 <sup>107</sup>                              |         | 19.4 <sup>147</sup> | 54                                               | 38    | 22      | 08                                               | 13 10    | 42 84          |       |      |     |      |
| 4   | 240                                                | 57.7 |                                                   | 22.0                                                                             | 166 | 33.2 <sup>108</sup>                              | -13     | 04.7 <sup>147</sup> | 52                                               | 49    | 30      | 14                                               | 09 12    | 46 81          |       |      |     |      |
| 5   | 255                                                | 57.4 | -23                                               | 22.1                                                                             | 181 | 03.2 <sup>110</sup>                              | -12     | 50.0 <sup>147</sup> | 50                                               | 15 59 | 16 37   | 17 19                                            | 12 05 15 | 22 49 78       |       |      |     |      |
| 6   | 270                                                | 57.1 | -23                                               | 22.1                                                                             | 195 | 33.3 <sup>111</sup>                              | -12     | 35.1 <sup>149</sup> | 45                                               | 16 20 | 16 53   | 17 31                                            | 11 56 20 | 22 56 73       |       |      |     |      |
| 7   | 285                                                | 56.8 |                                                   | 22.2                                                                             | 210 | 03.4 <sup>111</sup>                              |         | 20.3 <sup>148</sup> | 40                                               | 36    | 17 07   | 41                                               | 48 24    | 23 02 68       |       |      |     |      |
| 8   | 300                                                | 56.5 |                                                   | 22.3                                                                             | 224 | 33.7 <sup>113</sup>                              | -12     | 05.4 <sup>149</sup> | 35                                               | 16 51 | 19      | 50                                               | 42 28    | 07 64          |       |      |     |      |
| 9   | 315                                                | 56.2 |                                                   | 22.4                                                                             | 239 | 04.1 <sup>114</sup>                              | -11     | 50.4 <sup>150</sup> | 30                                               | 17 03 | 29      | 17 59                                            | 36 31    | 11 61          |       |      |     |      |
| 10  | 330                                                | 55.9 |                                                   | 22.5                                                                             | 253 | 34.5 <sup>114</sup>                              |         | 35.5 <sup>149</sup> | 20                                               | 24    | 17 48   | 18 16                                            | 26 37    | 19 55          |       |      |     |      |
| 11  | 345                                                | 55.6 | -23                                               | 22.6                                                                             | 268 | 05.1 <sup>116</sup>                              | -11     | 20.4 <sup>151</sup> | 10 N                                             | 17 43 | 18 05   | 18 32                                            | 11 17 42 | 23 25 50       |       |      |     |      |
| 12  | 0                                                  | 55.2 | -23                                               | 22.6                                                                             | 282 | 35.8 <sup>117</sup>                              | -11     | 05.4 <sup>150</sup> | 0                                                | 18 00 | 18 23   | 18 49                                            | 11 09 46 | 23 31 46       |       |      |     |      |
| 13  | 15                                                 | 54.9 |                                                   | 22.7                                                                             | 297 | 06.5 <sup>117</sup>                              | -10     | 50.3 <sup>151</sup> | 10 S                                             | 18    | 18 41   | 19 08                                            | 11 00 52 | 37 41          |       |      |     |      |
| 14  | 30                                                 | 54.6 |                                                   | 22.8                                                                             | 311 | 37.4 <sup>119</sup>                              |         | 35.1 <sup>152</sup> | 20                                               | 37    | 19 01   | 30                                               | 10 51 57 | 43 36          |       |      |     |      |
| 15  | 45                                                 | 54.3 |                                                   | 22.9                                                                             | 326 | 08.3 <sup>119</sup>                              |         | 20.0 <sup>151</sup> | 30                                               | 18 59 | 26      | 19 59                                            | 41 62    | 50 31          |       |      |     |      |
| 16  | 60                                                 | 54.0 |                                                   | 22.9                                                                             | 340 | 39.3 <sup>120</sup>                              | -10     | 04.8 <sup>152</sup> | 35                                               | 19 12 | 19 41   | 20 18                                            | 35 66    | 55 26          |       |      |     |      |
| 17  | 75                                                 | 53.7 | -23                                               | 23.0                                                                             | 355 | 10.4 <sup>121</sup>                              | -9      | 49.5 <sup>153</sup> | 40                                               | 19 27 | 20 00   | 20 41                                            | 10 28 70 | 23 59 23       |       |      |     |      |
| 18  | 90                                                 | 53.4 | -23                                               | 23.1                                                                             | 9   | 41.7 <sup>123</sup>                              | -9      | 34.3 <sup>152</sup> | 45                                               | 19 45 | 20 22   | 21 12                                            | 10 20 75 | *** ** *       |       |      |     |      |
| 19  | 105                                                | 53.1 |                                                   | 23.2                                                                             | 24  | 12.9 <sup>122</sup>                              |         | 19.0 <sup>153</sup> | 50                                               | 20 07 | 20 52   | 21 57                                            | 11 80    | *** ** *       |       |      |     |      |
| 20  | 120                                                | 52.8 |                                                   | 23.2                                                                             | 38  | 44.3 <sup>124</sup>                              | -9      | 03.7 <sup>153</sup> | 52                                               | 18    | 21 07   | 22 25                                            | 06 83    | *** ** *       |       |      |     |      |
| 21  | 135                                                | 52.5 |                                                   | 23.3                                                                             | 53  | 15.8 <sup>125</sup>                              | -8      | 48.3 <sup>154</sup> | 54                                               | 30    | 25      | 23 12                                            | 10 01 86 | 0 05 12        |       |      |     |      |
| 22  | 150                                                | 52.2 |                                                   | 23.4                                                                             | 67  | 47.3 <sup>125</sup>                              |         | 33.0 <sup>153</sup> | 56                                               | 20 45 | 21 47   | ** ** *                                          | 9 56 88  | 12 8           |       |      |     |      |
| 23  | 165                                                | 51.9 |                                                   | 23.5                                                                             | 82  | 18.9 <sup>126</sup>                              |         | 17.6 <sup>154</sup> | 58                                               | 21 01 | 22 17   | ** ** *                                          | 50 92    | 19 5           |       |      |     |      |
| 24  | 180                                                | 51.6 | -23                                               | 23.5                                                                             | 96  | 50.6 <sup>127</sup>                              | -8      | 02.2 <sup>154</sup> | 60 S                                             | 21 22 | 23 07   | ** ** *                                          | 9 43 96  | 0 27 1         |       |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                  |     | MARTE                                            |         |                     | JÚPITER                                          |       |         | SATURNO                                          |          |                |       |      |     |      |
|     | PMG: 18 <sup>h</sup> 13 <sup>m</sup> 2             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 11 <sup>m</sup> |                                                                                  |     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 43 <sup>m</sup> |         |                     | Mag: -1.9<br>PMG: 7 <sup>h</sup> 14 <sup>m</sup> |       |         | Mag: -0.2<br>PMG: 2 <sup>h</sup> 08 <sup>m</sup> |          |                |       |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                              |     | hG ♂                                             | Dec     |                     | hG ♃                                             | Dec   |         | hG ♄                                             | Dec      |                |       |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                | °   | °                                                | '       | °                   | °                                                | '     | °       | °                                                | '        | °              |       |      |     |      |
| 0   | 85                                                 | 57.5 | 207                                               | 28.9                                                                             | -18 | 57.4                                             | 214     | 10.6                | -18                                              | 29.5  | 251     | 07.4                                             | -4       | 59.5           | 327   | 57.4 | +20 | 54.4 |
| 1   | 101                                                | 00.0 | 222                                               | 28.2                                                                             |     | 58.2                                             | 229     | 11.3                |                                                  | 30.0  | 266     | 09.6                                             |          | 59.6           | 343   | 00.1 |     | 54.5 |
| 2   | 116                                                | 02.5 | 237                                               | 27.5                                                                             |     | 58.9                                             | 244     | 12.0                |                                                  | 30.4  | 281     | 11.7                                             |          | 59.7           | 358   | 02.7 |     | 54.5 |
| 3   | 131                                                | 04.9 | 252                                               | 26.7                                                                             | -18 | 59.6                                             | 259     | 12.8                |                                                  | 30.8  | 296     | 13.9                                             | -4       | 59.8           | 13    | 05.3 |     | 54.5 |
| 4   | 146                                                | 07.4 | 267                                               | 26.0                                                                             | -19 | 00.3                                             | 274     | 13.5                |                                                  | 31.3  | 311     | 16.1                                             | -5       | 00.0           | 28    | 08.0 |     | 54.6 |
| 5   | 161                                                | 09.8 | 282                                               | 25.2                                                                             | -19 | 01.1                                             | 289     | 14.2                | -18                                              | 31.7  | 326     | 18.2                                             | -5       | 00.1           | 43    | 10.6 | +20 | 54.6 |
| 6   | 176                                                | 12.3 | 297                                               | 24.5                                                                             | -19 | 01.8                                             | 304     | 15.0                | -18                                              | 32.2  | 341     | 20.4                                             | -5       | 00.2           | 58    | 13.2 | +20 | 54.6 |
| 7   | 191                                                | 14.8 | 312                                               | 23.7                                                                             |     | 02.5                                             | 319     | 15.7                |                                                  | 32.6  | 356     | 22.5                                             |          | 00.3           | 73    | 15.9 |     | 54.7 |
| 8   | 206                                                | 17.2 | 327                                               | 23.0                                                                             |     | 03.2                                             | 334     | 16.4                |                                                  | 33.0  | 11      | 24.7                                             |          | 00.4           | 88    | 18.5 |     | 54.7 |
| 9   | 221                                                | 19.7 | 342                                               | 22.2                                                                             |     | 04.0                                             | 349     | 17.1                |                                                  | 33.5  | 26      | 26.9                                             |          | 00.6           | 103   | 21.1 |     | 54.7 |
| 10  | 236                                                | 22.2 | 357                                               | 21.5                                                                             |     | 04.7                                             | 4       | 17.9                |                                                  | 33.9  | 41      | 29.0                                             |          | 00.7           | 118   | 23.8 |     | 54.8 |
| 11  | 251                                                | 24.6 | 12                                                | 20.7                                                                             | -19 | 05.4                                             | 19      | 18.6                | -18                                              | 34.4  | 56      | 31.2                                             | -5       | 00.8           | 133   | 26.4 | +20 | 54.8 |
| 12  | 266                                                | 27.1 | 27                                                | 20.0                                                                             | -19 | 06.1                                             | 34      | 19.3                | -18                                              | 34.8  | 71      | 33.3                                             | -5       | 00.9           | 148   | 29.1 | +20 | 54.8 |
| 13  | 281                                                | 29.6 | 42                                                | 19.2                                                                             |     | 06.8                                             | 49      | 20.0                |                                                  | 35.2  | 86      | 35.5                                             |          | 01.0           | 163   | 31.7 |     | 54.9 |
| 14  | 296                                                | 32.0 | 57                                                | 18.5                                                                             |     | 07.5                                             | 64      | 20.8                |                                                  | 35.7  | 101     | 37.7                                             |          | 01.1           | 178   | 34.3 |     | 54.9 |
| 15  | 311                                                | 34.5 | 72                                                | 17.7                                                                             |     | 08.3                                             | 79      | 21.5                |                                                  | 36.1  | 116     | 39.8                                             |          | 01.3           | 193   | 37.0 |     | 54.9 |
| 16  | 326                                                | 37.0 | 87                                                | 17.0                                                                             |     | 09.0                                             | 94      | 22.2                |                                                  | 36.6  | 131     | 42.0                                             |          | 01.4           | 208   | 39.6 |     | 55.0 |
| 17  | 341                                                | 39.4 | 102                                               | 16.2                                                                             | -19 | 09.7                                             | 109     | 23.0                | -18                                              | 37.0  | 146     | 44.1                                             | -5       | 01.5           | 223   | 42.2 | +20 | 55.0 |
| 18  | 356                                                | 41.9 | 117                                               | 15.5                                                                             | -19 | 10.4                                             | 124     | 23.7                | -18                                              | 37.4  | 161     | 46.3                                             | -5       | 01.6           | 238   | 44.9 | +20 | 55.0 |
| 19  | 11                                                 | 44.3 | 132                                               | 14.7                                                                             |     | 11.1                                             | 139     | 24.4                |                                                  | 37.9  | 176     | 48.5                                             |          | 01.7           | 253   | 47.5 |     | 55.1 |
| 20  | 26                                                 | 46.8 | 147                                               | 14.0                                                                             |     | 11.8                                             | 154     | 25.1                |                                                  | 38.3  | 191     | 50.6                                             |          | 01.8           | 268   | 50.1 |     | 55.1 |
| 21  | 41                                                 | 49.3 | 162                                               | 13.2                                                                             |     | 12.5                                             | 169     | 25.9                |                                                  | 38.8  | 206     | 52.8                                             |          | 01.9           | 283   | 52.8 |     | 55.1 |
| 22  | 56                                                 | 51.7 | 177                                               | 12.5                                                                             |     | 13.2                                             | 184     | 26.6                |                                                  | 39.2  | 221     | 55.0                                             |          | 02.1           | 298   | 55.4 |     | 55.2 |
| 23  | 71                                                 | 54.2 | 192                                               | 11.7                                                                             |     | 13.9                                             | 199     | 27.3                |                                                  | 39.6  | 236     | 57.1                                             |          | 02.2           | 313   | 58.0 |     | 55.2 |
| 24  | 86                                                 | 56.7 | 207                                               | 11.0                                                                             | -19 | 14.7                                             | 214     | 28.0                | -18                                              | 40.1  | 251     | 59.3                                             | -5       | 02.3           | 329   | 00.7 | +20 | 55.3 |
| Dif | —                                                  |      | -7 -7                                             |                                                                                  |     | +7 -4                                            |         |                     | +22 -1                                           |       |         | +26 0                                            |          |                |       |      |     |      |

| UT  | SOL                                                |      |                                                   |  LUNA                                        |     |                     | Latitud                                          | Principio del crepúsculo |         | Salida de Sol | Salida de Luna                                   |       | Puesta de Luna |      |                                                  |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|--------------------------------------------------|--------------------------|---------|---------------|--------------------------------------------------|-------|----------------|------|--------------------------------------------------|------|-----|------|
|     | SD: 16'3<br>PMG: 11 <sup>h</sup> 56 <sup>m</sup> 8 |      |                                                   | Edad: 5 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 58'1<br>12 <sup>h</sup> : 57'8<br>20 <sup>h</sup> : 57'5<br>R°: 44 <sup>m</sup> |     |                     |                                                  |                          |         |               |                                                  |       |                |      |                                                  |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                          | Dif | Dec                 |                                                  | Dif                      | Náutico |               | Civil                                            | Hora  | R°             | Hora | R°                                               |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                             | °   | '                   | °                                                | h                        | m       | h             | m                                                | h     | m              | h    | m                                                | m    |     |      |
| 0   | 180                                                | 51.6 | -23                                               | 23.5                                                                                                                          | 96  | 50.6                | -8 02.2                                          | 60 N                     | 7 06    | 8 03          | 9 00                                             | 12 30 | 0              | ***  | ***                                              | ***  |     |      |
| 1   | 195                                                | 51.3 |                                                   | 23.6                                                                                                                          | 111 | 22.4 <sup>128</sup> | -7 46.8 <sup>154</sup>                           | 58                       | 6 58    | 7 51          | 8 43                                             | 28    | 3              | ***  | ***                                              | ***  |     |      |
| 2   | 210                                                | 50.9 |                                                   | 23.7                                                                                                                          | 125 | 54.3 <sup>129</sup> | 31.3 <sup>155</sup>                              | 56                       | 51      | 41            | 28                                               | 25    | 6              | ***  | ***                                              | ***  |     |      |
| 3   | 225                                                | 50.6 |                                                   | 23.7                                                                                                                          | 140 | 26.2 <sup>129</sup> | 15.9 <sup>154</sup>                              | 54                       | 45      | 31            | 15                                               | 23    | 9              | ***  | ***                                              | ***  |     |      |
| 4   | 240                                                | 50.3 |                                                   | 23.8                                                                                                                          | 154 | 58.2 <sup>130</sup> | -7 00.4 <sup>155</sup>                           | 52                       | 40      | 23            | 8 04                                             | 21    | 12             | ***  | ***                                              | ***  |     |      |
| 5   | 255                                                | 50.0 | -23                                               | 23.9                                                                                                                          | 169 | 30.3 <sup>131</sup> | -6 44.9 <sup>155</sup>                           | 50                       | 6 34    | 7 16          | 7 54                                             | 12 20 | 13             | ***  | ***                                              | ***  |     |      |
| 6   | 270                                                | 49.7 | -23                                               | 23.9                                                                                                                          | 184 | 02.4 <sup>131</sup> | -6 29.4 <sup>155</sup>                           | 45                       | 6 22    | 7 00          | 7 34                                             | 12 16 | 18             | ***  | ***                                              | ***  |     |      |
| 7   | 285                                                | 49.4 |                                                   | 24.0                                                                                                                          | 198 | 34.6 <sup>132</sup> | -6 13.9 <sup>155</sup>                           | 40                       | 12      | 6 46          | 17                                               | 12    | 23             | ***  | ***                                              | ***  |     |      |
| 8   | 300                                                | 49.1 |                                                   | 24.0                                                                                                                          | 213 | 06.9 <sup>133</sup> | -5 58.4 <sup>155</sup>                           | 35                       | 6 03    | 34            | 7 03                                             | 10    | 26             | ***  | ***                                              | ***  |     |      |
| 9   | 315                                                | 48.8 |                                                   | 24.1                                                                                                                          | 227 | 39.2 <sup>133</sup> | 42.9 <sup>155</sup>                              | 30                       | 5 54    | 24            | 6 50                                             | 07    | 29             | ***  | ***                                              | ***  |     |      |
| 10  | 330                                                | 48.5 |                                                   | 24.2                                                                                                                          | 242 | 11.6 <sup>134</sup> | 27.3 <sup>156</sup>                              | 20                       | 37      | 6 05          | 29                                               | 12 03 | 34             | ***  | ***                                              | ***  |     |      |
| 11  | 345                                                | 48.2 | -23                                               | 24.2                                                                                                                          | 256 | 44.1 <sup>135</sup> | -5 11.8 <sup>155</sup>                           | 10 N                     | 5 21    | 5 48          | 6 10                                             | 11 59 | 40             | ***  | ***                                              | ***  |     |      |
| 12  | 0                                                  | 47.9 | -23                                               | 24.3                                                                                                                          | 271 | 16.6 <sup>135</sup> | -4 56.3 <sup>155</sup>                           | 0                        | 5 04    | 5 31          | 5 53                                             | 11 55 | 45             | ***  | ***                                              | ***  |     |      |
| 13  | 15                                                 | 47.6 |                                                   | 24.4                                                                                                                          | 285 | 49.2 <sup>136</sup> | 40.7 <sup>156</sup>                              | 10 S                     | 4 45    | 5 12          | 35                                               | 52    | 49             | ***  | ***                                              | ***  |     |      |
| 14  | 30                                                 | 47.2 |                                                   | 24.4                                                                                                                          | 300 | 21.9 <sup>137</sup> | 25.2 <sup>155</sup>                              | 20                       | 4 23    | 4 52          | 5 17                                             | 48    | 54             | ***  | ***                                              | ***  |     |      |
| 15  | 45                                                 | 46.9 |                                                   | 24.5                                                                                                                          | 314 | 54.6 <sup>137</sup> | -4 09.6 <sup>156</sup>                           | 30                       | 3 54    | 27            | 4 54                                             | 43    | 60             | ***  | ***                                              | ***  |     |      |
| 16  | 60                                                 | 46.6 |                                                   | 24.5                                                                                                                          | 329 | 27.3 <sup>137</sup> | -3 54.1 <sup>155</sup>                           | 35                       | 35      | 4 12          | 41                                               | 41    | 63             | ***  | ***                                              | ***  |     |      |
| 17  | 75                                                 | 46.3 | -23                                               | 24.6                                                                                                                          | 344 | 00.2 <sup>139</sup> | -3 38.5 <sup>156</sup>                           | 40                       | 3 12    | 3 54          | 4 26                                             | 11 38 | 67             | ***  | ***                                              | ***  |     |      |
| 18  | 90                                                 | 46.0 | -23                                               | 24.6                                                                                                                          | 358 | 33.0 <sup>138</sup> | -3 23.0 <sup>155</sup>                           | 45                       | 2 41    | 3 31          | 4 08                                             | 11 35 | 71             | 0 04 | 19                                               |      |     |      |
| 19  | 105                                                | 45.7 |                                                   | 24.7                                                                                                                          | 13  | 05.9 <sup>139</sup> | -3 07.4 <sup>156</sup>                           | 50                       | 1 56    | 3 01          | 3 46                                             | 31    | 76             | 11   | 14                                               |      |     |      |
| 20  | 120                                                | 45.4 |                                                   | 24.7                                                                                                                          | 27  | 38.9 <sup>140</sup> | -2 51.9 <sup>155</sup>                           | 52                       | 1 28    | 2 46          | 35                                               | 29    | 79             | 13   | 12                                               |      |     |      |
| 21  | 135                                                | 45.1 |                                                   | 24.8                                                                                                                          | 42  | 11.9 <sup>140</sup> | 36.4 <sup>155</sup>                              | 54                       | 0 42    | 28            | 23                                               | 27    | 81             | 17   | 9                                                |      |     |      |
| 22  | 150                                                | 44.8 |                                                   | 24.8                                                                                                                          | 56  | 45.0 <sup>141</sup> | 20.8 <sup>156</sup>                              | 56                       | *** **  | 2 06          | 3 08                                             | 24    | 85             | 20   | 7                                                |      |     |      |
| 23  | 165                                                | 44.5 |                                                   | 24.9                                                                                                                          | 71  | 18.1 <sup>141</sup> | -2 05.3 <sup>155</sup>                           | 58                       | *** **  | 1 36          | 2 52                                             | 22    | 88             | 24   | 3                                                |      |     |      |
| 24  | 180                                                | 44.2 | -23                                               | 24.9                                                                                                                          | 85  | 51.2 <sup>141</sup> | -1 49.8 <sup>155</sup>                           | 60 S                     | *** **  | 0 46          | 2 31                                             | 11 19 | 92             | 0 28 | 0                                                |      |     |      |
|     |                                                    |      |                                                   |                                                                                                                               |     |                     |                                                  |                          |         |               |                                                  |       |                |      |                                                  |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                               |     |                     | MARTE                                            |                          |         |               | JÚPITER                                          |       |                |      | SATURNO                                          |      |     |      |
|     | PMG: 18 <sup>h</sup> 09 <sup>m</sup> 2             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 12 <sup>m</sup> |                                                                                                                               |     |                     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 42 <sup>m</sup> |                          |         |               | Mag: -1.9<br>PMG: 7 <sup>h</sup> 11 <sup>m</sup> |       |                |      | Mag: -0.2<br>PMG: 2 <sup>h</sup> 04 <sup>m</sup> |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              |                                                                                                                               | Dec |                     | hG ♂                                             |                          | Dec     |               | hG ♃                                             |       | Dec            |      | hG ♄                                             |      | Dec |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                             | °   | '                   | °                                                | '                        | °       | '             | °                                                | '     | °              | '    | °                                                | '    | °   | '    |
| 0   | 86                                                 | 56.7 | 207                                               | 11.0                                                                                                                          | -19 | 14.7                | 214                                              | 28.0                     | -18     | 40.1          | 251                                              | 59.3  | -5             | 02.3 | 329                                              | 00.7 | +20 | 55.3 |
| 1   | 101                                                | 59.1 | 222                                               | 10.2                                                                                                                          |     | 15.4                | 229                                              | 28.8                     |         | 40.5          | 267                                              | 01.4  |                | 02.4 | 344                                              | 03.3 |     | 55.3 |
| 2   | 117                                                | 01.6 | 237                                               | 09.4                                                                                                                          |     | 16.1                | 244                                              | 29.5                     |         | 40.9          | 282                                              | 03.6  |                | 02.5 | 359                                              | 05.9 |     | 55.3 |
| 3   | 132                                                | 04.1 | 252                                               | 08.7                                                                                                                          |     | 16.8                | 259                                              | 30.2                     |         | 41.4          | 297                                              | 05.8  |                | 02.6 | 14                                               | 08.6 |     | 55.4 |
| 4   | 147                                                | 06.5 | 267                                               | 07.9                                                                                                                          |     | 17.5                | 274                                              | 30.9                     |         | 41.8          | 312                                              | 07.9  |                | 02.8 | 29                                               | 11.2 |     | 55.4 |
| 5   | 162                                                | 09.0 | 282                                               | 07.2                                                                                                                          | -19 | 18.2                | 289                                              | 31.7                     | -18     | 42.2          | 327                                              | 10.1  | -5             | 02.9 | 44                                               | 13.9 | +20 | 55.4 |
| 6   | 177                                                | 11.4 | 297                                               | 06.4                                                                                                                          | -19 | 18.9                | 304                                              | 32.4                     | -18     | 42.7          | 342                                              | 12.3  | -5             | 03.0 | 59                                               | 16.5 | +20 | 55.5 |
| 7   | 192                                                | 13.9 | 312                                               | 05.7                                                                                                                          |     | 19.6                | 319                                              | 33.1                     |         | 43.1          | 357                                              | 14.4  |                | 03.1 | 74                                               | 19.1 |     | 55.5 |
| 8   | 207                                                | 16.4 | 327                                               | 04.9                                                                                                                          |     | 20.3                | 334                                              | 33.8                     |         | 43.5          | 12                                               | 16.6  |                | 03.2 | 89                                               | 21.8 |     | 55.5 |
| 9   | 222                                                | 18.8 | 342                                               | 04.1                                                                                                                          |     | 21.0                | 349                                              | 34.5                     |         | 44.0          | 27                                               | 18.8  |                | 03.3 | 104                                              | 24.4 |     | 55.6 |
| 10  | 237                                                | 21.3 | 357                                               | 03.4                                                                                                                          |     | 21.7                | 4                                                | 35.3                     |         | 44.4          | 42                                               | 20.9  |                | 03.4 | 119                                              | 27.0 |     | 55.6 |
| 11  | 252                                                | 23.8 | 12                                                | 02.6                                                                                                                          | -19 | 22.4                | 19                                               | 36.0                     | -18     | 44.8          | 57                                               | 23.1  | -5             | 03.6 | 134                                              | 29.7 | +20 | 55.6 |
| 12  | 267                                                | 26.2 | 27                                                | 01.9                                                                                                                          | -19 | 23.1                | 34                                               | 36.7                     | -18     | 45.3          | 72                                               | 25.2  | -5             | 03.7 | 149                                              | 32.3 | +20 | 55.7 |
| 13  | 282                                                | 28.7 | 42                                                | 01.1                                                                                                                          |     | 23.8                | 49                                               | 37.4                     |         | 45.7          | 87                                               | 27.4  |                | 03.8 | 164                                              | 35.0 |     | 55.7 |
| 14  | 297                                                | 31.2 | 57                                                | 00.3                                                                                                                          |     | 24.4                | 64                                               | 38.2                     |         | 46.1          | 102                                              | 29.6  |                | 03.9 | 179                                              | 37.6 |     | 55.7 |
| 15  | 312                                                | 33.6 | 71                                                | 59.6                                                                                                                          |     | 25.1                | 79                                               | 38.9                     |         | 46.6          | 117                                              | 31.7  |                | 04.0 | 194                                              | 40.2 |     | 55.8 |
| 16  | 327                                                | 36.1 | 86                                                | 58.8                                                                                                                          |     | 25.8                | 94                                               | 39.6                     |         | 47.0          | 132                                              | 33.9  |                | 04.1 | 209                                              | 42.9 |     | 55.8 |
| 17  | 342                                                | 38.6 | 101                                               | 58.0                                                                                                                          | -19 | 26.5                | 109                                              | 40.3                     | -18     | 47.4          | 147                                              | 36.1  | -5             | 04.2 | 224                                              | 45.5 | +20 | 55.9 |
| 18  | 357                                                | 41.0 | 116                                               | 57.3                                                                                                                          | -19 | 27.2                | 124                                              | 41.0                     | -18     | 47.9          | 162                                              | 38.2  | -5             | 04.4 | 239                                              | 48.1 | +20 | 55.9 |
| 19  | 12                                                 | 43.5 | 131                                               | 56.5                                                                                                                          |     | 27.9                | 139                                              | 41.8                     |         | 48.3          | 177                                              | 40.4  |                | 04.5 | 254                                              | 50.8 |     | 55.9 |
| 20  | 27                                                 | 45.9 | 146                                               | 55.8                                                                                                                          |     | 28.6                | 154                                              | 42.5                     |         | 48.7          | 192                                              | 42.6  |                | 04.6 | 269                                              | 53.4 |     | 56.0 |
| 21  | 42                                                 | 48.4 | 161                                               | 55.0                                                                                                                          |     | 29.3                | 169                                              | 43.2                     |         | 49.2          | 207                                              | 44.7  |                | 04.7 | 284                                              | 56.1 |     | 56.0 |
| 22  | 57                                                 | 50.9 | 176                                               | 54.2                                                                                                                          |     | 30.0                | 184                                              | 43.9                     |         | 49.6          | 222                                              | 46.9  |                | 04.8 | 299                                              | 58.7 |     | 56.0 |
| 23  | 72                                                 | 53.3 | 191                                               | 53.5                                                                                                                          |     | 30.7                | 199                                              | 44.7                     |         | 50.0          | 237                                              | 49.1  |                | 04.9 | 315                                              | 01.3 |     | 56.1 |
| 24  | 87                                                 | 55.8 | 206                                               | 52.7                                                                                                                          | -19 | 31.3                | 214                                              | 45.4                     | -18     | 50.5          | 252                                              | 51.2  | -5             | 05.0 | 330                                              | 04.0 | +20 | 56.1 |
| Dif | —                                                  |      | -8                                                |                                                                                                                               | -7  |                     | +7                                               |                          | -4      |               | +22                                              |       | -1             |      | +26                                              |      |     |      |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                           |     |                                                  | Latitud | Puesta de Sol       | Final del crepúsculo                             |       | Salida de Luna |                                                  | Puesta de Luna |         |     |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----|--------------------------------------------------|---------|---------------------|--------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|---------|-----|------|-----|------|
|     | SD: 16:3<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 3 |      |                                                   | Edad: 6 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 57/3<br>12 <sup>h</sup> : 57/0<br>20 <sup>h</sup> : 56/7<br>R°: 43 <sup>m</sup> |     |                                                  |         |                     |                                                  |       |                |                                                  |                |         |     |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                             | Dif | Dec                                              |         |                     | Dif                                              | Civil | Náutico        | Hora                                             | R°             | Hora    | R°  |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                | °       | '                   | h m                                              | h m   | h m            | h m m                                            |                | h m m   |     |      |     |      |
| 0   | 180                                                | 44.2 | -23                                               | 24.9                                                                                                                             | 85  | 51.2                                             | -1      | 49.8                | 60 N                                             | 14 54 | 15 51          | 16 48                                            | 12 30 0        | 0 03 90 |     |      |     |      |
| 1   | 195                                                | 43.9 |                                                   | 25.0                                                                                                                             | 100 | 24.4 <sup>142</sup>                              |         | 34.3 <sup>155</sup> | 58                                               | 15 11 | 16 03          | 16 56                                            | 31 3           | 04 87   |     |      |     |      |
| 2   | 210                                                | 43.5 |                                                   | 25.0                                                                                                                             | 114 | 57.6 <sup>142</sup>                              |         | 18.8 <sup>155</sup> | 56                                               | 26    | 13             | 17 03                                            | 31 6           | 05 83   |     |      |     |      |
| 3   | 225                                                | 43.2 |                                                   | 25.1                                                                                                                             | 129 | 30.9 <sup>143</sup>                              | -1      | 03.4 <sup>154</sup> | 54                                               | 39    | 22             | 09                                               | 32 9           | 06 80   |     |      |     |      |
| 4   | 240                                                | 42.9 |                                                   | 25.1                                                                                                                             | 144 | 04.2 <sup>143</sup>                              | -0      | 47.9 <sup>155</sup> | 52                                               | 15 50 | 31             | 14                                               | 33 11          | 07 77   |     |      |     |      |
| 5   | 255                                                | 42.6 | -23                                               | 25.2                                                                                                                             | 158 | 37.6 <sup>144</sup>                              | -0      | 32.4 <sup>155</sup> | 50                                               | 16 00 | 16 38          | 17 20                                            | 12 33 13       | 0 07 76 |     |      |     |      |
| 6   | 270                                                | 42.3 | -23                                               | 25.2                                                                                                                             | 173 | 11.0 <sup>144</sup>                              | -0      | 17.0 <sup>154</sup> | 45                                               | 16 20 | 16 54          | 17 31                                            | 12 34 18       | 0 09 70 |     |      |     |      |
| 7   | 285                                                | 42.0 |                                                   | 25.3                                                                                                                             | 187 | 44.4 <sup>144</sup>                              | -0      | 01.6 <sup>154</sup> | 40                                               | 37    | 17 08          | 42                                               | 35 22          | 10 66   |     |      |     |      |
| 8   | 300                                                | 41.7 |                                                   | 25.3                                                                                                                             | 202 | 17.8 <sup>144</sup>                              | +0      | 13.8 <sup>154</sup> | 35                                               | 16 51 | 20             | 17 51                                            | 36 25          | 11 62   |     |      |     |      |
| 9   | 315                                                | 41.4 |                                                   | 25.4                                                                                                                             | 216 | 51.3 <sup>145</sup>                              |         | 29.2 <sup>154</sup> | 30                                               | 17 04 | 30             | 18 00                                            | 36 29          | 12 59   |     |      |     |      |
| 10  | 330                                                | 41.1 |                                                   | 25.4                                                                                                                             | 231 | 24.8 <sup>145</sup>                              |         | 44.5 <sup>153</sup> | 20                                               | 25    | 17 49          | 17                                               | 37 34          | 14 53   |     |      |     |      |
| 11  | 345                                                | 40.8 | -23                                               | 25.4                                                                                                                             | 245 | 58.3 <sup>145</sup>                              | +0      | 59.9 <sup>154</sup> | 10 N                                             | 17 44 | 18 06          | 18 33                                            | 12 39 38       | 0 15 48 |     |      |     |      |
| 12  | 0                                                  | 40.4 | -23                                               | 25.5                                                                                                                             | 260 | 31.9 <sup>146</sup>                              | +1      | 15.2 <sup>153</sup> | 0                                                | 18 01 | 18 24          | 18 50                                            | 12 40 43       | 0 17 43 |     |      |     |      |
| 13  | 15                                                 | 40.1 |                                                   | 25.5                                                                                                                             | 275 | 05.5 <sup>146</sup>                              |         | 30.5 <sup>153</sup> | 10 S                                             | 19    | 18 42          | 19 09                                            | 41 47          | 18 39   |     |      |     |      |
| 14  | 30                                                 | 39.8 |                                                   | 25.6                                                                                                                             | 289 | 39.1 <sup>146</sup>                              | +1      | 45.8 <sup>153</sup> | 20                                               | 18 38 | 19 02          | 19 31                                            | 42 52          | 19 34   |     |      |     |      |
| 15  | 45                                                 | 39.5 |                                                   | 25.6                                                                                                                             | 304 | 12.8 <sup>147</sup>                              | +2      | 01.0 <sup>152</sup> | 30                                               | 19 00 | 27             | 20 01                                            | 43 58          | 21 28   |     |      |     |      |
| 16  | 60                                                 | 39.2 |                                                   | 25.6                                                                                                                             | 318 | 46.4 <sup>146</sup>                              |         | 16.3 <sup>153</sup> | 35                                               | 13    | 19 43          | 19                                               | 44 61          | 21 26   |     |      |     |      |
| 17  | 75                                                 | 38.9 | -23                                               | 25.7                                                                                                                             | 333 | 20.1 <sup>147</sup>                              | +2      | 31.5 <sup>152</sup> | 40                                               | 19 28 | 20 01          | 20 43                                            | 12 45 65       | 0 22 23 |     |      |     |      |
| 18  | 90                                                 | 38.6 | -23                                               | 25.7                                                                                                                             | 347 | 53.8 <sup>147</sup>                              | +2      | 46.6 <sup>151</sup> | 45                                               | 19 46 | 20 23          | 21 13                                            | 12 46 69       | 0 23 19 |     |      |     |      |
| 19  | 105                                                | 38.3 |                                                   | 25.7                                                                                                                             | 2   | 27.5 <sup>147</sup>                              | +3      | 01.8 <sup>152</sup> | 50                                               | 20 09 | 20 53          | 21 59                                            | 47 74          | 25 13   |     |      |     |      |
| 20  | 120                                                | 38.0 |                                                   | 25.8                                                                                                                             | 17  | 01.3 <sup>148</sup>                              |         | 16.9 <sup>151</sup> | 52                                               | 19    | 21 08          | 22 27                                            | 48 76          | 25 11   |     |      |     |      |
| 21  | 135                                                | 37.7 |                                                   | 25.8                                                                                                                             | 31  | 35.0 <sup>147</sup>                              |         | 32.0 <sup>151</sup> | 54                                               | 32    | 26             | 23 14                                            | 48 80          | 26 9    |     |      |     |      |
| 22  | 150                                                | 37.4 |                                                   | 25.8                                                                                                                             | 46  | 08.8 <sup>148</sup>                              | +3      | 47.0 <sup>150</sup> | 56                                               | 20 46 | 21 49          | ** **                                            | 49 82          | 27 6    |     |      |     |      |
| 23  | 165                                                | 37.0 |                                                   | 25.9                                                                                                                             | 60  | 42.5 <sup>147</sup>                              | +4      | 02.1 <sup>151</sup> | 58                                               | 21 03 | 22 19          | ** **                                            | 50 85          | 27 4    |     |      |     |      |
| 24  | 180                                                | 36.7 | -23                                               | 25.9                                                                                                                             | 75  | 16.3 <sup>148</sup>                              | +4      | 17.1 <sup>150</sup> | 60 S                                             | 21 23 | 23 10          | ** **                                            | 12 51 89       | 0 28 0  |     |      |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                  |     | MARTE                                            |         |                     | JÚPITER                                          |       |                | SATURNO                                          |                |         |     |      |     |      |
|     | PMG: 18 <sup>h</sup> 05 <sup>m</sup> 3             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 13 <sup>m</sup> |                                                                                                                                  |     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 41 <sup>m</sup> |         |                     | Mag: -1.9<br>PMG: 7 <sup>h</sup> 08 <sup>m</sup> |       |                | Mag: -0.2<br>PMG: 1 <sup>h</sup> 59 <sup>m</sup> |                |         |     |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                              |     | hG ♂                                             | Dec     |                     | hG ♃                                             | Dec   |                | hG ♄                                             | Dec            |         |     |      |     |      |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                | °   | '                                                | °       | '                   | °                                                | '     | °              | '                                                | °              | '       |     |      |     |      |
| 0   | 87                                                 | 55.8 | 206                                               | 52.7                                                                                                                             | -19 | 31.3                                             | 214     | 45.4                | -18                                              | 50.5  | 252            | 51.2                                             | -5             | 05.0    | 330 | 04.0 | +20 | 56.1 |
| 1   | 102                                                | 58.3 | 221                                               | 51.9                                                                                                                             |     | 32.0                                             | 229     | 46.1                |                                                  | 50.9  | 267            | 53.4                                             |                | 05.2    | 345 | 06.6 |     | 56.1 |
| 2   | 118                                                | 00.7 | 236                                               | 51.2                                                                                                                             |     | 32.7                                             | 244     | 46.8                |                                                  | 51.3  | 282            | 55.6                                             |                | 05.3    | 0   | 09.3 |     | 56.2 |
| 3   | 133                                                | 03.2 | 251                                               | 50.4                                                                                                                             |     | 33.4                                             | 259     | 47.5                |                                                  | 51.8  | 297            | 57.8                                             |                | 05.4    | 15  | 11.9 |     | 56.2 |
| 4   | 148                                                | 05.7 | 266                                               | 49.6                                                                                                                             |     | 34.1                                             | 274     | 48.3                |                                                  | 52.2  | 312            | 59.9                                             |                | 05.5    | 30  | 14.5 |     | 56.2 |
| 5   | 163                                                | 08.1 | 281                                               | 48.8                                                                                                                             | -19 | 34.7                                             | 289     | 49.0                | -18                                              | 52.6  | 328            | 02.1                                             | -5             | 05.6    | 45  | 17.2 | +20 | 56.3 |
| 6   | 178                                                | 10.6 | 296                                               | 48.1                                                                                                                             | -19 | 35.4                                             | 304     | 49.7                | -18                                              | 53.0  | 343            | 04.3                                             | -5             | 05.7    | 60  | 19.8 | +20 | 56.3 |
| 7   | 193                                                | 13.1 | 311                                               | 47.3                                                                                                                             |     | 36.1                                             | 319     | 50.4                |                                                  | 53.5  | 358            | 06.4                                             |                | 05.8    | 75  | 22.5 |     | 56.3 |
| 8   | 208                                                | 15.5 | 326                                               | 46.5                                                                                                                             |     | 36.8                                             | 334     | 51.1                |                                                  | 53.9  | 13             | 08.6                                             |                | 05.9    | 90  | 25.1 |     | 56.4 |
| 9   | 223                                                | 18.0 | 341                                               | 45.8                                                                                                                             |     | 37.5                                             | 349     | 51.8                |                                                  | 54.3  | 28             | 10.8                                             |                | 06.1    | 105 | 27.7 |     | 56.4 |
| 10  | 238                                                | 20.4 | 356                                               | 45.0                                                                                                                             |     | 38.1                                             | 4       | 52.6                |                                                  | 54.8  | 43             | 12.9                                             |                | 06.2    | 120 | 30.4 |     | 56.5 |
| 11  | 253                                                | 22.9 | 11                                                | 44.2                                                                                                                             | -19 | 38.8                                             | 19      | 53.3                | -18                                              | 55.2  | 58             | 15.1                                             | -5             | 06.3    | 135 | 33.0 | +20 | 56.5 |
| 12  | 268                                                | 25.4 | 26                                                | 43.5                                                                                                                             | -19 | 39.5                                             | 34      | 54.0                | -18                                              | 55.6  | 73             | 17.3                                             | -5             | 06.4    | 150 | 35.7 | +20 | 56.5 |
| 13  | 283                                                | 27.8 | 41                                                | 42.7                                                                                                                             |     | 40.1                                             | 49      | 54.7                |                                                  | 56.0  | 88             | 19.5                                             |                | 06.5    | 165 | 38.3 |     | 56.6 |
| 14  | 298                                                | 30.3 | 56                                                | 41.9                                                                                                                             |     | 40.8                                             | 64      | 55.4                |                                                  | 56.5  | 103            | 21.6                                             |                | 06.6    | 180 | 40.9 |     | 56.6 |
| 15  | 313                                                | 32.8 | 71                                                | 41.1                                                                                                                             |     | 41.5                                             | 79      | 56.2                |                                                  | 56.9  | 118            | 23.8                                             |                | 06.7    | 195 | 43.6 |     | 56.6 |
| 16  | 328                                                | 35.2 | 86                                                | 40.4                                                                                                                             |     | 42.2                                             | 94      | 56.9                |                                                  | 57.3  | 133            | 26.0                                             |                | 06.8    | 210 | 46.2 |     | 56.7 |
| 17  | 343                                                | 37.7 | 101                                               | 39.6                                                                                                                             | -19 | 42.8                                             | 109     | 57.6                | -18                                              | 57.7  | 148            | 28.1                                             | -5             | 07.0    | 225 | 48.9 | +20 | 56.7 |
| 18  | 358                                                | 40.2 | 116                                               | 38.8                                                                                                                             | -19 | 43.5                                             | 124     | 58.3                | -18                                              | 58.2  | 163            | 30.3                                             | -5             | 07.1    | 240 | 51.5 | +20 | 56.7 |
| 19  | 13                                                 | 42.6 | 131                                               | 38.0                                                                                                                             |     | 44.2                                             | 139     | 59.0                |                                                  | 58.6  | 178            | 32.5                                             |                | 07.2    | 255 | 54.1 |     | 56.8 |
| 20  | 28                                                 | 45.1 | 146                                               | 37.3                                                                                                                             |     | 44.8                                             | 154     | 59.7                |                                                  | 59.0  | 193            | 34.7                                             |                | 07.3    | 270 | 56.8 |     | 56.8 |
| 21  | 43                                                 | 47.5 | 161                                               | 36.5                                                                                                                             |     | 45.5                                             | 170     | 00.4                |                                                  | 59.4  | 208            | 36.8                                             |                | 07.4    | 285 | 59.4 |     | 56.8 |
| 22  | 58                                                 | 50.0 | 176                                               | 35.7                                                                                                                             |     | 46.2                                             | 185     | 01.2                | -18                                              | 59.9  | 223            | 39.0                                             |                | 07.5    | 301 | 02.1 |     | 56.9 |
| 23  | 73                                                 | 52.5 | 191                                               | 34.9                                                                                                                             |     | 46.8                                             | 200     | 01.9                | -19                                              | 00.3  | 238            | 41.2                                             |                | 07.6    | 316 | 04.7 |     | 56.9 |
| 24  | 88                                                 | 54.9 | 206                                               | 34.1                                                                                                                             | -19 | 47.5                                             | 215     | 02.6                | -19                                              | 00.7  | 253            | 43.3                                             | -5             | 07.7    | 331 | 07.4 | +20 | 57.0 |
| Dif | —                                                  |      | -8                                                |                                                                                                                                  | -7  |                                                  | +7      |                     | -4                                               |       | +22            |                                                  | -1             |         | +26 |      | 0   |      |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                 |                                                                                                           |                                                  | Latitud | Principio del crepúsculo |                                                  | Salida de Sol | Salida de Luna |                                                  | Puesta de Luna |      |      |      |     |      |
|-----|----------------------------------------------------|------|---------------------------------------------------|------------------------|-----------------------------------------------------------------------------------------------------------|--------------------------------------------------|---------|--------------------------|--------------------------------------------------|---------------|----------------|--------------------------------------------------|----------------|------|------|------|-----|------|
|     | SD: 16'3<br>PMG: 11 <sup>h</sup> 57 <sup>m</sup> 8 |      |                                                   | Edad: 7 <sup>d</sup> 9 | PHE {<br>4 <sup>h</sup> : 56'5<br>12 <sup>h</sup> : 56'3<br>20 <sup>h</sup> : 56'1<br>R°: 44 <sup>m</sup> |                                                  |         |                          |                                                  |               |                |                                                  |                |      |      |      |     |      |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                   |                                                                                                           | Dif                                              |         | Dec                      | Dif                                              |               | Náutico        | Civil                                            | Hora           | R°   | Hora | R°   |     |      |
| h   | °                                                  | '    | °                                                 | '                      | °                                                                                                         | '                                                | °       | '                        | h                                                | m             | h              | m                                                | h              | m    | h    | m    |     |      |
| 0   | 180                                                | 36.7 | -23                                               | 25.9                   | 75                                                                                                        | 16.3                                             | +4      | 17.1                     | 60 N                                             | 7 07          | 8 04           | 9 02                                             | 12 30          | 0    | 1 33 | 89   |     |      |
| 1   | 195                                                | 36.4 |                                                   | 25.9                   | 89                                                                                                        | 50.1 <sup>148</sup>                              |         | 32.0 <sup>149</sup>      | 58                                               | 6 59          | 7 52           | 8 44                                             | 34             | 4    | 31   | 85   |     |      |
| 2   | 210                                                | 36.1 |                                                   | 26.0                   | 104                                                                                                       | 23.9 <sup>148</sup>                              | +4      | 47.0 <sup>150</sup>      | 56                                               | 53            | 42             | 29                                               | 37             | 7    | 28   | 82   |     |      |
| 3   | 225                                                | 35.8 |                                                   | 26.0                   | 118                                                                                                       | 57.8 <sup>149</sup>                              | +5      | 01.9 <sup>149</sup>      | 54                                               | 46            | 33             | 17                                               | 41             | 9    | 26   | 79   |     |      |
| 4   | 240                                                | 35.5 |                                                   | 26.0                   | 133                                                                                                       | 31.6 <sup>148</sup>                              |         | 16.7 <sup>148</sup>      | 52                                               | 41            | 25             | 8 05                                             | 44             | 12   | 24   | 77   |     |      |
| 5   | 255                                                | 35.2 | -23                                               | 26.0                   | 148                                                                                                       | 05.4 <sup>148</sup>                              | +5      | 31.5 <sup>148</sup>      | 50                                               | 6 35          | 7 17           | 7 56                                             | 12 46          | 14   | 1 23 | 74   |     |      |
| 6   | 270                                                | 34.9 | -23                                               | 26.1                   | 162                                                                                                       | 39.2 <sup>148</sup>                              | +5      | 46.3 <sup>148</sup>      | 45                                               | 6 24          | 7 01           | 7 35                                             | 12 52          | 19   | 1 19 | 69   |     |      |
| 7   | 285                                                | 34.6 |                                                   | 26.1                   | 177                                                                                                       | 13.1 <sup>149</sup>                              | +6      | 01.1 <sup>148</sup>      | 40                                               | 13            | 6 47           | 18                                               | 12 57          | 23   | 16   | 65   |     |      |
| 8   | 300                                                | 34.3 |                                                   | 26.1                   | 191                                                                                                       | 46.9 <sup>148</sup>                              |         | 15.8 <sup>147</sup>      | 35                                               | 6 04          | 36             | 7 04                                             | 13 01          | 27   | 13   | 61   |     |      |
| 9   | 315                                                | 33.9 |                                                   | 26.1                   | 206                                                                                                       | 20.8 <sup>149</sup>                              |         | 30.4 <sup>146</sup>      | 30                                               | 5 55          | 25             | 6 51                                             | 05             | 29   | 11   | 58   |     |      |
| 10  | 330                                                | 33.6 |                                                   | 26.2                   | 220                                                                                                       | 54.6 <sup>148</sup>                              |         | 45.0 <sup>146</sup>      | 20                                               | 39            | 6 06           | 30                                               | 11             | 35   | 07   | 52   |     |      |
| 11  | 345                                                | 33.3 | -23                                               | 26.2                   | 235                                                                                                       | 28.4 <sup>148</sup>                              | +6      | 59.6 <sup>146</sup>      | 10 N                                             | 5 22          | 5 49           | 6 12                                             | 13 17          | 39   | 1 03 | 48   |     |      |
| 12  | 0                                                  | 33.0 | -23                                               | 26.2                   | 250                                                                                                       | 02.3 <sup>149</sup>                              | +7      | 14.2 <sup>146</sup>      | 0                                                | 5 05          | 5 31           | 5 54                                             | 13 23          | 43   | 1 00 | 43   |     |      |
| 13  | 15                                                 | 32.7 |                                                   | 26.2                   | 264                                                                                                       | 36.1 <sup>148</sup>                              |         | 28.7 <sup>145</sup>      | 10 S                                             | 4 46          | 5 13           | 36                                               | 28             | 48   | 0 57 | 39   |     |      |
| 14  | 30                                                 | 32.4 |                                                   | 26.2                   | 279                                                                                                       | 09.9 <sup>148</sup>                              |         | 43.1 <sup>144</sup>      | 20                                               | 4 24          | 4 53           | 5 17                                             | 34             | 53   | 53   | 35   |     |      |
| 15  | 45                                                 | 32.1 |                                                   | 26.3                   | 293                                                                                                       | 43.7 <sup>148</sup>                              | +7      | 57.5 <sup>144</sup>      | 30                                               | 3 54          | 28             | 4 55                                             | 41             | 58   | 49   | 29   |     |      |
| 16  | 60                                                 | 31.8 |                                                   | 26.3                   | 308                                                                                                       | 17.6 <sup>149</sup>                              | +8      | 11.9 <sup>144</sup>      | 35                                               | 36            | 4 13           | 42                                               | 45             | 61   | 47   | 26   |     |      |
| 17  | 75                                                 | 31.5 | -23                                               | 26.3                   | 322                                                                                                       | 51.4 <sup>148</sup>                              | +8      | 26.2 <sup>143</sup>      | 40                                               | 3 13          | 3 54           | 4 27                                             | 13 50          | 64   | 0 45 | 22   |     |      |
| 18  | 90                                                 | 31.2 | -23                                               | 26.3                   | 337                                                                                                       | 25.1 <sup>147</sup>                              | +8      | 40.5 <sup>143</sup>      | 45                                               | 2 42          | 3 32           | 4 09                                             | 13 55          | 68   | 0 42 | 18   |     |      |
| 19  | 105                                                | 30.8 |                                                   | 26.3                   | 351                                                                                                       | 58.9 <sup>148</sup>                              | +8      | 54.7 <sup>142</sup>      | 50                                               | 1 56          | 3 02           | 3 47                                             | 14 01          | 74   | 38   | 14   |     |      |
| 20  | 120                                                | 30.5 |                                                   | 26.3                   | 6                                                                                                         | 32.7 <sup>148</sup>                              | +9      | 08.8 <sup>141</sup>      | 52                                               | 1 28          | 2 47           | 36                                               | 04             | 76   | 36   | 12   |     |      |
| 21  | 135                                                | 30.2 |                                                   | 26.3                   | 21                                                                                                        | 06.5 <sup>148</sup>                              |         | 23.0 <sup>142</sup>      | 54                                               | 0 41          | 29             | 23                                               | 08             | 78   | 35   | 9    |     |      |
| 22  | 150                                                | 29.9 |                                                   | 26.4                   | 35                                                                                                        | 40.2 <sup>147</sup>                              |         | 37.0 <sup>140</sup>      | 56                                               | ** ** *       | 2 06           | 3 09                                             | 11             | 82   | 33   | 6    |     |      |
| 23  | 165                                                | 29.6 |                                                   | 26.4                   | 50                                                                                                        | 13.9 <sup>147</sup>                              | +9      | 51.0 <sup>140</sup>      | 58                                               | ** ** *       | 1 36           | 2 52                                             | 15             | 86   | 31   | 3    |     |      |
| 24  | 180                                                | 29.3 | -23                                               | 26.4                   | 64                                                                                                        | 47.6 <sup>147</sup>                              | +10     | 05.0 <sup>140</sup>      | 60 S                                             | ** ** *       | 0 45           | 2 32                                             | 14 20          | 89   | 0 28 | 0    |     |      |
| UT  | ARIES                                              |      | VENUS                                             |                        |                                                                                                           | MARTE                                            |         |                          | JÚPITER                                          |               |                | SATURNO                                          |                |      | Dif  |      |     |      |
|     | PMG<br>18 <sup>h</sup> 01 <sup>m</sup> 4           |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 14 <sup>m</sup> |                        |                                                                                                           | Mag: +1.6<br>PMG: 9 <sup>h</sup> 39 <sup>m</sup> |         |                          | Mag: -1.9<br>PMG: 7 <sup>h</sup> 04 <sup>m</sup> |               |                | Mag: -0.2<br>PMG: 1 <sup>h</sup> 55 <sup>m</sup> |                |      |      |      |     |      |
|     | hG ♈                                               |      | hG ♀                                              | Dec                    |                                                                                                           | hG ♂                                             | Dec     |                          | hG ♃                                             | Dec           |                | hG ♄                                             | Dec            |      |      |      |     |      |
| h   | °                                                  | '    | °                                                 | '                      | °                                                                                                         | '                                                | °       | '                        | °                                                | '             | °              | '                                                | °              | '    | °    | '    |     |      |
| 0   | 88                                                 | 54.9 | 206                                               | 34.1                   | -19                                                                                                       | 47.5                                             | 215     | 02.6                     | -19                                              | 00.7          | 253            | 43.3                                             | -5             | 07.7 | 331  | 07.4 | +20 | 57.0 |
| 1   | 103                                                | 57.4 | 221                                               | 33.4                   |                                                                                                           | 48.1                                             | 230     | 03.3                     |                                                  | 01.1          | 268            | 45.5                                             |                | 07.8 | 346  | 10.0 |     | 57.0 |
| 2   | 118                                                | 59.9 | 236                                               | 32.6                   |                                                                                                           | 48.8                                             | 245     | 04.0                     |                                                  | 01.6          | 283            | 47.7                                             |                | 08.0 | 1    | 12.6 |     | 57.0 |
| 3   | 134                                                | 02.3 | 251                                               | 31.8                   |                                                                                                           | 49.5                                             | 260     | 04.7                     |                                                  | 02.0          | 298            | 49.9                                             |                | 08.1 | 16   | 15.3 |     | 57.1 |
| 4   | 149                                                | 04.8 | 266                                               | 31.0                   |                                                                                                           | 50.1                                             | 275     | 05.5                     |                                                  | 02.4          | 313            | 52.0                                             |                | 08.2 | 31   | 17.9 |     | 57.1 |
| 5   | 164                                                | 07.3 | 281                                               | 30.2                   | -19                                                                                                       | 50.8                                             | 290     | 06.2                     | -19                                              | 02.8          | 328            | 54.2                                             | -5             | 08.3 | 46   | 20.6 | +20 | 57.1 |
| 6   | 179                                                | 09.7 | 296                                               | 29.5                   | -19                                                                                                       | 51.4                                             | 305     | 06.9                     | -19                                              | 03.3          | 343            | 56.4                                             | -5             | 08.4 | 61   | 23.2 | +20 | 57.2 |
| 7   | 194                                                | 12.2 | 311                                               | 28.7                   |                                                                                                           | 52.1                                             | 320     | 07.6                     |                                                  | 03.7          | 358            | 58.6                                             |                | 08.5 | 76   | 25.9 |     | 57.2 |
| 8   | 209                                                | 14.7 | 326                                               | 27.9                   |                                                                                                           | 52.7                                             | 335     | 08.3                     |                                                  | 04.1          | 14             | 00.7                                             |                | 08.6 | 91   | 28.5 |     | 57.2 |
| 9   | 224                                                | 17.1 | 341                                               | 27.1                   |                                                                                                           | 53.4                                             | 350     | 09.0                     |                                                  | 04.5          | 29             | 02.9                                             |                | 08.7 | 106  | 31.1 |     | 57.3 |
| 10  | 239                                                | 19.6 | 356                                               | 26.3                   |                                                                                                           | 54.0                                             | 5       | 09.7                     |                                                  | 04.9          | 44             | 05.1                                             |                | 08.8 | 121  | 33.8 |     | 57.3 |
| 11  | 254                                                | 22.0 | 11                                                | 25.5                   | -19                                                                                                       | 54.7                                             | 20      | 10.5                     | -19                                              | 05.4          | 59             | 07.3                                             | -5             | 08.9 | 136  | 36.4 | +20 | 57.3 |
| 12  | 269                                                | 24.5 | 26                                                | 24.8                   | -19                                                                                                       | 55.3                                             | 35      | 11.2                     | -19                                              | 05.8          | 74             | 09.4                                             | -5             | 09.1 | 151  | 39.1 | +20 | 57.4 |
| 13  | 284                                                | 27.0 | 41                                                | 24.0                   |                                                                                                           | 56.0                                             | 50      | 11.9                     |                                                  | 06.2          | 89             | 11.6                                             |                | 09.2 | 166  | 41.7 |     | 57.4 |
| 14  | 299                                                | 29.4 | 56                                                | 23.2                   |                                                                                                           | 56.6                                             | 65      | 12.6                     |                                                  | 06.6          | 104            | 13.8                                             |                | 09.3 | 181  | 44.4 |     | 57.5 |
| 15  | 314                                                | 31.9 | 71                                                | 22.4                   |                                                                                                           | 57.3                                             | 80      | 13.3                     |                                                  | 07.0          | 119            | 16.0                                             |                | 09.4 | 196  | 47.0 |     | 57.5 |
| 16  | 329                                                | 34.4 | 86                                                | 21.6                   |                                                                                                           | 57.9                                             | 95      | 14.0                     |                                                  | 07.5          | 134            | 18.1                                             |                | 09.5 | 211  | 49.6 |     | 57.5 |
| 17  | 344                                                | 36.8 | 101                                               | 20.8                   | -19                                                                                                       | 58.6                                             | 110     | 14.7                     | -19                                              | 07.9          | 149            | 20.3                                             | -5             | 09.6 | 226  | 52.3 | +20 | 57.6 |
| 18  | 359                                                | 39.3 | 116                                               | 20.1                   | -19                                                                                                       | 59.2                                             | 125     | 15.4                     | -19                                              | 08.3          | 164            | 22.5                                             | -5             | 09.7 | 241  | 54.9 | +20 | 57.6 |
| 19  | 14                                                 | 41.8 | 131                                               | 19.3                   | -19                                                                                                       | 59.9                                             | 140     | 16.2                     |                                                  | 08.7          | 179            | 24.7                                             |                | 09.8 | 256  | 57.6 |     | 57.6 |
| 20  | 29                                                 | 44.2 | 146                                               | 18.5                   | -20                                                                                                       | 00.5                                             | 155     | 16.9                     |                                                  | 09.1          | 194            | 26.8                                             |                | 09.9 | 272  | 00.2 |     | 57.7 |
| 21  | 44                                                 | 46.7 | 161                                               | 17.7                   |                                                                                                           | 01.2                                             | 170     | 17.6                     |                                                  | 09.6          | 209            | 29.0                                             |                | 10.0 | 287  | 02.9 |     | 57.7 |
| 22  | 59                                                 | 49.1 | 176                                               | 16.9                   |                                                                                                           | 01.8                                             | 185     | 18.3                     |                                                  | 10.0          | 224            | 31.2                                             |                | 10.1 | 302  | 05.5 |     | 57.7 |
| 23  | 74                                                 | 51.6 | 191                                               | 16.1                   |                                                                                                           | 02.4                                             | 200     | 19.0                     |                                                  | 10.4          | 239            | 33.4                                             |                | 10.3 | 317  | 08.2 |     | 57.8 |
| 24  | 89                                                 | 54.1 | 206                                               | 15.3                   | -20                                                                                                       | 03.1                                             | 215     | 19.7                     | -19                                              | 10.8          | 254            | 35.6                                             | -5             | 10.4 | 332  | 10.8 | +20 | 57.8 |
| Dif | —                                                  |      | -8                                                |                        |                                                                                                           | -6                                               | +7      |                          | -4                                               |               | +22            |                                                  | -1             |      | +26  |      |     |      |

| UT  | SOL                                    |      |                                                   | LUNA                       |                                                  |      | Latitud                                          | Puesta de Sol | Final del crepúsculo                             |      | Salida de Luna |      | Puesta de Luna |       |          |      |
|-----|----------------------------------------|------|---------------------------------------------------|----------------------------|--------------------------------------------------|------|--------------------------------------------------|---------------|--------------------------------------------------|------|----------------|------|----------------|-------|----------|------|
|     | SD: 16 <sup>h</sup> 3                  |      |                                                   | Edad: 8 <sup>d</sup> 9 PHE | SD: 15 <sup>h</sup> 2                            |      |                                                  |               | Civil                                            |      | Náutico        | Hora | R°             | Hora  | R°       |      |
|     | PMG: 11 <sup>h</sup> 58 <sup>m</sup> 3 |      |                                                   |                            | PMG: 20 <sup>h</sup> 17 <sup>m</sup>             |      |                                                  |               |                                                  |      |                |      |                |       |          |      |
|     | hG ☉                                   | Dec  |                                                   | hG ☾                       | Dif                                              | Dec  | Dif                                              |               |                                                  |      |                |      |                |       |          |      |
| h   | °                                      | '    | °                                                 | °                          | '                                                | °    | '                                                | °             | h                                                | m    | h              | m    | h              | m     | m        |      |
| 0   | 180                                    | 29.3 | -23                                               | 64                         | 47.6                                             | +10  | 05.0                                             | 60 N          | 14                                               | 54   | 15             | 52   | 16             | 49    | 12 30 1  |      |
| 1   | 195                                    | 29.0 |                                                   | 79                         | 21.3 <sup>147</sup>                              |      | 18.9 <sup>139</sup>                              | 58            | 15                                               | 12   | 16             | 04   | 16             | 57    | 38 5     |      |
| 2   | 210                                    | 28.7 |                                                   | 93                         | 55.0 <sup>147</sup>                              |      | 32.8 <sup>139</sup>                              | 56            | 27                                               |      | 14             | 17   | 03             |       | 44 9     |      |
| 3   | 225                                    | 28.4 |                                                   | 108                        | 28.7 <sup>147</sup>                              | +10  | 46.6 <sup>138</sup>                              | 54            | 39                                               | 23   |                | 10   |                | 50    | 12       |      |
| 4   | 240                                    | 28.1 |                                                   | 123                        | 02.3 <sup>146</sup>                              | +11  | 00.3 <sup>137</sup>                              | 52            | 15                                               | 51   | 32             |      | 15             | 12    | 56 14    |      |
| 5   | 255                                    | 27.7 | -23                                               | 137                        | 35.9 <sup>146</sup>                              | +11  | 14.0 <sup>137</sup>                              | 50            | 16                                               | 00   | 16             | 39   | 17             | 21    | 13 00 17 |      |
| 6   | 270                                    | 27.4 | -23                                               | 152                        | 09.5 <sup>146</sup>                              | +11  | 27.6 <sup>136</sup>                              | 45            | 16                                               | 21   | 16             | 55   | 17             | 32    | 13 11 22 |      |
| 7   | 285                                    | 27.1 |                                                   | 166                        | 43.1 <sup>146</sup>                              |      | 41.2 <sup>136</sup>                              | 40            | 38                                               |      | 17             | 09   |                | 43    | 20 25    |      |
| 8   | 300                                    | 26.8 |                                                   | 181                        | 16.7 <sup>146</sup>                              | +11  | 54.7 <sup>135</sup>                              | 35            | 16                                               | 52   | 21             |      | 17             | 52    | 28 28    |      |
| 9   | 315                                    | 26.5 |                                                   | 195                        | 50.2 <sup>145</sup>                              | +12  | 08.1 <sup>134</sup>                              | 30            | 17                                               | 05   | 31             | 18   | 01             |       | 34 32    |      |
| 10  | 330                                    | 26.2 |                                                   | 210                        | 23.7 <sup>145</sup>                              |      | 21.5 <sup>134</sup>                              | 20            | 26                                               |      | 17             | 50   |                | 18    | 46 36    |      |
| 11  | 345                                    | 25.9 | -23                                               | 224                        | 57.1 <sup>144</sup>                              | +12  | 34.9 <sup>134</sup>                              | 10 N          | 17                                               | 45   | 18             | 07   | 18             | 34    | 13 56 41 |      |
| 12  | 0                                      | 25.6 | -23                                               | 239                        | 30.6 <sup>145</sup>                              | +12  | 48.1 <sup>132</sup>                              | 0             | 18                                               | 02   | 18             | 25   | 18             | 51    | 14 06 45 |      |
| 13  | 15                                     | 25.3 |                                                   | 254                        | 04.0 <sup>144</sup>                              | +13  | 01.3 <sup>132</sup>                              | 10 S          | 20                                               |      | 18             | 43   | 19             | 10    | 16 49    |      |
| 14  | 30                                     | 25.0 |                                                   | 268                        | 37.4 <sup>144</sup>                              |      | 14.5 <sup>132</sup>                              | 20            | 18                                               | 39   | 19             | 03   | 19             | 33    | 27 53    |      |
| 15  | 45                                     | 24.6 |                                                   | 283                        | 10.7 <sup>143</sup>                              |      | 27.5 <sup>130</sup>                              | 30            | 19                                               | 01   |                | 28   | 20             | 02    | 39 58    |      |
| 16  | 60                                     | 24.3 |                                                   | 297                        | 44.1 <sup>144</sup>                              |      | 40.5 <sup>130</sup>                              | 35            | 14                                               |      | 19             | 44   |                | 20    | 46 61    |      |
| 17  | 75                                     | 24.0 | -23                                               | 312                        | 17.4 <sup>143</sup>                              | +13  | 53.5 <sup>130</sup>                              | 40            | 19                                               | 29   | 20             | 02   | 20             | 44    | 14 54 64 |      |
| 18  | 90                                     | 23.7 | -23                                               | 326                        | 50.6 <sup>142</sup>                              | +14  | 06.3 <sup>128</sup>                              | 45            | 19                                               | 47   | 20             | 24   | 21             | 14    | 15 03 69 |      |
| 19  | 105                                    | 23.4 |                                                   | 341                        | 23.8 <sup>142</sup>                              |      | 19.2 <sup>129</sup>                              | 50            | 20                                               | 10   | 20             | 54   | 22             | 00    | 15 74    |      |
| 20  | 120                                    | 23.1 |                                                   | 355                        | 57.0 <sup>142</sup>                              |      | 31.9 <sup>127</sup>                              | 52            | 20                                               |      | 21             | 09   | 22             | 28    | 20 77    |      |
| 21  | 135                                    | 22.8 |                                                   | 10                         | 30.2 <sup>142</sup>                              |      | 44.6 <sup>127</sup>                              | 54            | 33                                               |      | 27             |      | 23             | 15    | 26 79    |      |
| 22  | 150                                    | 22.5 |                                                   | 25                         | 03.3 <sup>141</sup>                              | +14  | 57.1 <sup>125</sup>                              | 56            | 20                                               | 47   | 21             | 50   | ** **          | ** ** | 33 82    |      |
| 23  | 165                                    | 22.2 |                                                   | 39                         | 36.4 <sup>141</sup>                              | +15  | 09.7 <sup>126</sup>                              | 58            | 21                                               | 04   | 22             | 20   | ** **          | ** ** | 41 86    |      |
| 24  | 180                                    | 21.8 | -23                                               | 54                         | 09.4 <sup>140</sup>                              | +15  | 22.1 <sup>124</sup>                              | 60 S          | 21                                               | 25   | 23             | 11   | ** **          | ** ** | 15 49 91 |      |
| UT  | ARIES                                  |      | VENUS                                             |                            | MARTE                                            |      | JÚPITER                                          |               | SATURNO                                          |      |                |      |                |       |          |      |
|     | PMG: 17 <sup>h</sup> 57 <sup>m</sup> 4 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 16 <sup>m</sup> |                            | Mag: +1.6<br>PMG: 9 <sup>h</sup> 38 <sup>m</sup> |      | Mag: -2.0<br>PMG: 7 <sup>h</sup> 01 <sup>m</sup> |               | Mag: -0.2<br>PMG: 1 <sup>h</sup> 51 <sup>m</sup> |      |                |      |                |       |          |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec                        | hG ♂                                             | Dec  | hG ♃                                             | Dec           | hG ♄                                             | Dec  | hG ♅           | Dec  |                |       |          |      |
| h   | °                                      | '    | °                                                 | '                          | °                                                | '    | °                                                | '             | °                                                | '    | °              | '    | °              | '     | °        | '    |
| 0   | 89                                     | 54.1 | 206                                               | 15.3                       | -20                                              | 03.1 | 215                                              | 19.7          | -19                                              | 10.8 | 254            | 35.6 | -5             | 10.4  | 332      | 10.8 |
| 1   | 104                                    | 56.5 | 221                                               | 14.5                       |                                                  | 03.7 | 230                                              | 20.4          |                                                  | 11.2 | 269            | 37.7 |                | 10.5  | 347      | 13.4 |
| 2   | 119                                    | 59.0 | 236                                               | 13.7                       |                                                  | 04.3 | 245                                              | 21.1          |                                                  | 11.7 | 284            | 39.9 |                | 10.6  | 2        | 16.1 |
| 3   | 135                                    | 01.5 | 251                                               | 12.9                       |                                                  | 05.0 | 260                                              | 21.8          |                                                  | 12.1 | 299            | 42.1 |                | 10.7  | 17       | 18.7 |
| 4   | 150                                    | 03.9 | 266                                               | 12.2                       |                                                  | 05.6 | 275                                              | 22.5          |                                                  | 12.5 | 314            | 44.3 |                | 10.8  | 32       | 21.4 |
| 5   | 165                                    | 06.4 | 281                                               | 11.4                       | -20                                              | 06.3 | 290                                              | 23.3          | -19                                              | 12.9 | 329            | 46.5 | -5             | 10.9  | 47       | 24.0 |
| 6   | 180                                    | 08.9 | 296                                               | 10.6                       | -20                                              | 06.9 | 305                                              | 24.0          | -19                                              | 13.3 | 344            | 48.6 | -5             | 11.0  | 62       | 26.7 |
| 7   | 195                                    | 11.3 | 311                                               | 09.8                       |                                                  | 07.5 | 320                                              | 24.7          |                                                  | 13.7 | 359            | 50.8 |                | 11.1  | 77       | 29.3 |
| 8   | 210                                    | 13.8 | 326                                               | 09.0                       |                                                  | 08.1 | 335                                              | 25.4          |                                                  | 14.2 | 14             | 53.0 |                | 11.2  | 92       | 32.0 |
| 9   | 225                                    | 16.3 | 341                                               | 08.2                       |                                                  | 08.8 | 350                                              | 26.1          |                                                  | 14.6 | 29             | 55.2 |                | 11.3  | 107      | 34.6 |
| 10  | 240                                    | 18.7 | 356                                               | 07.4                       |                                                  | 09.4 | 5                                                | 26.8          |                                                  | 15.0 | 44             | 57.4 |                | 11.4  | 122      | 37.3 |
| 11  | 255                                    | 21.2 | 11                                                | 06.6                       | -20                                              | 10.0 | 20                                               | 27.5          | -19                                              | 15.4 | 59             | 59.5 | -5             | 11.6  | 137      | 39.9 |
| 12  | 270                                    | 23.6 | 26                                                | 05.8                       | -20                                              | 10.7 | 35                                               | 28.2          | -19                                              | 15.8 | 75             | 01.7 | -5             | 11.7  | 152      | 42.5 |
| 13  | 285                                    | 26.1 | 41                                                | 05.0                       |                                                  | 11.3 | 50                                               | 28.9          |                                                  | 16.2 | 90             | 03.9 |                | 11.8  | 167      | 45.2 |
| 14  | 300                                    | 28.6 | 56                                                | 04.2                       |                                                  | 11.9 | 65                                               | 29.6          |                                                  | 16.6 | 105            | 06.1 |                | 11.9  | 182      | 47.8 |
| 15  | 315                                    | 31.0 | 71                                                | 03.4                       |                                                  | 12.5 | 80                                               | 30.3          |                                                  | 17.1 | 120            | 08.3 |                | 12.0  | 197      | 50.5 |
| 16  | 330                                    | 33.5 | 86                                                | 02.6                       |                                                  | 13.2 | 95                                               | 31.1          |                                                  | 17.5 | 135            | 10.4 |                | 12.1  | 212      | 53.1 |
| 17  | 345                                    | 36.0 | 101                                               | 01.8                       | -20                                              | 13.8 | 110                                              | 31.8          | -19                                              | 17.9 | 150            | 12.6 | -5             | 12.2  | 227      | 55.8 |
| 18  | 0                                      | 38.4 | 116                                               | 01.0                       | -20                                              | 14.4 | 125                                              | 32.5          | -19                                              | 18.3 | 165            | 14.8 | -5             | 12.3  | 242      | 58.4 |
| 19  | 15                                     | 40.9 | 131                                               | 00.2                       |                                                  | 15.0 | 140                                              | 33.2          |                                                  | 18.7 | 180            | 17.0 |                | 12.4  | 258      | 01.1 |
| 20  | 30                                     | 43.4 | 145                                               | 59.4                       |                                                  | 15.6 | 155                                              | 33.9          |                                                  | 19.1 | 195            | 19.2 |                | 12.5  | 273      | 03.7 |
| 21  | 45                                     | 45.8 | 160                                               | 58.6                       |                                                  | 16.3 | 170                                              | 34.6          |                                                  | 19.5 | 210            | 21.4 |                | 12.6  | 288      | 06.4 |
| 22  | 60                                     | 48.3 | 175                                               | 57.8                       |                                                  | 16.9 | 185                                              | 35.3          |                                                  | 19.9 | 225            | 23.5 |                | 12.7  | 303      | 09.0 |
| 23  | 75                                     | 50.8 | 190                                               | 57.0                       |                                                  | 17.5 | 200                                              | 36.0          |                                                  | 20.4 | 240            | 25.7 |                | 12.8  | 318      | 11.7 |
| 24  | 90                                     | 53.2 | 205                                               | 56.2                       | -20                                              | 18.1 | 215                                              | 36.7          | -19                                              | 20.8 | 255            | 27.9 | -5             | 12.9  | 333      | 14.3 |
| Dif | —                                      |      | -8                                                |                            | -6                                               |      | +7                                               |               | -4                                               |      | +22            |      | -1             |       | +26      |      |
|     |                                        |      |                                                   |                            |                                                  |      |                                                  |               |                                                  |      |                |      |                |       | 0        |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                             |     |                     |     |                     | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |       | Puesta de Luna |    |       |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------------------------------------------------------|-----|---------------------|-----|---------------------|---------|--------------------------|-------|---------------|----------------|-------|----------------|----|-------|
|    | SD: 16'3<br>PMG: 11 <sup>h</sup> 58 <sup>m</sup> 8 |      |     | Edad: 9 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 55'3<br>12 <sup>h</sup> : 55'1<br>20 <sup>h</sup> : 55'0<br>R°: 47 <sup>m</sup> |     |                     |     |                     |         |                          |       |               |                |       |                |    |       |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                             | Dif | Dec                 | Dif |                     |         | Náutico                  | Civil |               | Hora           | R°    | Hora           | R° |       |
| h  | °                                                  | '    | °   | '                                                                                                                                | °   | '                   | °   | '                   | °       | h                        | m     | h             | m              | h     | m              | h  | m     |
| 0  | 180                                                | 21.8 | -23 | 26.4                                                                                                                             | 54  | 09.4                | +15 | 22.1                | 60 N    | 7 08                     | 8 05  | 9 03          | 12 31          | 4     | 4              | 32 | 92    |
| 1  | 195                                                | 21.5 |     | 26.4                                                                                                                             | 68  | 42.5 <sup>141</sup> |     | 34.5 <sup>124</sup> | 58      | 7 00                     | 7 53  | 8 45          |                | 43    | 8              | 22 | 86    |
| 2  | 210                                                | 21.2 |     | 26.4                                                                                                                             | 83  | 15.4 <sup>139</sup> |     | 46.8 <sup>123</sup> | 56      | 6 54                     |       | 43            | 30             | 12 53 | 12             |    | 12 83 |
| 3  | 225                                                | 20.9 |     | 26.4                                                                                                                             | 97  | 48.4 <sup>140</sup> | +15 | 59.0 <sup>122</sup> | 54      |                          | 47    | 34            | 18             | 13 02 | 15             | 4  | 04 79 |
| 4  | 240                                                | 20.6 |     | 26.3                                                                                                                             | 112 | 21.2 <sup>138</sup> | +16 | 11.2 <sup>122</sup> | 52      |                          | 42    | 26            | 8 07           |       | 10 18          | 3  | 57 76 |
| 5  | 255                                                | 20.3 | -23 | 26.3                                                                                                                             | 126 | 54.1 <sup>139</sup> | +16 | 23.3 <sup>121</sup> | 50      | 6 36                     | 7 18  | 7 57          | 13 17          | 21    |                | 3  | 50 74 |
| 6  | 270                                                | 20.0 | -23 | 26.3                                                                                                                             | 141 | 26.9 <sup>138</sup> | +16 | 35.3 <sup>120</sup> | 45      | 6 25                     | 7 02  | 7 36          | 13 33          | 25    |                | 3  | 36 69 |
| 7  | 285                                                | 19.7 |     | 26.3                                                                                                                             | 155 | 59.7 <sup>138</sup> |     | 47.2 <sup>119</sup> | 40      |                          | 14    | 6 48          |                | 45 30 |                | 25 | 64    |
| 8  | 300                                                | 19.4 |     | 26.3                                                                                                                             | 170 | 32.4 <sup>137</sup> | +16 | 59.0 <sup>118</sup> | 35      | 6 05                     |       | 37            | 7 05           | 13 56 | 33             | 15 | 61    |
| 9  | 315                                                | 19.1 |     | 26.3                                                                                                                             | 185 | 05.1 <sup>137</sup> | +17 | 10.8 <sup>118</sup> | 30      | 5 56                     |       | 26            | 6 52           | 14 06 | 35             | 3  | 07 58 |
| 10 | 330                                                | 18.7 |     | 26.3                                                                                                                             | 199 | 37.7 <sup>136</sup> |     | 22.5 <sup>117</sup> | 20      |                          | 40    | 6 07          |                | 31 22 | 40             | 2  | 52 53 |
| 11 | 345                                                | 18.4 | -23 | 26.2                                                                                                                             | 214 | 10.3 <sup>136</sup> | +17 | 34.1 <sup>116</sup> | 10 N    | 5 23                     | 5 50  | 6 13          | 14 37          | 43    |                | 2  | 39 50 |
| 12 | 0                                                  | 18.1 | -23 | 26.2                                                                                                                             | 228 | 42.8 <sup>135</sup> | +17 | 45.6 <sup>115</sup> | 0       | 5 06                     | 5 32  | 5 55          | 14 51          | 46    |                | 2  | 27 46 |
| 13 | 15                                                 | 17.8 |     | 26.2                                                                                                                             | 243 | 15.3 <sup>135</sup> | +17 | 57.0 <sup>114</sup> | 10 S    | 4 47                     | 5 14  | 37            | 15 05          | 50    |                | 16 | 41    |
| 14 | 30                                                 | 17.5 |     | 26.2                                                                                                                             | 257 | 47.8 <sup>135</sup> | +18 | 08.4 <sup>114</sup> | 20      | 4 25                     | 4 54  | 5 18          |                | 20 53 |                | 2  | 03 38 |
| 15 | 45                                                 | 17.2 |     | 26.2                                                                                                                             | 272 | 20.2 <sup>134</sup> |     | 19.6 <sup>112</sup> | 30      | 3 55                     |       | 29            | 4 56           | 37 58 |                | 1  | 49 33 |
| 16 | 60                                                 | 16.9 |     | 26.1                                                                                                                             | 286 | 52.5 <sup>133</sup> |     | 30.8 <sup>112</sup> | 35      |                          | 37    | 4 14          | 43             | 47 61 |                | 40 | 31    |
| 17 | 75                                                 | 16.6 | -23 | 26.1                                                                                                                             | 301 | 24.8 <sup>133</sup> | +18 | 41.9 <sup>111</sup> | 40      | 3 14                     | 3 55  | 4 28          | 15 58          | 64    |                | 1  | 31 27 |
| 18 | 90                                                 | 16.3 | -23 | 26.1                                                                                                                             | 315 | 57.1 <sup>133</sup> | +18 | 52.9 <sup>110</sup> | 45      | 2 43                     | 3 33  | 4 10          | 16 12          | 68    |                | 1  | 20 23 |
| 19 | 105                                                | 15.9 |     | 26.1                                                                                                                             | 330 | 29.3 <sup>132</sup> | +19 | 03.8 <sup>109</sup> | 50      | 1 57                     | 3 03  | 3 48          |                | 29 73 |                | 07 | 18    |
| 20 | 120                                                | 15.6 |     | 26.0                                                                                                                             | 345 | 01.5 <sup>132</sup> |     | 14.6 <sup>108</sup> | 52      | 1 29                     | 2 48  |               | 37             | 37 75 |                | 1  | 01 16 |
| 21 | 135                                                | 15.3 |     | 26.0                                                                                                                             | 359 | 33.6 <sup>131</sup> |     | 25.4 <sup>108</sup> | 54      | 0 42                     |       | 30            | 24             | 45 79 |                | 0  | 54 13 |
| 22 | 150                                                | 15.0 |     | 26.0                                                                                                                             | 14  | 05.7 <sup>131</sup> |     | 36.0 <sup>106</sup> | 56      | ** **                    | 2 07  | 3 10          | 16 55          | 83    |                | 47 | 10    |
| 23 | 165                                                | 14.7 |     | 26.0                                                                                                                             | 28  | 37.7 <sup>130</sup> |     | 46.6 <sup>106</sup> | 58      | ** **                    | 1 37  | 2 53          | 17 07          | 87    |                | 38 | 7     |
| 24 | 180                                                | 14.4 | -23 | 25.9                                                                                                                             | 43  | 09.6 <sup>129</sup> | +19 | 57.1 <sup>105</sup> | 60 S    | ** **                    | 0 46  | 2 33          | 17 20          | 93    |                | 0  | 29 1  |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 17 <sup>h</sup> 53 <sup>m</sup> 5 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 17 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 37 <sup>m</sup> |      | Mag: -2.0<br>PMG: 6 <sup>h</sup> 57 <sup>m</sup> |      | Mag: -0.2<br>PMG: 1 <sup>h</sup> 47 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 90                                     | 53.2 | 205                                               | 56.2 | -20                                              | 18.1 | 215                                              | 36.7 | -19                                              | 20.8 |
| 1   | 105                                    | 55.7 | 220                                               | 55.4 |                                                  | 18.7 | 230                                              | 37.4 |                                                  | 21.2 |
| 2   | 120                                    | 58.1 | 235                                               | 54.6 |                                                  | 19.3 | 245                                              | 38.1 |                                                  | 21.6 |
| 3   | 136                                    | 00.6 | 250                                               | 53.8 |                                                  | 19.9 | 260                                              | 38.8 |                                                  | 22.0 |
| 4   | 151                                    | 03.1 | 265                                               | 53.0 |                                                  | 20.6 | 275                                              | 39.5 |                                                  | 22.4 |
| 5   | 166                                    | 05.5 | 280                                               | 52.2 | -20                                              | 21.2 | 290                                              | 40.2 | -19                                              | 22.8 |
| 6   | 181                                    | 08.0 | 295                                               | 51.4 | -20                                              | 21.8 | 305                                              | 40.9 | -19                                              | 23.2 |
| 7   | 196                                    | 10.5 | 310                                               | 50.6 |                                                  | 22.4 | 320                                              | 41.6 |                                                  | 23.6 |
| 8   | 211                                    | 12.9 | 325                                               | 49.8 |                                                  | 23.0 | 335                                              | 42.3 |                                                  | 24.1 |
| 9   | 226                                    | 15.4 | 340                                               | 49.0 |                                                  | 23.6 | 350                                              | 43.0 |                                                  | 24.5 |
| 10  | 241                                    | 17.9 | 355                                               | 48.2 |                                                  | 24.2 | 5                                                | 43.8 |                                                  | 24.9 |
| 11  | 256                                    | 20.3 | 10                                                | 47.4 | -20                                              | 24.8 | 20                                               | 44.5 | -19                                              | 25.3 |
| 12  | 271                                    | 22.8 | 25                                                | 46.6 | -20                                              | 25.4 | 35                                               | 45.2 | -19                                              | 25.7 |
| 13  | 286                                    | 25.3 | 40                                                | 45.8 |                                                  | 26.0 | 50                                               | 45.9 |                                                  | 26.1 |
| 14  | 301                                    | 27.7 | 55                                                | 45.0 |                                                  | 26.6 | 65                                               | 46.6 |                                                  | 26.5 |
| 15  | 316                                    | 30.2 | 70                                                | 44.2 |                                                  | 27.2 | 80                                               | 47.3 |                                                  | 26.9 |
| 16  | 331                                    | 32.6 | 85                                                | 43.4 |                                                  | 27.8 | 95                                               | 48.0 |                                                  | 27.3 |
| 17  | 346                                    | 35.1 | 100                                               | 42.5 | -20                                              | 28.4 | 110                                              | 48.7 | -19                                              | 27.7 |
| 18  | 1                                      | 37.6 | 115                                               | 41.7 | -20                                              | 29.0 | 125                                              | 49.4 | -19                                              | 28.1 |
| 19  | 16                                     | 40.0 | 130                                               | 40.9 |                                                  | 29.6 | 140                                              | 50.1 |                                                  | 28.5 |
| 20  | 31                                     | 42.5 | 145                                               | 40.1 |                                                  | 30.2 | 155                                              | 50.8 |                                                  | 28.9 |
| 21  | 46                                     | 45.0 | 160                                               | 39.3 |                                                  | 30.8 | 170                                              | 51.5 |                                                  | 29.4 |
| 22  | 61                                     | 47.4 | 175                                               | 38.5 |                                                  | 31.4 | 185                                              | 52.2 |                                                  | 29.8 |
| 23  | 76                                     | 49.9 | 190                                               | 37.7 |                                                  | 32.0 | 200                                              | 52.9 |                                                  | 30.2 |
| 24  | 91                                     | 52.4 | 205                                               | 36.9 | -20                                              | 32.6 | 215                                              | 53.6 | -19                                              | 30.6 |
| Dif | —                                      |      | -8                                                |      | -6                                               |      | +7                                               |      | -4                                               |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      |                                                  |      |



| UT  | SOL                                    |      |                                                   |      | LUNA                                                                                                    |                     |                                                  |                     | Latitud | Puesta de Sol | Final del crepúsculo                             |         |          | Salida de Luna |                                                  | Puesta de Luna |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|---------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|---------------------|---------|---------------|--------------------------------------------------|---------|----------|----------------|--------------------------------------------------|----------------|-----|------|
|     | SD: 16°3                               |      |                                                   |      | Edad: 10 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'9<br>12 <sup>h</sup> : 54'7<br>20 <sup>h</sup> : 54'6 |                     |                                                  |                     |         |               |                                                  |         |          |                |                                                  |                |     |      |
|     | PMG: 11 <sup>h</sup> 59 <sup>m</sup> 3 |      |                                                   |      | SD: 15°0<br>PMG: 21 <sup>h</sup> 49 <sup>m</sup> R°: 49 <sup>m</sup>                                    |                     |                                                  |                     |         |               |                                                  |         |          |                |                                                  |                |     |      |
|     | hG ☉                                   |      | Dec                                               |      | hG ☾ Dif                                                                                                |                     | Dec Dif                                          |                     |         |               | Civil                                            | Náutico | Hora     | R°             | Hora                                             | R°             |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                                                                       | '                   | °                                                | '                   | °       | h m           | h m                                              | h m     | h m m    | h m m          | h m m                                            | h m m          |     |      |
| 0   | 180                                    | 14.4 | -23                                               | 25.9 | 43                                                                                                      | 09.6                | +19                                              | 57.1                | 60 N    | 14 56         | 15 53                                            | 16 50   | 12 35 7  | 6 04 93        |                                                  |                |     |      |
| 1   | 195                                    | 14.1 |                                                   | 25.9 | 57                                                                                                      | 41.5 <sup>129</sup> | +20                                              | 07.4 <sup>103</sup> | 58      | 15 13         | 16 05                                            | 16 58   | 12 51 14 | 5 48 86        |                                                  |                |     |      |
| 2   | 210                                    | 13.8 |                                                   | 25.9 | 72                                                                                                      | 13.4 <sup>129</sup> |                                                  | 17.7 <sup>103</sup> | 56      | 28            | 15                                               | 17 05   | 13 05 18 | 35 81          |                                                  |                |     |      |
| 3   | 225                                    | 13.5 |                                                   | 25.8 | 86                                                                                                      | 45.2 <sup>128</sup> |                                                  | 27.9 <sup>102</sup> | 54      | 41            | 24                                               | 11      | 17 22    | 23 78          |                                                  |                |     |      |
| 4   | 240                                    | 13.2 |                                                   | 25.8 | 101                                                                                                     | 17.0 <sup>128</sup> |                                                  | 38.0 <sup>101</sup> | 52      | 15 52         | 33                                               | 16      | 28 25    | 13 75          |                                                  |                |     |      |
| 5   | 255                                    | 12.8 | -23                                               | 25.8 | 115                                                                                                     | 48.7 <sup>127</sup> | +20                                              | 48.0 <sup>100</sup> | 50      | 16 02         | 16 40                                            | 17 22   | 13 38 27 | 5 04 72        |                                                  |                |     |      |
| 6   | 270                                    | 12.5 | -23                                               | 25.7 | 130                                                                                                     | 20.3 <sup>126</sup> | +20                                              | 57.9 <sup>99</sup>  | 45      | 16 22         | 16 56                                            | 17 34   | 13 58 31 | 4 45 67        |                                                  |                |     |      |
| 7   | 285                                    | 12.2 |                                                   | 25.7 | 144                                                                                                     | 51.9 <sup>126</sup> | +21                                              | 07.7 <sup>98</sup>  | 40      | 39            | 17 10                                            | 44      | 14 15 34 | 29 64          |                                                  |                |     |      |
| 8   | 300                                    | 11.9 |                                                   | 25.7 | 159                                                                                                     | 23.5 <sup>126</sup> |                                                  | 17.4 <sup>97</sup>  | 35      | 16 53         | 22                                               | 17 53   | 29 37    | 16 61          |                                                  |                |     |      |
| 9   | 315                                    | 11.6 |                                                   | 25.6 | 173                                                                                                     | 55.0 <sup>125</sup> |                                                  | 27.0 <sup>96</sup>  | 30      | 17 06         | 32                                               | 18 02   | 14 41 39 | 4 05 58        |                                                  |                |     |      |
| 10  | 330                                    | 11.3 |                                                   | 25.6 | 188                                                                                                     | 26.4 <sup>124</sup> |                                                  | 36.5 <sup>95</sup>  | 20      | 27            | 17 51                                            | 19      | 15 02 43 | 3 45 55        |                                                  |                |     |      |
| 11  | 345                                    | 11.0 | -23                                               | 25.6 | 202                                                                                                     | 57.8 <sup>124</sup> | +21                                              | 45.9 <sup>94</sup>  | 10 N    | 17 46         | 18 08                                            | 18 35   | 15 20 46 | 3 29 51        |                                                  |                |     |      |
| 12  | 0                                      | 10.7 | -23                                               | 25.5 | 217                                                                                                     | 29.2 <sup>124</sup> | +21                                              | 55.2 <sup>93</sup>  | 0       | 18 03         | 18 26                                            | 18 52   | 15 37 49 | 3 13 48        |                                                  |                |     |      |
| 13  | 15                                     | 10.4 |                                                   | 25.5 | 232                                                                                                     | 00.5 <sup>123</sup> | +22                                              | 04.4 <sup>92</sup>  | 10 S    | 21            | 18 44                                            | 19 11   | 15 55 51 | 2 57 45        |                                                  |                |     |      |
| 14  | 30                                     | 10.1 |                                                   | 25.4 | 246                                                                                                     | 31.7 <sup>122</sup> |                                                  | 13.5 <sup>91</sup>  | 20      | 18 40         | 19 04                                            | 19 33   | 16 13 55 | 41 41          |                                                  |                |     |      |
| 15  | 45                                     | 09.7 |                                                   | 25.4 | 261                                                                                                     | 02.9 <sup>122</sup> |                                                  | 22.5 <sup>90</sup>  | 30      | 19 02         | 29                                               | 20 03   | 35 58    | 22 37          |                                                  |                |     |      |
| 16  | 60                                     | 09.4 |                                                   | 25.4 | 275                                                                                                     | 34.0 <sup>121</sup> |                                                  | 31.3 <sup>88</sup>  | 35      | 15            | 19 44                                            | 21      | 16 48 60 | 2 11 34        |                                                  |                |     |      |
| 17  | 75                                     | 09.1 | -23                                               | 25.3 | 290                                                                                                     | 05.1 <sup>121</sup> | +22                                              | 40.1 <sup>88</sup>  | 40      | 19 30         | 20 03                                            | 20 44   | 17 02 63 | 1 58 32        |                                                  |                |     |      |
| 18  | 90                                     | 08.8 | -23                                               | 25.3 | 304                                                                                                     | 36.1 <sup>120</sup> | +22                                              | 48.8 <sup>87</sup>  | 45      | 19 48         | 20 25                                            | 21 15   | 17 20 66 | 1 43 29        |                                                  |                |     |      |
| 19  | 105                                    | 08.5 |                                                   | 25.2 | 319                                                                                                     | 07.1 <sup>120</sup> | +22                                              | 57.4 <sup>86</sup>  | 50      | 20 10         | 20 55                                            | 22 01   | 42 70    | 25 24          |                                                  |                |     |      |
| 20  | 120                                    | 08.2 |                                                   | 25.2 | 333                                                                                                     | 38.0 <sup>119</sup> | +23                                              | 05.8 <sup>84</sup>  | 52      | 21            | 21 10                                            | 22 29   | 17 52 73 | 17 21          |                                                  |                |     |      |
| 21  | 135                                    | 07.9 |                                                   | 25.1 | 348                                                                                                     | 08.9 <sup>119</sup> |                                                  | 14.2 <sup>84</sup>  | 54      | 34            | 28                                               | 23 15   | 18 04 76 | 1 07 18        |                                                  |                |     |      |
| 22  | 150                                    | 07.6 |                                                   | 25.1 | 2                                                                                                       | 39.7 <sup>118</sup> |                                                  | 22.4 <sup>82</sup>  | 56      | 20 48         | 21 51                                            | ** ** * | 18 79    | 0 57 14        |                                                  |                |     |      |
| 23  | 165                                    | 07.3 |                                                   | 25.0 | 17                                                                                                      | 10.4 <sup>117</sup> |                                                  | 30.5 <sup>81</sup>  | 58      | 21 05         | 22 20                                            | ** ** * | 34 84    | 45 10          |                                                  |                |     |      |
| 24  | 180                                    | 07.0 | -23                                               | 25.0 | 31                                                                                                      | 41.1 <sup>117</sup> | +23                                              | 38.5 <sup>80</sup>  | 60 S    | 21 25         | 23 11                                            | ** ** * | 18 53 92 | 0 30 5         |                                                  |                |     |      |
| UT  | ARIES                                  |      | VENUS                                             |      |                                                                                                         |                     | MARTE                                            |                     |         |               | JÚPITER                                          |         |          |                | SATURNO                                          |                |     |      |
|     | PMG: 17 <sup>h</sup> 49 <sup>m</sup> 6 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 18 <sup>m</sup> |      |                                                                                                         |                     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 36 <sup>m</sup> |                     |         |               | Mag: -2.0<br>PMG: 6 <sup>h</sup> 54 <sup>m</sup> |         |          |                | Mag: -0.2<br>PMG: 1 <sup>h</sup> 43 <sup>m</sup> |                |     |      |
|     | hG ♈                                   |      | hG ♀                                              |      | Dec                                                                                                     |                     | hG ♂                                             |                     | Dec     |               | hG ♃                                             |         | Dec      |                | hG ♄                                             |                | Dec |      |
| h   | °                                      | '    | °                                                 | '    | °                                                                                                       | '                   | °                                                | '                   | °       | '             | °                                                | '       | °        | '              | °                                                | '              | °   | '    |
| 0   | 91                                     | 52.4 | 205                                               | 36.9 | -20                                                                                                     | 32.6                | 215                                              | 53.6                | -19     | 30.6          | 256                                              | 20.4    | -5       | 15.5           | 334                                              | 17.9           | +20 | 59.6 |
| 1   | 106                                    | 54.8 | 220                                               | 36.1 |                                                                                                         | 33.2                | 230                                              | 54.3                |         | 31.0          | 271                                              | 22.6    |          | 15.6           | 349                                              | 20.5           |     | 59.6 |
| 2   | 121                                    | 57.3 | 235                                               | 35.2 |                                                                                                         | 33.8                | 245                                              | 55.0                |         | 31.4          | 286                                              | 24.8    |          | 15.7           | 4                                                | 23.2           |     | 59.7 |
| 3   | 136                                    | 59.7 | 250                                               | 34.4 |                                                                                                         | 34.3                | 260                                              | 55.7                |         | 31.8          | 301                                              | 26.9    |          | 15.8           | 19                                               | 25.8           |     | 59.7 |
| 4   | 152                                    | 02.2 | 265                                               | 33.6 |                                                                                                         | 34.9                | 275                                              | 56.4                |         | 32.2          | 316                                              | 29.1    |          | 15.9           | 34                                               | 28.5           |     | 59.7 |
| 5   | 167                                    | 04.7 | 280                                               | 32.8 | -20                                                                                                     | 35.5                | 290                                              | 57.1                | -19     | 32.6          | 331                                              | 31.3    | -5       | 16.0           | 49                                               | 31.1           | +20 | 59.8 |
| 6   | 182                                    | 07.1 | 295                                               | 32.0 | -20                                                                                                     | 36.1                | 305                                              | 57.8                | -19     | 33.0          | 346                                              | 33.5    | -5       | 16.1           | 64                                               | 33.8           | +20 | 59.8 |
| 7   | 197                                    | 09.6 | 310                                               | 31.2 |                                                                                                         | 36.7                | 320                                              | 58.5                |         | 33.4          | 1                                                | 35.7    |          | 16.2           | 79                                               | 36.4           |     | 59.8 |
| 8   | 212                                    | 12.1 | 325                                               | 30.4 |                                                                                                         | 37.3                | 335                                              | 59.2                |         | 33.8          | 16                                               | 37.9    |          | 16.3           | 94                                               | 39.1           |     | 59.9 |
| 9   | 227                                    | 14.5 | 340                                               | 29.5 |                                                                                                         | 37.8                | 350                                              | 59.9                |         | 34.2          | 31                                               | 40.1    |          | 16.4           | 109                                              | 41.8           |     | 59.9 |
| 10  | 242                                    | 17.0 | 355                                               | 28.7 |                                                                                                         | 38.4                | 6                                                | 00.6                |         | 34.6          | 46                                               | 42.3    |          | 16.5           | 124                                              | 44.4           | +20 | 59.9 |
| 11  | 257                                    | 19.5 | 10                                                | 27.9 | -20                                                                                                     | 39.0                | 21                                               | 01.3                | -19     | 35.0          | 61                                               | 44.5    | -5       | 16.6           | 139                                              | 47.1           | +21 | 00.0 |
| 12  | 272                                    | 21.9 | 25                                                | 27.1 | -20                                                                                                     | 39.6                | 36                                               | 02.0                | -19     | 35.4          | 76                                               | 46.7    | -5       | 16.7           | 154                                              | 49.7           | +21 | 00.0 |
| 13  | 287                                    | 24.4 | 40                                                | 26.3 |                                                                                                         | 40.2                | 51                                               | 02.7                |         | 35.8          | 91                                               | 48.8    |          | 16.8           | 169                                              | 52.4           | +21 | 00.1 |
| 14  | 302                                    | 26.9 | 55                                                | 25.5 |                                                                                                         | 40.7                | 66                                               | 03.4                |         | 36.2          | 106                                              | 51.0    |          | 16.9           | 184                                              | 55.0           |     | 00.1 |
| 15  | 317                                    | 29.3 | 70                                                | 24.6 |                                                                                                         | 41.3                | 81                                               | 04.1                |         | 36.6          | 121                                              | 53.2    |          | 17.0           | 199                                              | 57.7           |     | 00.1 |
| 16  | 332                                    | 31.8 | 85                                                | 23.8 |                                                                                                         | 41.9                | 96                                               | 04.8                |         | 37.0          | 136                                              | 55.4    |          | 17.1           | 215                                              | 00.3           |     | 00.2 |
| 17  | 347                                    | 34.2 | 100                                               | 23.0 | -20                                                                                                     | 42.5                | 111                                              | 05.5                | -19     | 37.4          | 151                                              | 57.6    | -5       | 17.2           | 230                                              | 03.0           | +21 | 00.2 |
| 18  | 2                                      | 36.7 | 115                                               | 22.2 | -20                                                                                                     | 43.0                | 126                                              | 06.2                | -19     | 37.8          | 166                                              | 59.8    | -5       | 17.3           | 245                                              | 05.6           | +21 | 00.2 |
| 19  | 17                                     | 39.2 | 130                                               | 21.4 |                                                                                                         | 43.6                | 141                                              | 06.9                |         | 38.2          | 182                                              | 02.0    |          | 17.4           | 260                                              | 08.3           |     | 00.3 |
| 20  | 32                                     | 41.6 | 145                                               | 20.5 |                                                                                                         | 44.2                | 156                                              | 07.6                |         | 38.6          | 197                                              | 04.2    |          | 17.5           | 275                                              | 10.9           |     | 00.3 |
| 21  | 47                                     | 44.1 | 160                                               | 19.7 |                                                                                                         | 44.8                | 171                                              | 08.3                |         | 39.0          | 212                                              | 06.4    |          | 17.6           | 290                                              | 13.6           |     | 00.4 |
| 22  | 62                                     | 46.6 | 175                                               | 18.9 |                                                                                                         | 45.3                | 186                                              | 09.0                |         | 39.4          | 227                                              | 08.6    |          | 17.7           | 305                                              | 16.2           |     | 00.4 |
| 23  | 77                                     | 49.0 | 190                                               | 18.1 |                                                                                                         | 45.9                | 201                                              | 09.7                |         | 39.8          | 242                                              | 10.8    |          | 17.8           | 320                                              | 18.9           |     | 00.4 |
| 24  | 92                                     | 51.5 | 205                                               | 17.3 | -20                                                                                                     | 46.5                | 216                                              | 10.4                | -19     | 40.2          | 257                                              | 13.0    | -5       | 17.9           | 335                                              | 21.5           | +21 | 00.5 |
| Dif | —                                      |      | -8                                                |      | -6                                                                                                      |                     | +7                                               |                     | -4      |               | +22                                              |         | -1       |                | +27                                              |                | 0   |      |

| UT | SOL                                                |      |     | LUNA                                                                                                                                                                                  |     |      |     |      | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |         |
|----|----------------------------------------------------|------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|------|-----|------|---------|--------------------------|---------|---------------|----------------|-------|----------------|-------|---------|
|    | SD: 16'3<br>PMG: 11 <sup>h</sup> 59 <sup>m</sup> 8 |      |     | Edad: 11 <sup>d</sup> 9 PHE {<br>SD: 14'9<br>PMG: 22 <sup>h</sup> 38 <sup>m</sup><br>4 <sup>h</sup> : 54'5<br>12 <sup>h</sup> : 54'4<br>20 <sup>h</sup> : 54'3<br>R°: 51 <sup>m</sup> |     |      |     |      |         |                          |         |               |                |       |                |       |         |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                                                                                                                                  | Dif | Dec  | Dif |      |         | Náutico                  | Civil   |               | Hora           | R°    | Hora           | R°    |         |
| h  | °                                                  | '    | °   | '                                                                                                                                                                                     | °   | '    | °   | '    | °       | h                        | m       | h             | m              | h     | m              | h     | m       |
| 0  | 180                                                | 07.0 | -23 | 25.0                                                                                                                                                                                  | 31  | 41.1 | +23 | 38.5 | 80      | 60 N                     | 7 09    | 8 06          | 9 03           | 12 42 | 16             | 7 37  | 88      |
| 1  | 195                                                | 06.6 |     | 24.9                                                                                                                                                                                  | 46  | 11.8 |     | 46.5 | 80      | 58                       | 7 01    | 7 54          | 8 46           | 13 05 | 23             | 7 14  | 81      |
| 2  | 210                                                | 06.3 |     | 24.9                                                                                                                                                                                  | 60  | 42.4 | +23 | 54.2 | 77      | 56                       | 6 54    | 44            | 31             | 23 29 |                | 6 56  | 76      |
| 3  | 225                                                | 06.0 |     | 24.8                                                                                                                                                                                  | 75  | 13.0 | +24 | 01.9 | 77      | 54                       |         | 48            | 35             | 18    | 39 31          |       | 41 7    |
| 4  | 240                                                | 05.7 |     | 24.8                                                                                                                                                                                  | 89  | 43.5 |     | 09.5 | 76      | 52                       |         | 43            | 26             | 8 07  | 13 53          | 33    | 28 69   |
| 5  | 255                                                | 05.4 | -23 | 24.7                                                                                                                                                                                  | 104 | 13.9 | +24 | 16.9 | 74      | 50                       | 6 37    | 7 19          | 7 57           | 14 05 | 35             | 6 16  | 68      |
| 6  | 270                                                | 05.1 | -23 | 24.7                                                                                                                                                                                  | 118 | 44.3 | +24 | 24.3 | 74      | 45                       | 6 26    | 7 03          | 7 37           | 14 29 | 39             | 5 52  | 64      |
| 7  | 285                                                | 04.8 |     | 24.6                                                                                                                                                                                  | 133 | 14.7 |     | 31.5 | 72      | 40                       |         | 15            | 6 49           | 20    | 14 49          | 42    | 33 61   |
| 8  | 300                                                | 04.5 |     | 24.6                                                                                                                                                                                  | 147 | 45.0 |     | 38.6 | 71      | 35                       | 6 06    | 37            | 7 06           | 15 06 | 43             | 17 59 |         |
| 9  | 315                                                | 04.2 |     | 24.5                                                                                                                                                                                  | 162 | 15.3 |     | 45.6 | 70      | 30                       | 5 57    | 27            | 6 53           | 20 45 |                | 5 03  | 57      |
| 10 | 330                                                | 03.9 |     | 24.5                                                                                                                                                                                  | 176 | 45.5 |     | 52.5 | 69      | 20                       |         | 40            | 6 08           | 32    | 15 45          | 47    | 4 40 54 |
| 11 | 345                                                | 03.5 | -23 | 24.4                                                                                                                                                                                  | 191 | 15.6 | +24 | 59.2 | 67      | 10 N                     | 5 24    | 5 51          | 6 13           | 16 06 | 49             | 4 20  | 52      |
| 12 | 0                                                  | 03.2 | -23 | 24.4                                                                                                                                                                                  | 205 | 45.8 | +25 | 05.9 | 67      | 0                        | 5 07    | 5 33          | 5 56           | 16 26 | 51             | 4 01  | 50      |
| 13 | 15                                                 | 02.9 |     | 24.3                                                                                                                                                                                  | 220 | 15.8 |     | 12.4 | 65      | 10 S                     | 4 48    | 5 15          | 5 38           | 16 46 | 53             | 3 42  | 48      |
| 14 | 30                                                 | 02.6 |     | 24.2                                                                                                                                                                                  | 234 | 45.9 |     | 18.8 | 64      | 20                       | 4 26    | 4 55          | 5 19           | 17 08 | 54             | 3 22  | 45      |
| 15 | 45                                                 | 02.3 |     | 24.2                                                                                                                                                                                  | 249 | 15.8 |     | 25.0 | 62      | 30                       | 3 57    | 30            | 4 57           | 33 56 |                | 2 59  | 42      |
| 16 | 60                                                 | 02.0 |     | 24.1                                                                                                                                                                                  | 263 | 45.8 |     | 31.2 | 62      | 35                       |         | 38            | 4 15           | 44    | 17 48          | 57    | 45 41   |
| 17 | 75                                                 | 01.7 | -23 | 24.1                                                                                                                                                                                  | 278 | 15.7 | +25 | 37.2 | 60      | 40                       | 3 15    | 3 56          | 4 29           | 18 05 | 59             | 2 30  | 38      |
| 18 | 90                                                 | 01.4 | -23 | 24.0                                                                                                                                                                                  | 292 | 45.5 | +25 | 43.1 | 59      | 45                       | 2 44    | 3 34          | 4 11           | 18 26 | 61             | 2 12  | 34      |
| 19 | 105                                                | 01.1 |     | 23.9                                                                                                                                                                                  | 307 | 15.3 |     | 48.9 | 58      | 50                       | 1 58    | 3 04          | 3 49           | 18 52 | 64             | 1 49  | 31      |
| 20 | 120                                                | 00.8 |     | 23.9                                                                                                                                                                                  | 321 | 45.1 | +25 | 54.6 | 57      | 52                       | 1 31    | 2 49          | 38             | 19 05 | 66             | 38    | 28      |
| 21 | 135                                                | 00.5 |     | 23.8                                                                                                                                                                                  | 336 | 14.8 | +26 | 00.1 | 55      | 54                       | 0 44    | 31            | 25             | 20 68 |                | 25    | 26      |
| 22 | 150                                                | 00.1 |     | 23.7                                                                                                                                                                                  | 350 | 44.5 |     | 05.5 | 54      | 56                       | ** ** * | 2 09          | 3 11           | 37 71 |                | 1 11  | 23      |
| 23 | 164                                                | 59.8 |     | 23.7                                                                                                                                                                                  | 5   | 14.1 |     | 10.8 | 53      | 58                       | ** ** * | 1 39          | 2 54           | 19 58 | 75             | 0 55  | 17      |
| 24 | 179                                                | 59.5 | -23 | 23.6                                                                                                                                                                                  | 19  | 43.7 | +26 | 15.9 | 51      | 60 S                     | ** ** * | 0 48          | 2 34           | 20 25 | 82             | 0 35  | 10      |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 17 <sup>h</sup> 45 <sup>m</sup> 6 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 19 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 35 <sup>m</sup> |      | Mag: -2.0<br>PMG: 6 <sup>h</sup> 50 <sup>m</sup> |      | Mag: -0.2<br>PMG: 1 <sup>h</sup> 38 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 92                                     | 51.5 | 205                                               | 17.3 | 216                                              | 10.4 | 257                                              | 13.0 | 335                                              | 21.5 |
| 1   | 107                                    | 54.0 | 220                                               | 16.4 | 231                                              | 11.1 | 272                                              | 15.2 | 350                                              | 24.2 |
| 2   | 122                                    | 56.4 | 235                                               | 15.6 | 246                                              | 11.7 | 287                                              | 17.4 | 5                                                | 26.8 |
| 3   | 137                                    | 58.9 | 250                                               | 14.8 | 261                                              | 12.4 | 302                                              | 19.6 | 20                                               | 29.5 |
| 4   | 153                                    | 01.4 | 265                                               | 14.0 | 276                                              | 13.1 | 317                                              | 21.8 | 35                                               | 32.1 |
| 5   | 168                                    | 03.8 | 280                                               | 13.1 | 291                                              | 13.8 | 332                                              | 23.9 | 50                                               | 34.8 |
| 6   | 183                                    | 06.3 | 295                                               | 12.3 | 306                                              | 14.5 | 347                                              | 26.1 | 65                                               | 37.5 |
| 7   | 198                                    | 08.7 | 310                                               | 11.5 | 321                                              | 15.2 | 2                                                | 28.3 | 80                                               | 40.1 |
| 8   | 213                                    | 11.2 | 325                                               | 10.7 | 336                                              | 15.9 | 17                                               | 30.5 | 95                                               | 42.8 |
| 9   | 228                                    | 13.7 | 340                                               | 09.8 | 351                                              | 16.6 | 32                                               | 32.7 | 110                                              | 45.4 |
| 10  | 243                                    | 16.1 | 355                                               | 09.0 | 6                                                | 17.3 | 47                                               | 34.9 | 125                                              | 48.1 |
| 11  | 258                                    | 18.6 | 10                                                | 08.2 | 21                                               | 18.0 | 62                                               | 37.1 | 140                                              | 50.7 |
| 12  | 273                                    | 21.1 | 25                                                | 07.4 | 36                                               | 18.7 | 77                                               | 39.3 | 155                                              | 53.4 |
| 13  | 288                                    | 23.5 | 40                                                | 06.5 | 51                                               | 19.4 | 92                                               | 41.5 | 170                                              | 56.0 |
| 14  | 303                                    | 26.0 | 55                                                | 05.7 | 66                                               | 20.1 | 107                                              | 43.7 | 185                                              | 58.7 |
| 15  | 318                                    | 28.5 | 70                                                | 04.9 | 81                                               | 20.8 | 122                                              | 45.9 | 201                                              | 01.3 |
| 16  | 333                                    | 30.9 | 85                                                | 04.0 | 96                                               | 21.5 | 137                                              | 48.1 | 216                                              | 04.0 |
| 17  | 348                                    | 33.4 | 100                                               | 03.2 | 111                                              | 22.2 | 152                                              | 50.3 | 231                                              | 06.7 |
| 18  | 3                                      | 35.9 | 115                                               | 02.4 | 126                                              | 22.9 | 167                                              | 52.5 | 246                                              | 09.3 |
| 19  | 18                                     | 38.3 | 130                                               | 01.6 | 141                                              | 23.5 | 182                                              | 54.7 | 261                                              | 12.0 |
| 20  | 33                                     | 40.8 | 145                                               | 00.7 | 156                                              | 24.2 | 197                                              | 56.9 | 276                                              | 14.6 |
| 21  | 48                                     | 43.2 | 159                                               | 59.9 | 171                                              | 24.9 | 212                                              | 59.1 | 291                                              | 17.3 |
| 22  | 63                                     | 45.7 | 174                                               | 59.1 | 186                                              | 25.6 | 228                                              | 01.3 | 306                                              | 19.9 |
| 23  | 78                                     | 48.2 | 189                                               | 58.2 | 201                                              | 26.3 | 243                                              | 03.5 | 321                                              | 22.6 |
| 24  | 93                                     | 50.6 | 204                                               | 57.4 | 216                                              | 27.0 | 258                                              | 05.7 | 336                                              | 25.2 |
| Dif | —                                      |      | -8                                                | -6   | +7                                               | -4   | +22                                              | -1   | +27                                              |      |

| UT  | SOL                                      |      |                                                   | LUNA                        |                                                  |                                      | Latitud                                          | Puesta de Sol | Final del crepúsculo                             |         | Salida de Luna |          | Puesta de Luna |       |
|-----|------------------------------------------|------|---------------------------------------------------|-----------------------------|--------------------------------------------------|--------------------------------------|--------------------------------------------------|---------------|--------------------------------------------------|---------|----------------|----------|----------------|-------|
|     | SD: 16'3                                 |      |                                                   | Edad: 12 <sup>d</sup> 9 PHE | SD: 14'8                                         | PMG: 23 <sup>h</sup> 29 <sup>m</sup> |                                                  |               |                                                  |         |                |          |                |       |
|     | PMG: 12 <sup>h</sup> 00 <sup>m</sup> 3   |      |                                                   |                             |                                                  |                                      |                                                  |               | R°: 52 <sup>m</sup>                              |         |                |          |                |       |
|     | hG ☉                                     | Dec  |                                                   | hG ☾                        | Dif                                              | Dec                                  | Dif                                              |               | Civil                                            | Náutico | Hora           | R°       | Hora           | R°    |
| h   | °                                        | '    | °                                                 | °                           | '                                                | °                                    | '                                                | °             | h m                                              | h m     | h m            | h m m    | h m m          | h m m |
| 0   | 179                                      | 59.5 | -23                                               | 19                          | 43.7                                             | +26                                  | 15.9                                             | 60 N          | 14 57                                            | 15 55   | 16 52          | 12 58 36 | 9 05 70        |       |
| 1   | 194                                      | 59.2 |                                                   | 34                          | 13.3 <sup>106</sup>                              |                                      | 21.0 <sup>51</sup>                               | 58            | 15 15                                            | 16 06   | 16 59          | 13 28 41 | 8 35 65        |       |
| 2   | 209                                      | 58.9 |                                                   | 48                          | 42.8 <sup>105</sup>                              |                                      | 25.9 <sup>49</sup>                               | 56            | 29                                               | 17      | 17 06          | 13 52 43 | 8 12 63        |       |
| 3   | 224                                      | 58.6 |                                                   | 63                          | 12.3 <sup>105</sup>                              |                                      | 30.6 <sup>47</sup>                               | 54            | 42                                               | 26      | 12             | 14 10 45 | 7 53 62        |       |
| 4   | 239                                      | 58.3 |                                                   | 77                          | 41.8 <sup>105</sup>                              |                                      | 35.3 <sup>47</sup>                               | 52            | 15 53                                            | 34      | 18             | 26 46    | 37 61          |       |
| 5   | 254                                      | 58.0 | -23                                               | 92                          | 11.2 <sup>104</sup>                              | +26                                  | 39.8 <sup>45</sup>                               | 50            | 16 03                                            | 16 41   | 17 23          | 14 40 47 | 7 24 59        |       |
| 6   | 269                                      | 57.7 | -23                                               | 106                         | 40.6 <sup>104</sup>                              | +26                                  | 44.2 <sup>44</sup>                               | 45            | 16 24                                            | 16 57   | 17 35          | 15 08 48 | 6 56 58        |       |
| 7   | 284                                      | 57.4 |                                                   | 121                         | 09.9 <sup>103</sup>                              |                                      | 48.4 <sup>42</sup>                               | 40            | 40                                               | 17 11   | 45             | 31 48    | 34 57          |       |
| 8   | 299                                      | 57.1 |                                                   | 135                         | 39.2 <sup>103</sup>                              |                                      | 52.6 <sup>42</sup>                               | 35            | 16 55                                            | 23      | 17 54          | 15 49 49 | 16 56          |       |
| 9   | 314                                      | 56.7 |                                                   | 150                         | 08.5 <sup>103</sup>                              | +26                                  | 56.6 <sup>40</sup>                               | 30            | 17 07                                            | 33      | 18 03          | 16 05 50 | 6 00 55        |       |
| 10  | 329                                      | 56.4 |                                                   | 164                         | 37.8 <sup>103</sup>                              | +27                                  | 00.4 <sup>38</sup>                               | 20            | 28                                               | 17 52   | 20             | 32 50    | 5 34 54        |       |
| 11  | 344                                      | 56.1 | -23                                               | 179                         | 07.0 <sup>102</sup>                              | +27                                  | 04.2 <sup>38</sup>                               | 10 N          | 17 47                                            | 18 09   | 18 36          | 16 55 51 | 5 12 52        |       |
| 12  | 359                                      | 55.8 | -23                                               | 193                         | 36.2 <sup>102</sup>                              | +27                                  | 07.8 <sup>36</sup>                               | 0             | 18 04                                            | 18 27   | 18 53          | 17 17 51 | 4 51 51        |       |
| 13  | 14                                       | 55.5 |                                                   | 208                         | 05.4 <sup>102</sup>                              |                                      | 11.2 <sup>34</sup>                               | 10 S          | 22                                               | 18 45   | 19 12          | 17 39 52 | 30 50          |       |
| 14  | 29                                       | 55.2 |                                                   | 222                         | 34.6 <sup>102</sup>                              |                                      | 14.6 <sup>34</sup>                               | 20            | 18 41                                            | 19 05   | 19 34          | 18 02 52 | 4 07 49        |       |
| 15  | 44                                       | 54.9 |                                                   | 237                         | 03.7 <sup>101</sup>                              |                                      | 17.8 <sup>32</sup>                               | 30            | 19 03                                            | 30      | 20 03          | 29 53    | 3 41 47        |       |
| 16  | 59                                       | 54.6 |                                                   | 251                         | 32.8 <sup>101</sup>                              |                                      | 20.8 <sup>30</sup>                               | 35            | 16                                               | 19 45   | 22             | 18 45 54 | 26 46          |       |
| 17  | 74                                       | 54.3 | -23                                               | 266                         | 01.9 <sup>101</sup>                              | +27                                  | 23.8 <sup>30</sup>                               | 40            | 19 31                                            | 20 03   | 20 45          | 19 04 54 | 3 08 45        |       |
| 18  | 89                                       | 54.0 | -23                                               | 280                         | 31.0 <sup>101</sup>                              | +27                                  | 26.6 <sup>28</sup>                               | 45            | 19 49                                            | 20 26   | 21 16          | 19 27 54 | 2 46 44        |       |
| 19  | 104                                      | 53.7 |                                                   | 295                         | 00.0 <sup>100</sup>                              |                                      | 29.3 <sup>27</sup>                               | 50            | 20 11                                            | 20 56   | 22 01          | 19 56 54 | 20 40          |       |
| 20  | 119                                      | 53.4 |                                                   | 309                         | 29.0 <sup>100</sup>                              |                                      | 31.8 <sup>25</sup>                               | 52            | 22                                               | 21 11   | 22 29          | 20 11 54 | 2 06 40        |       |
| 21  | 134                                      | 53.0 |                                                   | 323                         | 58.0 <sup>100</sup>                              |                                      | 34.2 <sup>24</sup>                               | 54            | 34                                               | 29      | 23 14          | 28 54    | 1 51 38        |       |
| 22  | 149                                      | 52.7 |                                                   | 338                         | 27.0 <sup>100</sup>                              |                                      | 36.5 <sup>23</sup>                               | 56            | 20 48                                            | 21 51   | ** ** *        | 20 48 55 | 34 35          |       |
| 23  | 164                                      | 52.4 |                                                   | 352                         | 56.0 <sup>100</sup>                              |                                      | 38.6 <sup>21</sup>                               | 58            | 21 05                                            | 22 20   | ** ** *        | 21 13 55 | 1 12 31        |       |
| 24  | 179                                      | 52.1 | -23                                               | 7                           | 25.0 <sup>100</sup>                              | +27                                  | 40.6 <sup>20</sup>                               | 60 S          | 21 26                                            | 23 10   | ** ** *        | 21 47 57 | 0 45 24        |       |
| UT  | ARIES                                    |      | VENUS                                             |                             | MARTE                                            |                                      | JÚPITER                                          |               | SATURNO                                          |         |                |          |                |       |
|     | PMG<br>17 <sup>h</sup> 41 <sup>m</sup> 7 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 21 <sup>m</sup> |                             | Mag: +1.6<br>PMG: 9 <sup>h</sup> 34 <sup>m</sup> |                                      | Mag: -2.0<br>PMG: 6 <sup>h</sup> 47 <sup>m</sup> |               | Mag: -0.3<br>PMG: 1 <sup>h</sup> 34 <sup>m</sup> |         |                |          |                |       |
|     | hG ♈                                     | Dec  | hG ♀                                              | Dec                         | hG ♂                                             | Dec                                  | hG ♃                                             | Dec           | hG ♄                                             | Dec     |                |          |                |       |
| h   | °                                        | '    | °                                                 | '                           | °                                                | '                                    | °                                                | '             | °                                                | '       |                |          |                |       |
| 0   | 93                                       | 50.6 | 204                                               | 57.4                        | -20                                              | 59.7                                 | 258                                              | 05.7          | -5                                               | 20.3    |                |          |                |       |
| 1   | 108                                      | 53.1 | 219                                               | 56.6                        | -21                                              | 00.3                                 | 273                                              | 07.9          |                                                  | 20.4    |                |          |                |       |
| 2   | 123                                      | 55.6 | 234                                               | 55.7                        |                                                  | 00.8                                 | 288                                              | 10.1          |                                                  | 20.5    |                |          |                |       |
| 3   | 138                                      | 58.0 | 249                                               | 54.9                        |                                                  | 01.4                                 | 303                                              | 12.3          |                                                  | 20.6    |                |          |                |       |
| 4   | 154                                      | 00.5 | 264                                               | 54.1                        |                                                  | 01.9                                 | 318                                              | 14.5          |                                                  | 20.7    |                |          |                |       |
| 5   | 169                                      | 03.0 | 279                                               | 53.2                        | -21                                              | 02.4                                 | 333                                              | 16.7          | -5                                               | 20.8    |                |          |                |       |
| 6   | 184                                      | 05.4 | 294                                               | 52.4                        | -21                                              | 03.0                                 | 348                                              | 18.9          | -5                                               | 20.9    |                |          |                |       |
| 7   | 199                                      | 07.9 | 309                                               | 51.5                        |                                                  | 03.5                                 | 3                                                | 21.1          |                                                  | 21.0    |                |          |                |       |
| 8   | 214                                      | 10.4 | 324                                               | 50.7                        |                                                  | 04.0                                 | 18                                               | 23.3          |                                                  | 21.1    |                |          |                |       |
| 9   | 229                                      | 12.8 | 339                                               | 49.9                        |                                                  | 04.6                                 | 33                                               | 25.5          |                                                  | 21.2    |                |          |                |       |
| 10  | 244                                      | 15.3 | 354                                               | 49.0                        |                                                  | 05.1                                 | 48                                               | 27.7          |                                                  | 21.3    |                |          |                |       |
| 11  | 259                                      | 17.7 | 9                                                 | 48.2                        | -21                                              | 05.6                                 | 63                                               | 29.9          | -5                                               | 21.4    |                |          |                |       |
| 12  | 274                                      | 20.2 | 24                                                | 47.4                        | -21                                              | 06.2                                 | 78                                               | 32.1          | -5                                               | 21.5    |                |          |                |       |
| 13  | 289                                      | 22.7 | 39                                                | 46.5                        |                                                  | 06.7                                 | 93                                               | 34.3          |                                                  | 21.6    |                |          |                |       |
| 14  | 304                                      | 25.1 | 54                                                | 45.7                        |                                                  | 07.2                                 | 108                                              | 36.5          |                                                  | 21.7    |                |          |                |       |
| 15  | 319                                      | 27.6 | 69                                                | 44.8                        |                                                  | 07.7                                 | 123                                              | 38.7          |                                                  | 21.8    |                |          |                |       |
| 16  | 334                                      | 30.1 | 84                                                | 44.0                        |                                                  | 08.3                                 | 138                                              | 40.9          |                                                  | 21.9    |                |          |                |       |
| 17  | 349                                      | 32.5 | 99                                                | 43.2                        | -21                                              | 08.8                                 | 153                                              | 43.1          | -5                                               | 22.0    |                |          |                |       |
| 18  | 4                                        | 35.0 | 114                                               | 42.3                        | -21                                              | 09.3                                 | 168                                              | 45.3          | -5                                               | 22.1    |                |          |                |       |
| 19  | 19                                       | 37.5 | 129                                               | 41.5                        |                                                  | 09.8                                 | 183                                              | 47.5          |                                                  | 22.2    |                |          |                |       |
| 20  | 34                                       | 39.9 | 144                                               | 40.6                        |                                                  | 10.4                                 | 198                                              | 49.7          |                                                  | 22.3    |                |          |                |       |
| 21  | 49                                       | 42.4 | 159                                               | 39.8                        |                                                  | 10.9                                 | 213                                              | 51.9          |                                                  | 22.4    |                |          |                |       |
| 22  | 64                                       | 44.8 | 174                                               | 39.0                        |                                                  | 11.4                                 | 228                                              | 54.1          |                                                  | 22.5    |                |          |                |       |
| 23  | 79                                       | 47.3 | 189                                               | 38.1                        |                                                  | 11.9                                 | 243                                              | 56.4          |                                                  | 22.6    |                |          |                |       |
| 24  | 94                                       | 49.8 | 204                                               | 37.3                        | -21                                              | 12.4                                 | 258                                              | 58.6          | -5                                               | 22.7    |                |          |                |       |
| Dif | —                                        |      | -8                                                |                             | -5                                               |                                      | +7                                               |               | -4                                               |         |                |          |                |       |
|     |                                          |      |                                                   |                             |                                                  |                                      | +22                                              |               | -1                                               |         |                |          |                |       |
|     |                                          |      |                                                   |                             |                                                  |                                      |                                                  |               | +27                                              |         |                |          |                |       |
|     |                                          |      |                                                   |                             |                                                  |                                      |                                                  |               | 0                                                |         |                |          |                |       |

| UT | SOL                                                |      |     | LUNA                                                      |      |     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |       | Puesta de Luna |       |    |
|----|----------------------------------------------------|------|-----|-----------------------------------------------------------|------|-----|---------|--------------------------|---------|---------------|----------------|-------|----------------|-------|----|
|    | SD: 16'3<br>PMG: 12 <sup>h</sup> 00 <sup>m</sup> 8 |      |     | Edad: 13 <sup>d</sup> 9 PHE {<br>SD: 14'7<br>PMG: *** **m |      |     |         |                          |         |               |                |       |                |       |    |
|    | hG ☉                                               | Dec  |     | hG ☾                                                      | Dif  | Dec |         | Dif                      | Náutico |               | Civil          | Hora  | Rº             | Hora  | Rº |
| h  | °                                                  | '    | °   | °                                                         | '    | °   | '       | h                        | m       | h             | m              | h     | m              | h     | m  |
| 0  | 179                                                | 52.1 | -23 | 7                                                         | 25.0 | +27 | 40.6    | 60 N                     | 7 09    | 8 06          | 9 04           | 13 34 | 66             | 10 15 | 42 |
| 1  | 194                                                | 51.8 |     | 21                                                        | 53.9 |     | 42.5    | 58                       | 7 02    | 7 54          | 8 46           | 14 09 | 62             | 9 40  | 45 |
| 2  | 209                                                | 51.5 |     | 36                                                        | 22.9 |     | 44.2    | 56                       | 6 55    | 44            | 32             | 35    | 60             | 9 15  | 46 |
| 3  | 224                                                | 51.2 |     | 50                                                        | 51.8 |     | 45.8    | 54                       | 49      | 35            | 19             | 14 55 | 59             | 8 55  | 44 |
| 4  | 239                                                | 50.9 |     | 65                                                        | 20.7 |     | 47.3    | 52                       | 43      | 27            | 8 08           | 15 12 | 58             | 38    | 48 |
| 5  | 254                                                | 50.6 | -23 | 79                                                        | 49.6 | +27 | 48.6    | 50                       | 6 38    | 7 20          | 7 58           | 15 27 | 57             | 8 23  | 49 |
| 6  | 269                                                | 50.3 | -23 | 94                                                        | 18.5 | +27 | 49.8    | 45                       | 6 26    | 7 03          | 7 37           | 15 56 | 56             | 7 54  | 49 |
| 7  | 284                                                | 50.0 |     | 108                                                       | 47.4 |     | 50.8    | 40                       | 16      | 6 50          | 21             | 16 19 | 55             | 31    | 49 |
| 8  | 299                                                | 49.7 |     | 123                                                       | 16.3 |     | 51.7    | 35                       | 6 07    | 38            | 7 06           | 38    | 55             | 7 12  | 50 |
| 9  | 314                                                | 49.3 |     | 137                                                       | 45.2 |     | 52.5    | 30                       | 5 58    | 28            | 6 54           | 16 55 | 53             | 6 55  | 51 |
| 10 | 329                                                | 49.0 |     | 152                                                       | 14.1 |     | 53.1    | 20                       | 41      | 6 09          | 33             | 17 22 | 53             | 28    | 51 |
| 11 | 344                                                | 48.7 | -23 | 166                                                       | 43.0 | +27 | 53.7    | 10 N                     | 5 25    | 5 52          | 6 14           | 17 46 | 52             | 6 04  | 51 |
| 12 | 359                                                | 48.4 | -23 | 181                                                       | 11.9 | +27 | 54.0    | 0                        | 5 08    | 5 34          | 5 57           | 18 08 | 51             | 5 42  | 51 |
| 13 | 14                                                 | 48.1 |     | 195                                                       | 40.8 |     | 54.3    | 10 S                     | 4 49    | 5 16          | 39             | 31    | 50             | 5 20  | 51 |
| 14 | 29                                                 | 47.8 |     | 210                                                       | 09.7 |     | 54.4    | 20                       | 4 27    | 4 56          | 5 21           | 18 54 | 50             | 4 56  | 52 |
| 15 | 44                                                 | 47.5 |     | 224                                                       | 38.6 |     | 54.3    | 30                       | 3 58    | 31            | 4 59           | 19 22 | 48             | 28    | 52 |
| 16 | 59                                                 | 47.2 |     | 239                                                       | 07.5 |     | 54.1    | 35                       | 39      | 4 16          | 46             | 39    | 47             | 4 12  | 52 |
| 17 | 74                                                 | 46.9 | -23 | 253                                                       | 36.4 | +27 | 53.8    | 40                       | 3 16    | 3 58          | 4 31           | 19 58 | 46             | 3 53  | 52 |
| 18 | 89                                                 | 46.6 | -23 | 268                                                       | 05.3 | +27 | 53.4    | 45                       | 2 45    | 3 35          | 4 13           | 20 21 | 44             | 3 30  | 52 |
| 19 | 104                                                | 46.3 |     | 282                                                       | 34.3 |     | 52.8    | 50                       | 2 00    | 3 05          | 3 50           | 20 50 | 43             | 3 00  | 52 |
| 20 | 119                                                | 46.0 |     | 297                                                       | 03.2 |     | 52.1    | 52                       | 1 32    | 2 50          | 39             | 21 05 | 42             | 2 46  | 52 |
| 21 | 134                                                | 45.7 |     | 311                                                       | 32.2 |     | 51.2    | 54                       | 0 47    | 33            | 27             | 22    | 40             | 29    | 52 |
| 22 | 149                                                | 45.4 |     | 326                                                       | 01.2 |     | 50.2    | 56                       | ** ** * | 2 10          | 3 13           | 21 43 | 37             | 2 09  | 51 |
| 23 | 164                                                | 45.0 |     | 340                                                       | 30.2 |     | 49.1    | 58                       | ** ** * | 1 41          | 2 56           | 22 08 | 35             | 1 43  | 52 |
| 24 | 179                                                | 44.7 | -23 | 354                                                       | 59.2 | +27 | 47.9    | 60 S                     | ** ** * | 0 51          | 2 36           | 22 44 | 27             | 1 09  | 51 |

| UT  | ARIES                                  |      | VENUS                                             |      |     | MARTE                                            |     |     | JÚPITER                                          |     |      | SATURNO                                          |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|-----|--------------------------------------------------|-----|-----|--------------------------------------------------|-----|------|--------------------------------------------------|------|-----|------|
|     | PMG: 17 <sup>h</sup> 37 <sup>m</sup> 8 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 22 <sup>m</sup> |      |     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 33 <sup>m</sup> |     |     | Mag: -2.0<br>PMG: 6 <sup>h</sup> 43 <sup>m</sup> |     |      | Mag: -0.3<br>PMG: 1 <sup>h</sup> 30 <sup>m</sup> |      |     |      |
|     | hG ♈                                   |      | hG ♀                                              | Dec  |     | hG ♂                                             | Dec |     | hG ♃                                             | Dec |      | hG ♄                                             | Dec  |     |      |
| h   | °                                      | '    | °                                                 | '    | °   | °                                                | '   | °   | °                                                | '   | °    | °                                                | '    | °   |      |
| 0   | 94                                     | 49.8 | 204                                               | 37.3 | -21 | 12.4                                             |     | 216 | 43.5                                             | -19 | 59.0 | 258                                              | 58.6 | -5  | 22.7 |
| 1   | 109                                    | 52.2 | 219                                               | 36.4 |     | 12.9                                             |     | 231 | 44.2                                             |     | 59.4 | 274                                              | 00.8 |     | 22.8 |
| 2   | 124                                    | 54.7 | 234                                               | 35.6 |     | 13.5                                             |     | 246 | 44.9                                             | -19 | 59.8 | 289                                              | 03.0 |     | 22.9 |
| 3   | 139                                    | 57.2 | 249                                               | 34.7 |     | 14.0                                             |     | 261 | 45.6                                             | -20 | 00.2 | 304                                              | 05.2 |     | 23.0 |
| 4   | 154                                    | 59.6 | 264                                               | 33.9 |     | 14.5                                             |     | 276 | 46.3                                             |     | 00.6 | 319                                              | 07.4 |     | 23.1 |
| 5   | 170                                    | 02.1 | 279                                               | 33.1 | -21 | 15.0                                             |     | 291 | 47.0                                             | -20 | 01.0 | 334                                              | 09.6 | -5  | 23.2 |
| 6   | 185                                    | 04.6 | 294                                               | 32.2 | -21 | 15.5                                             |     | 306 | 47.7                                             | -20 | 01.3 | 349                                              | 11.8 | -5  | 23.3 |
| 7   | 200                                    | 07.0 | 309                                               | 31.4 |     | 16.0                                             |     | 321 | 48.3                                             |     | 01.7 | 4                                                | 14.0 |     | 23.4 |
| 8   | 215                                    | 09.5 | 324                                               | 30.5 |     | 16.5                                             |     | 336 | 49.0                                             |     | 02.1 | 19                                               | 16.2 |     | 23.5 |
| 9   | 230                                    | 12.0 | 339                                               | 29.7 |     | 17.0                                             |     | 351 | 49.7                                             |     | 02.5 | 34                                               | 18.4 |     | 23.6 |
| 10  | 245                                    | 14.4 | 354                                               | 28.8 |     | 17.5                                             |     | 6   | 50.4                                             |     | 02.9 | 49                                               | 20.6 |     | 23.6 |
| 11  | 260                                    | 16.9 | 9                                                 | 28.0 | -21 | 18.0                                             |     | 21  | 51.1                                             | -20 | 03.2 | 64                                               | 22.8 | -5  | 23.7 |
| 12  | 275                                    | 19.3 | 24                                                | 27.1 | -21 | 18.5                                             |     | 36  | 51.8                                             | -20 | 03.6 | 79                                               | 25.0 | -5  | 23.8 |
| 13  | 290                                    | 21.8 | 39                                                | 26.3 |     | 19.0                                             |     | 51  | 52.5                                             |     | 04.0 | 94                                               | 27.2 |     | 23.9 |
| 14  | 305                                    | 24.3 | 54                                                | 25.4 |     | 19.6                                             |     | 66  | 53.1                                             |     | 04.4 | 109                                              | 29.5 |     | 24.0 |
| 15  | 320                                    | 26.7 | 69                                                | 24.6 |     | 20.1                                             |     | 81  | 53.8                                             |     | 04.8 | 124                                              | 31.7 |     | 24.1 |
| 16  | 335                                    | 29.2 | 84                                                | 23.7 |     | 20.6                                             |     | 96  | 54.5                                             |     | 05.2 | 139                                              | 33.9 |     | 24.2 |
| 17  | 350                                    | 31.7 | 99                                                | 22.9 | -21 | 21.0                                             |     | 111 | 55.2                                             | -20 | 05.5 | 154                                              | 36.1 | -5  | 24.3 |
| 18  | 5                                      | 34.1 | 114                                               | 22.0 | -21 | 21.5                                             |     | 126 | 55.9                                             | -20 | 05.9 | 169                                              | 38.3 | -5  | 24.4 |
| 19  | 20                                     | 36.6 | 129                                               | 21.2 |     | 22.0                                             |     | 141 | 56.6                                             |     | 06.3 | 184                                              | 40.5 |     | 24.5 |
| 20  | 35                                     | 39.1 | 144                                               | 20.3 |     | 22.5                                             |     | 156 | 57.2                                             |     | 06.7 | 199                                              | 42.7 |     | 24.6 |
| 21  | 50                                     | 41.5 | 159                                               | 19.5 |     | 23.0                                             |     | 171 | 57.9                                             |     | 07.1 | 214                                              | 44.9 |     | 24.7 |
| 22  | 65                                     | 44.0 | 174                                               | 18.6 |     | 23.5                                             |     | 186 | 58.6                                             |     | 07.4 | 229                                              | 47.1 |     | 24.8 |
| 23  | 80                                     | 46.5 | 189                                               | 17.8 |     | 24.0                                             |     | 201 | 59.3                                             |     | 07.8 | 244                                              | 49.3 |     | 24.9 |
| 24  | 95                                     | 48.9 | 204                                               | 16.9 | -21 | 24.5                                             |     | 217 | 00.0                                             | -20 | 08.2 | 259                                              | 51.6 | -5  | 25.0 |
| Dif | —                                      |      | -8                                                |      | -5  |                                                  |     | +7  |                                                  | -4  |      | +22                                              |      | -1  |      |
|     |                                        |      |                                                   |      |     |                                                  |     |     |                                                  |     |      |                                                  |      | +27 |      |

| UT  | SOL                                                |      |                                                   | ☾ LUNA                                                                                                                                                                         |                     |                                                  | Latitud | Puesta de Sol | Final del crepúsculo                             |       | Salida de Luna |                                                  | Puesta de Luna |          |
|-----|----------------------------------------------------|------|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------------------|---------|---------------|--------------------------------------------------|-------|----------------|--------------------------------------------------|----------------|----------|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> 3 |      |                                                   | Edad: 14 <sup>d</sup> 9 PHE { 4 <sup>h</sup> : 54'0<br>12 <sup>h</sup> : 53'9<br>20 <sup>h</sup> : 53'9<br>SD: 14:7<br>PMG: 0 <sup>h</sup> 21 <sup>m</sup> R°: 51 <sup>m</sup> |                     |                                                  |         |               |                                                  |       |                |                                                  |                |          |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                           | Dif                 | Dec                                              |         |               | Dif                                              | Civil | Náutico        | Hora                                             | R°             | Hora     |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                              | '                   | °                                                | '       | °             | h m                                              | h m   | h m            | h m m                                            | h m m          | h m m    |
| 0   | 179                                                | 44.7 | -23 19.4                                          | 354                                                                                                                                                                            | 59.2                | +27 47.9                                         |         | 60 N          | 14 59                                            | 15 57 | 16 53          | 14 40 84                                         | 10 57 19       |          |
| 1   | 194                                                | 44.4 | 19.3                                              | 9                                                                                                                                                                              | 28.2 <sup>100</sup> | 46.5                                             | 14      | 58            | 15 16                                            | 16 08 | 17 01          | 15 11 77                                         | 25 26          |          |
| 2   | 209                                                | 44.1 | 19.2                                              | 23                                                                                                                                                                             | 57.2 <sup>100</sup> | 45.0                                             | 15      | 56            | 31                                               | 18    | 07             | 35 73                                            | 10 01 31       |          |
| 3   | 224                                                | 43.8 | 19.1                                              | 38                                                                                                                                                                             | 26.3 <sup>101</sup> | 43.3                                             | 17      | 54            | 44                                               | 27    | 13             | 15 54 70                                         | 9 42 31        |          |
| 4   | 239                                                | 43.5 | 19.0                                              | 52                                                                                                                                                                             | 55.4 <sup>101</sup> | 41.5                                             | 18      | 52            | 15 55                                            | 35    | 19             | 16 10 67                                         | 26 35          |          |
| 5   | 254                                                | 43.2 | -23 18.8                                          | 67                                                                                                                                                                             | 24.5 <sup>101</sup> | +27 39.6                                         | 19      | 50            | 16 04                                            | 16 43 | 17 24          | 16 24 65                                         | 9 12 37        |          |
| 6   | 269                                                | 42.9 | -23 18.7                                          | 81                                                                                                                                                                             | 53.6 <sup>101</sup> | +27 37.5                                         | 21      | 45            | 16 25                                            | 16 59 | 17 36          | 16 52 62                                         | 8 43 40        |          |
| 7   | 284                                                | 42.6 | 18.6                                              | 96                                                                                                                                                                             | 22.8 <sup>102</sup> | 35.3                                             | 22      | 40            | 42                                               | 17 12 | 46             | 17 14 60                                         | 20 43          |          |
| 8   | 299                                                | 42.3 | 18.5                                              | 110                                                                                                                                                                            | 52.0 <sup>102</sup> | 33.0                                             | 23      | 35            | 16 56                                            | 24    | 17 56          | 33 57                                            | 8 02 44        |          |
| 9   | 314                                                | 42.0 | 18.4                                              | 125                                                                                                                                                                            | 21.2 <sup>102</sup> | 30.5                                             | 25      | 30            | 17 08                                            | 34    | 18 04          | 17 48 57                                         | 7 46 45        |          |
| 10  | 329                                                | 41.7 | 18.3                                              | 139                                                                                                                                                                            | 50.4 <sup>102</sup> | 27.9                                             | 26      | 20            | 29                                               | 17 53 | 21             | 18 15 54                                         | 7 19 47        |          |
| 11  | 344                                                | 41.4 | -23 18.2                                          | 154                                                                                                                                                                            | 19.7 <sup>103</sup> | +27 25.2                                         | 27      | 10 N          | 17 48                                            | 18 10 | 18 37          | 18 38 51                                         | 6 55 49        |          |
| 12  | 359                                                | 41.1 | -23 18.0                                          | 168                                                                                                                                                                            | 49.0 <sup>103</sup> | +27 22.4                                         | 28      | 0             | 18 05                                            | 18 28 | 18 54          | 18 59 50                                         | 6 33 51        |          |
| 13  | 14                                                 | 40.8 | 17.9                                              | 183                                                                                                                                                                            | 18.3 <sup>103</sup> | 19.4                                             | 30      | 10 S          | 22                                               | 18 46 | 19 13          | 19 21 47                                         | 6 11 52        |          |
| 14  | 29                                                 | 40.5 | 17.8                                              | 197                                                                                                                                                                            | 47.7 <sup>104</sup> | 16.3                                             | 31      | 20            | 18 41                                            | 19 06 | 19 35          | 19 44 45                                         | 5 48 53        |          |
| 15  | 44                                                 | 40.2 | 17.7                                              | 212                                                                                                                                                                            | 17.1 <sup>104</sup> | 13.0                                             | 33      | 30            | 19 03                                            | 31    | 20 04          | 20 10 42                                         | 20 55          |          |
| 16  | 59                                                 | 39.8 | 17.6                                              | 226                                                                                                                                                                            | 46.5 <sup>104</sup> | 09.7                                             | 33      | 35            | 16                                               | 19 46 | 23             | 26 40                                            | 5 04 56        |          |
| 17  | 74                                                 | 39.5 | -23 17.5                                          | 241                                                                                                                                                                            | 16.0 <sup>105</sup> | +27 06.2                                         | 35      | 40            | 19 31                                            | 20 04 | 20 46          | 20 44 38                                         | 4 45 58        |          |
| 18  | 89                                                 | 39.2 | -23 17.3                                          | 255                                                                                                                                                                            | 45.5 <sup>105</sup> | +27 02.5                                         | 37      | 45            | 19 49                                            | 20 26 | 21 16          | 21 05 36                                         | 4 22 59        |          |
| 19  | 104                                                | 38.9 | 17.2                                              | 270                                                                                                                                                                            | 15.0 <sup>105</sup> | +26 58.8                                         | 37      | 50            | 20 11                                            | 20 56 | 22 01          | 33 32                                            | 3 52 62        |          |
| 20  | 119                                                | 38.6 | 17.1                                              | 284                                                                                                                                                                            | 44.6 <sup>106</sup> | 54.9                                             | 39      | 52            | 22                                               | 21 11 | 22 28          | 21 47 30                                         | 38 63          |          |
| 21  | 134                                                | 38.3 | 17.0                                              | 299                                                                                                                                                                            | 14.2 <sup>106</sup> | 50.9                                             | 40      | 54            | 34                                               | 29    | 23 12          | 22 02 28                                         | 21 65          |          |
| 22  | 149                                                | 38.0 | 16.8                                              | 313                                                                                                                                                                            | 43.8 <sup>106</sup> | 46.7                                             | 42      | 56            | 20 49                                            | 21 51 | ** **          | 20 24                                            | 3 00 68        |          |
| 23  | 164                                                | 37.7 | 16.7                                              | 328                                                                                                                                                                            | 13.6 <sup>108</sup> | 42.5                                             | 42      | 58            | 21 05                                            | 22 20 | ** **          | 22 43 19                                         | 2 35 71        |          |
| 24  | 179                                                | 37.4 | -23 16.6                                          | 342                                                                                                                                                                            | 43.3 <sup>107</sup> | +26 38.1                                         | 44      | 60 S          | 21 25                                            | 23 08 | ** **          | 23 11 12                                         | 2 00 77        |          |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                |                     | MARTE                                            |         |               | JÚPITER                                          |       |                | SATURNO                                          |                |          |
|     | PMG: 17 <sup>h</sup> 33 <sup>m</sup> 9             |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 23 <sup>m</sup> |                                                                                                                                                                                |                     | Mag: +1.6<br>PMG: 9 <sup>h</sup> 32 <sup>m</sup> |         |               | Mag: -2.0<br>PMG: 6 <sup>h</sup> 40 <sup>m</sup> |       |                | Mag: -0.3<br>PMG: 1 <sup>h</sup> 26 <sup>m</sup> |                |          |
|     | hG ♈                                               |      | hG ♀                                              | Dec                                                                                                                                                                            |                     | hG ♂                                             | Dec     |               | hG ♃                                             | Dec   |                | hG ♄                                             | Dec            |          |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                              | °                   | '                                                | °       | '             | °                                                | '     | °              | '                                                | °              | '        |
| 0   | 95                                                 | 48.9 | 204                                               | 16.9                                                                                                                                                                           | -21 24.5            | 217                                              | 00.0    | -20 08.2      | 259                                              | 51.6  | -5 25.0        | 338                                              | 32.8           | +21 03.2 |
| 1   | 110                                                | 51.4 | 219                                               | 16.1                                                                                                                                                                           | 25.0                | 232                                              | 00.7    | 08.6          | 274                                              | 53.8  | 25.1           | 353                                              | 35.5           | 03.2     |
| 2   | 125                                                | 53.8 | 234                                               | 15.2                                                                                                                                                                           | 25.5                | 247                                              | 01.3    | 09.0          | 289                                              | 56.0  | 25.2           | 8                                                | 38.1           | 03.3     |
| 3   | 140                                                | 56.3 | 249                                               | 14.4                                                                                                                                                                           | 26.0                | 262                                              | 02.0    | 09.3          | 304                                              | 58.2  | 25.3           | 23                                               | 40.8           | 03.3     |
| 4   | 155                                                | 58.8 | 264                                               | 13.5                                                                                                                                                                           | 26.5                | 277                                              | 02.7    | 09.7          | 320                                              | 00.4  | 25.4           | 38                                               | 43.5           | 03.4     |
| 5   | 171                                                | 01.2 | 279                                               | 12.7                                                                                                                                                                           | -21 26.9            | 292                                              | 03.4    | -20 10.1      | 335                                              | 02.6  | -5 25.4        | 53                                               | 46.1           | +21 03.4 |
| 6   | 186                                                | 03.7 | 294                                               | 11.8                                                                                                                                                                           | -21 27.4            | 307                                              | 04.1    | -20 10.5      | 350                                              | 04.8  | -5 25.5        | 68                                               | 48.8           | +21 03.4 |
| 7   | 201                                                | 06.2 | 309                                               | 10.9                                                                                                                                                                           | 27.9                | 322                                              | 04.7    | 10.8          | 5                                                | 07.0  | 25.6           | 83                                               | 51.4           | 03.5     |
| 8   | 216                                                | 08.6 | 324                                               | 10.1                                                                                                                                                                           | 28.4                | 337                                              | 05.4    | 11.2          | 20                                               | 09.2  | 25.7           | 98                                               | 54.1           | 03.5     |
| 9   | 231                                                | 11.1 | 339                                               | 09.2                                                                                                                                                                           | 28.9                | 352                                              | 06.1    | 11.6          | 35                                               | 11.5  | 25.8           | 113                                              | 56.8           | 03.6     |
| 10  | 246                                                | 13.6 | 354                                               | 08.4                                                                                                                                                                           | 29.4                | 7                                                | 06.8    | 12.0          | 50                                               | 13.7  | 25.9           | 128                                              | 59.4           | 03.6     |
| 11  | 261                                                | 16.0 | 9                                                 | 07.5                                                                                                                                                                           | -21 29.8            | 22                                               | 07.5    | -20 12.3      | 65                                               | 15.9  | -5 26.0        | 144                                              | 02.1           | +21 03.6 |
| 12  | 276                                                | 18.5 | 24                                                | 06.7                                                                                                                                                                           | -21 30.3            | 37                                               | 08.1    | -20 12.7      | 80                                               | 18.1  | -5 26.1        | 159                                              | 04.7           | +21 03.7 |
| 13  | 291                                                | 21.0 | 39                                                | 05.8                                                                                                                                                                           | 30.8                | 52                                               | 08.8    | 13.1          | 95                                               | 20.3  | 26.2           | 174                                              | 07.4           | 03.7     |
| 14  | 306                                                | 23.4 | 54                                                | 05.0                                                                                                                                                                           | 31.3                | 67                                               | 09.5    | 13.5          | 110                                              | 22.5  | 26.3           | 189                                              | 10.1           | 03.7     |
| 15  | 321                                                | 25.9 | 69                                                | 04.1                                                                                                                                                                           | 31.7                | 82                                               | 10.2    | 13.8          | 125                                              | 24.7  | 26.4           | 204                                              | 12.7           | 03.8     |
| 16  | 336                                                | 28.3 | 84                                                | 03.2                                                                                                                                                                           | 32.2                | 97                                               | 10.9    | 14.2          | 140                                              | 27.0  | 26.5           | 219                                              | 15.4           | 03.8     |
| 17  | 351                                                | 30.8 | 99                                                | 02.4                                                                                                                                                                           | -21 32.7            | 112                                              | 11.5    | -20 14.6      | 155                                              | 29.2  | -5 26.6        | 234                                              | 18.1           | +21 03.9 |
| 18  | 6                                                  | 33.3 | 114                                               | 01.5                                                                                                                                                                           | -21 33.2            | 127                                              | 12.2    | -20 15.0      | 170                                              | 31.4  | -5 26.7        | 249                                              | 20.7           | +21 03.9 |
| 19  | 21                                                 | 35.7 | 129                                               | 00.7                                                                                                                                                                           | 33.6                | 142                                              | 12.9    | 15.3          | 185                                              | 33.6  | 26.8           | 264                                              | 23.4           | 03.9     |
| 20  | 36                                                 | 38.2 | 143                                               | 59.8                                                                                                                                                                           | 34.1                | 157                                              | 13.6    | 15.7          | 200                                              | 35.8  | 26.8           | 279                                              | 26.0           | 04.0     |
| 21  | 51                                                 | 40.7 | 158                                               | 58.9                                                                                                                                                                           | 34.6                | 172                                              | 14.2    | 16.1          | 215                                              | 38.0  | 26.9           | 294                                              | 28.7           | 04.0     |
| 22  | 66                                                 | 43.1 | 173                                               | 58.1                                                                                                                                                                           | 35.0                | 187                                              | 14.9    | 16.5          | 230                                              | 40.2  | 27.0           | 309                                              | 31.4           | 04.1     |
| 23  | 81                                                 | 45.6 | 188                                               | 57.2                                                                                                                                                                           | 35.5                | 202                                              | 15.6    | 16.8          | 245                                              | 42.5  | 27.1           | 324                                              | 34.0           | 04.1     |
| 24  | 96                                                 | 48.1 | 203                                               | 56.3                                                                                                                                                                           | -21 36.0            | 217                                              | 16.3    | -20 17.2      | 260                                              | 44.7  | -5 27.2        | 339                                              | 36.7           | +21 04.1 |
| Dif | —                                                  |      | -9                                                | -5                                                                                                                                                                             |                     | +7                                               | -4      |               | +22                                              | -1    |                | +27                                              | 0              |          |

| UT | SOL                                                |      |      |      | LUNA                                                                                                                                                                              |                     |     |                    | Latitud | Principio del crepúsculo |       | Salida de Sol | Salida de Luna |    | Puesta de Luna |    |    |
|----|----------------------------------------------------|------|------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-----|--------------------|---------|--------------------------|-------|---------------|----------------|----|----------------|----|----|
|    | SD: 16/3<br>PMG: 12 <sup>h</sup> 01 <sup>m</sup> 8 |      |      |      | Edad: 15 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 53/9<br>12 <sup>h</sup> : 54/0<br>20 <sup>h</sup> : 54/0<br>SD: 14/7<br>PMG: 1 <sup>h</sup> 12 <sup>m</sup> R°: 48 <sup>m</sup> |                     |     |                    |         | Náutico                  | Civil |               | Hora           | R° | Hora           | R° |    |
|    | hG ☉                                               | Dec  | hG ☾ | Dif  | Dec                                                                                                                                                                               | Dif                 |     |                    |         |                          |       |               |                |    |                |    |    |
| h  | °                                                  | '    | °    | '    | °                                                                                                                                                                                 | '                   | °   | '                  | °       | h                        | m     | h             | m              | h  | m              | h  | m  |
| 0  | 179                                                | 37.4 | -23  | 16.6 | 342                                                                                                                                                                               | 43.3                | +26 | 38.1               | 60 N    | 7                        | 10    | 8             | 06             | 9  | 04             | 16 | 04 |
| 1  | 194                                                | 37.1 |      | 16.5 | 357                                                                                                                                                                               | 13.1 <sup>108</sup> |     | 33.6 <sup>45</sup> | 58      | 7                        | 02    | 7             | 55             | 8  | 46             | 28 | 84 |
| 2  | 209                                                | 36.8 |      | 16.3 | 11                                                                                                                                                                                | 42.9 <sup>108</sup> |     | 28.9 <sup>47</sup> | 56      | 6                        | 55    | 44            | 32             | 16 | 48             | 78 | 32 |
| 3  | 224                                                | 36.5 |      | 16.2 | 26                                                                                                                                                                                | 12.8 <sup>109</sup> |     | 24.1 <sup>48</sup> | 54      | 49                       | 35    | 19            | 17             | 04 | 75             | 15 | 23 |
| 4  | 239                                                | 36.2 |      | 16.1 | 40                                                                                                                                                                                | 42.7 <sup>109</sup> |     | 19.3 <sup>48</sup> | 52      | 44                       | 27    | 8             | 08             | 17 | 73             | 10 | 01 |
| 5  | 254                                                | 35.9 | -23  | 15.9 | 55                                                                                                                                                                                | 12.7 <sup>110</sup> | +26 | 14.2 <sup>51</sup> | 50      | 6                        | 39    | 7             | 20             | 7  | 58             | 17 | 29 |
| 6  | 269                                                | 35.6 | -23  | 15.8 | 69                                                                                                                                                                                | 42.7 <sup>110</sup> | +26 | 09.1 <sup>51</sup> | 45      | 6                        | 27    | 7             | 04             | 7  | 38             | 17 | 54 |
| 7  | 284                                                | 35.3 |      | 15.7 | 84                                                                                                                                                                                | 12.7 <sup>110</sup> | +26 | 03.9 <sup>52</sup> | 40      | 17                       | 6     | 51            | 21             | 18 | 14             | 62 | 9  |
| 8  | 299                                                | 35.0 |      | 15.5 | 98                                                                                                                                                                                | 42.9 <sup>112</sup> | +25 | 58.5 <sup>54</sup> | 35      | 6                        | 07    | 39            | 7              | 07 | 30             | 60 | 8  |
| 9  | 314                                                | 34.7 |      | 15.4 | 113                                                                                                                                                                               | 13.0 <sup>111</sup> |     | 53.0 <sup>55</sup> | 30      | 5                        | 59    | 28            | 6              | 55 | 18             | 45 | 57 |
| 10 | 329                                                | 34.4 |      | 15.3 | 127                                                                                                                                                                               | 43.2 <sup>112</sup> |     | 47.4 <sup>56</sup> | 20      | 42                       | 6     | 10            | 34             | 19 | 09             | 53 | 8  |
| 11 | 344                                                | 34.1 | -23  | 15.1 | 142                                                                                                                                                                               | 13.5 <sup>113</sup> | +25 | 41.6 <sup>58</sup> | 10 N    | 5                        | 26    | 5             | 53             | 6  | 15             | 19 | 29 |
| 12 | 359                                                | 33.8 | -23  | 15.0 | 156                                                                                                                                                                               | 43.8 <sup>113</sup> | +25 | 35.8 <sup>58</sup> | 0       | 5                        | 09    | 5             | 35             | 5  | 58             | 19 | 49 |
| 13 | 14                                                 | 33.4 |      | 14.9 | 171                                                                                                                                                                               | 14.2 <sup>114</sup> |     | 29.8 <sup>60</sup> | 10 S    | 4                        | 50    | 5             | 17             | 41 | 20             | 08 | 44 |
| 14 | 29                                                 | 33.1 |      | 14.7 | 185                                                                                                                                                                               | 44.6 <sup>114</sup> |     | 23.7 <sup>61</sup> | 20      | 4                        | 28    | 4             | 57             | 22 | 29             | 41 | 6  |
| 15 | 44                                                 | 32.8 |      | 14.6 | 200                                                                                                                                                                               | 15.0 <sup>114</sup> |     | 17.5 <sup>62</sup> | 30      | 3                        | 59    | 32            | 5              | 00 | 20             | 52 | 38 |
| 16 | 59                                                 | 32.5 |      | 14.5 | 214                                                                                                                                                                               | 45.6 <sup>116</sup> |     | 11.2 <sup>63</sup> | 35      | 41                       | 4     | 17            | 4              | 47 | 21             | 06 | 35 |
| 17 | 74                                                 | 32.2 | -23  | 14.3 | 229                                                                                                                                                                               | 16.1 <sup>115</sup> | +25 | 04.8 <sup>64</sup> | 40      | 3                        | 18    | 3             | 59             | 4  | 32             | 21 | 22 |
| 18 | 89                                                 | 31.9 | -23  | 14.2 | 243                                                                                                                                                                               | 46.8 <sup>117</sup> | +24 | 58.2 <sup>66</sup> | 45      | 2                        | 47    | 3             | 37             | 4  | 14             | 21 | 41 |
| 19 | 104                                                | 31.6 |      | 14.0 | 258                                                                                                                                                                               | 17.5 <sup>117</sup> |     | 51.6 <sup>66</sup> | 50      | 2                        | 02    | 3             | 07             | 3  | 52             | 22 | 05 |
| 20 | 119                                                | 31.3 |      | 13.9 | 272                                                                                                                                                                               | 48.2 <sup>117</sup> |     | 44.8 <sup>68</sup> | 52      | 1                        | 35    | 2             | 52             | 41 | 17             | 21 | 41 |
| 21 | 134                                                | 31.0 |      | 13.8 | 287                                                                                                                                                                               | 19.0 <sup>118</sup> |     | 37.9 <sup>69</sup> | 54      | 0                        | 51    | 34            | 29             | 30 | 18             | 26 | 73 |
| 22 | 149                                                | 30.7 |      | 13.6 | 301                                                                                                                                                                               | 49.8 <sup>118</sup> |     | 30.9 <sup>70</sup> | 56      | ** ** *                  | 2     | 13            | 3              | 15 | 22             | 44 | 16 |
| 23 | 164                                                | 30.4 |      | 13.5 | 316                                                                                                                                                                               | 20.7 <sup>119</sup> |     | 23.8 <sup>71</sup> | 58      | ** ** *                  | 1     | 43            | 2              | 58 | 23             | 02 | 11 |
| 24 | 179                                                | 30.1 | -23  | 13.3 | 330                                                                                                                                                                               | 51.7 <sup>120</sup> | +24 | 16.6 <sup>72</sup> | 60 S    | ** ** *                  | 0     | 55            | 2              | 38 | 23             | 23 | 5  |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|
|     | PMG: 17 <sup>h</sup> 29 <sup>m</sup> 9 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 25 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 30 <sup>m</sup> |      | Mag: -2.0<br>PMG: 6 <sup>h</sup> 36 <sup>m</sup> |      | Mag: -0.3<br>PMG: 1 <sup>h</sup> 21 <sup>m</sup> |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |
| 0   | 96                                     | 48.1 | 203                                               | 56.3 | -21                                              | 36.0 | 217                                              | 16.3 | -20                                              | 17.2 |
| 1   | 111                                    | 50.5 | 218                                               | 55.5 |                                                  | 36.4 | 232                                              | 17.0 |                                                  | 17.6 |
| 2   | 126                                    | 53.0 | 233                                               | 54.6 |                                                  | 36.9 | 247                                              | 17.6 |                                                  | 17.9 |
| 3   | 141                                    | 55.5 | 248                                               | 53.8 |                                                  | 37.4 | 262                                              | 18.3 |                                                  | 18.3 |
| 4   | 156                                    | 57.9 | 263                                               | 52.9 |                                                  | 37.8 | 277                                              | 19.0 |                                                  | 18.7 |
| 5   | 172                                    | 00.4 | 278                                               | 52.0 | -21                                              | 38.3 | 292                                              | 19.7 | -20                                              | 19.1 |
| 6   | 187                                    | 02.8 | 293                                               | 51.2 | -21                                              | 38.7 | 307                                              | 20.3 | -20                                              | 19.4 |
| 7   | 202                                    | 05.3 | 308                                               | 50.3 |                                                  | 39.2 | 322                                              | 21.0 |                                                  | 19.8 |
| 8   | 217                                    | 07.8 | 323                                               | 49.4 |                                                  | 39.6 | 337                                              | 21.7 |                                                  | 20.2 |
| 9   | 232                                    | 10.2 | 338                                               | 48.6 |                                                  | 40.1 | 352                                              | 22.4 |                                                  | 20.5 |
| 10  | 247                                    | 12.7 | 353                                               | 47.7 |                                                  | 40.6 | 7                                                | 23.0 |                                                  | 20.9 |
| 11  | 262                                    | 15.2 | 8                                                 | 46.8 | -21                                              | 41.0 | 22                                               | 23.7 | -20                                              | 21.3 |
| 12  | 277                                    | 17.6 | 23                                                | 46.0 | -21                                              | 41.5 | 37                                               | 24.4 | -20                                              | 21.6 |
| 13  | 292                                    | 20.1 | 38                                                | 45.1 |                                                  | 41.9 | 52                                               | 25.1 |                                                  | 22.0 |
| 14  | 307                                    | 22.6 | 53                                                | 44.2 |                                                  | 42.4 | 67                                               | 25.7 |                                                  | 22.4 |
| 15  | 322                                    | 25.0 | 68                                                | 43.4 |                                                  | 42.8 | 82                                               | 26.4 |                                                  | 22.7 |
| 16  | 337                                    | 27.5 | 83                                                | 42.5 |                                                  | 43.3 | 97                                               | 27.1 |                                                  | 23.1 |
| 17  | 352                                    | 30.0 | 98                                                | 41.6 | -21                                              | 43.7 | 112                                              | 27.8 | -20                                              | 23.5 |
| 18  | 7                                      | 32.4 | 113                                               | 40.8 | -21                                              | 44.1 | 127                                              | 28.4 | -20                                              | 23.8 |
| 19  | 22                                     | 34.9 | 128                                               | 39.9 |                                                  | 44.6 | 142                                              | 29.1 |                                                  | 24.2 |
| 20  | 37                                     | 37.3 | 143                                               | 39.0 |                                                  | 45.0 | 157                                              | 29.8 |                                                  | 24.6 |
| 21  | 52                                     | 39.8 | 158                                               | 38.2 |                                                  | 45.5 | 172                                              | 30.5 |                                                  | 24.9 |
| 22  | 67                                     | 42.3 | 173                                               | 37.3 |                                                  | 45.9 | 187                                              | 31.1 |                                                  | 25.3 |
| 23  | 82                                     | 44.7 | 188                                               | 36.4 |                                                  | 46.4 | 202                                              | 31.8 |                                                  | 25.7 |
| 24  | 97                                     | 47.2 | 203                                               | 35.5 | -21                                              | 46.8 | 217                                              | 32.5 | -20                                              | 26.0 |
| Dif | —                                      |      | -9                                                |      | -5                                               |      | +7                                               |      | -4                                               |      |
|     |                                        |      |                                                   |      |                                                  |      |                                                  | +22  |                                                  | -1   |
|     |                                        |      |                                                   |      |                                                  |      |                                                  |      | +27                                              |      |

ALMANAQUE NÁUTICO PERSEUS

| UT | SOL                                                |      |     | LUNA                                                                             |     |                     | Latitud | Principio del crepúsculo |         | Salida de Sol | Salida de Luna |      | Puesta de Luna |       |       |          |
|----|----------------------------------------------------|------|-----|----------------------------------------------------------------------------------|-----|---------------------|---------|--------------------------|---------|---------------|----------------|------|----------------|-------|-------|----------|
|    | SD: 16'3<br>PMG: 12 <sup>h</sup> 02 <sup>m</sup> 7 |      |     | Edad: 17 <sup>d</sup> 9 PHE {<br>SD: 14'8<br>PMG: 2 <sup>h</sup> 47 <sup>m</sup> |     |                     |         |                          |         |               |                |      |                |       |       |          |
|    | hG ☉                                               | Dec  |     | hG ☾                                                                             | Dif | Dec                 |         | Dif                      | Náutico |               | Civil          | Hora | R°             | Hora  | R°    |          |
| h  | °                                                  | '    | °   | '                                                                                | °   | '                   | °       | '                        | h       | m             | h              | m    | h              | m     | h     | m        |
| 0  | 179                                                | 22.9 | -23 | 09.6                                                                             | 319 | 32.2                | +20     | 52.4                     | 60 N    | 7 10          | 8 06           | 9 03 | 19 04          | 88    | 11 28 | 1        |
| 1  | 194                                                | 22.6 |     | 09.4                                                                             | 334 | 04.7 <sup>135</sup> |         | 42.7 <sup>97</sup>       | 58      | 7 02          | 7 55           | 8 46 |                | 16 83 |       | 15 5     |
| 2  | 209                                                | 22.3 |     | 09.2                                                                             | 348 | 37.1 <sup>134</sup> |         | 32.9 <sup>98</sup>       | 56      | 6 56          | 45             | 32   |                | 26 80 | 11 04 | 9        |
| 3  | 224                                                | 22.0 |     | 09.1                                                                             | 3   | 09.7 <sup>136</sup> |         | 23.0 <sup>99</sup>       | 54      |               | 50             | 36   |                | 19    | 35 77 | 10 54 12 |
| 4  | 239                                                | 21.7 |     | 08.9                                                                             | 17  | 42.2 <sup>135</sup> |         | 13.0 <sup>100</sup>      | 52      |               | 44             | 28   | 8 08           | 43 74 |       | 46 14    |
| 5  | 254                                                | 21.4 | -23 | 08.7                                                                             | 32  | 14.9 <sup>137</sup> | +20     | 02.9 <sup>101</sup>      | 50      | 6 39          | 7 20           | 7 59 | 19 51          | 71    | 10 38 | 17       |
| 6  | 269                                                | 21.1 | -23 | 08.6                                                                             | 46  | 47.6 <sup>137</sup> | +19     | 52.8 <sup>101</sup>      | 45      | 6 27          | 7 04           | 7 38 | 20 06          | 66    | 10 21 | 22       |
| 7  | 284                                                | 20.8 |     | 08.4                                                                             | 61  | 20.3 <sup>137</sup> |         | 42.5 <sup>103</sup>      | 40      |               | 17             | 6 51 |                | 22    | 18 63 | 10 08 25 |
| 8  | 299                                                | 20.5 |     | 08.2                                                                             | 75  | 53.1 <sup>138</sup> |         | 32.2 <sup>103</sup>      | 35      | 6 08          | 40             | 7 08 |                | 29 59 | 9 56  | 28       |
| 9  | 314                                                | 20.2 |     | 08.1                                                                             | 90  | 26.0 <sup>139</sup> |         | 21.8 <sup>104</sup>      | 30      | 5 59          | 29             | 6 55 |                | 38 56 |       | 46 31    |
| 10 | 329                                                | 19.9 |     | 07.9                                                                             | 104 | 58.9 <sup>139</sup> |         | 11.3 <sup>105</sup>      | 20      |               | 43             | 6 11 |                | 35    | 20 54 | 51       |
| 11 | 344                                                | 19.6 | -23 | 07.7                                                                             | 119 | 31.9 <sup>140</sup> | +19     | 00.7 <sup>106</sup>      | 10 N    | 5 27          | 5 53           | 6 16 | 21 08          | 47    | 9 12  | 40       |
| 12 | 359                                                | 19.3 | -23 | 07.5                                                                             | 134 | 04.9 <sup>140</sup> | +18     | 50.1 <sup>106</sup>      | 0       | 5 10          | 5 36           | 5 59 | 21 21          | 43    | 8 58  | 43       |
| 13 | 14                                                 | 19.0 |     | 07.4                                                                             | 148 | 38.0 <sup>141</sup> |         | 39.3 <sup>108</sup>      | 10 S    | 4 52          | 5 19           | 42   |                | 34 38 |       | 43 48    |
| 14 | 29                                                 | 18.7 |     | 07.2                                                                             | 163 | 11.1 <sup>141</sup> |         | 28.5 <sup>108</sup>      | 20      |               | 29             | 4 58 | 23             | 21 47 | 35    | 27 52    |
| 15 | 44                                                 | 18.4 |     | 07.0                                                                             | 177 | 44.3 <sup>142</sup> |         | 17.6 <sup>109</sup>      | 30      | 4 00          |                | 34   | 5 01           | 22 03 | 30    | 8 09 56  |
| 16 | 59                                                 | 18.1 |     | 06.8                                                                             | 192 | 17.5 <sup>142</sup> | +18     | 06.6 <sup>110</sup>      | 35      | 3 42          |                | 19   | 4 48           |       | 12 27 | 7 58 59  |
| 17 | 74                                                 | 17.8 | -23 | 06.7                                                                             | 206 | 50.8 <sup>143</sup> | +17     | 55.6 <sup>110</sup>      | 40      | 3 19          | 4 01           | 4 33 | 22 22          | 24    | 7 46  | 62       |
| 18 | 89                                                 | 17.5 | -23 | 06.5                                                                             | 221 | 24.1 <sup>143</sup> | +17     | 44.4 <sup>112</sup>      | 45      | 2 49          | 3 38           | 4 16 | 22 34          | 20    | 7 31  | 67       |
| 19 | 104                                                | 17.2 |     | 06.3                                                                             | 235 | 57.5 <sup>144</sup> |         | 33.2 <sup>112</sup>      | 50      | 2 05          | 3 09           | 3 53 |                | 48 15 |       | 14 71    |
| 20 | 119                                                | 16.9 |     | 06.1                                                                             | 250 | 30.9 <sup>144</sup> |         | 22.0 <sup>112</sup>      | 52      | 1 38          | 2 54           | 43   | 22 55          | 13    | 7 05  | 74       |
| 21 | 134                                                | 16.6 |     | 05.9                                                                             | 265 | 04.4 <sup>145</sup> | +17     | 10.6 <sup>114</sup>      | 54      | 0 55          |                | 37   | 31             | 23 02 | 11    | 6 56 76  |
| 22 | 149                                                | 16.3 |     | 05.8                                                                             | 279 | 37.9 <sup>145</sup> | +16     | 59.2 <sup>114</sup>      | 56      | ** **         | 2 15           | 17   |                | 10 8  |       | 45 80    |
| 23 | 164                                                | 16.0 |     | 05.6                                                                             | 294 | 11.5 <sup>146</sup> |         | 47.7 <sup>115</sup>      | 58      | ** **         | 1 46           | 3 00 |                | 20 4  |       | 32 84    |
| 24 | 179                                                | 15.7 | -23 | 05.4                                                                             | 308 | 45.1 <sup>146</sup> | +16     | 36.1 <sup>116</sup>      | 60 S    | ** **         | 1 00           | 2 40 | 23 30          | 1     | 6 18  | 89       |

| UT  | ARIES                                  |      | VENUS                                             |      | MARTE                                            |      | JÚPITER                                          |      | SATURNO                                          |      |     |      |    |      |     |      |     |      |
|-----|----------------------------------------|------|---------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|--------------------------------------------------|------|-----|------|----|------|-----|------|-----|------|
|     | PMG: 17 <sup>h</sup> 22 <sup>m</sup> 1 |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 28 <sup>m</sup> |      | Mag: +1.6<br>PMG: 9 <sup>h</sup> 28 <sup>m</sup> |      | Mag: -2.0<br>PMG: 6 <sup>h</sup> 29 <sup>m</sup> |      | Mag: -0.3<br>PMG: 1 <sup>h</sup> 13 <sup>m</sup> |      |     |      |    |      |     |      |     |      |
|     | hG ♈                                   | Dec  | hG ♀                                              | Dec  | hG ♂                                             | Dec  | hG ♃                                             | Dec  | hG ♄                                             | Dec  |     |      |    |      |     |      |     |      |
| h   | °                                      | '    | °                                                 | '    | °                                                | '    | °                                                | '    | °                                                | '    |     |      |    |      |     |      |     |      |
| 0   | 98                                     | 46.3 | 203                                               | 14.5 | -21                                              | 57.0 | 217                                              | 48.6 | -20                                              | 34.7 | 262 | 31.3 | -5 | 31.5 | 341 | 44.6 | +21 | 06.0 |
| 1   | 113                                    | 48.8 | 218                                               | 13.7 |                                                  | 57.4 | 232                                              | 49.2 |                                                  | 35.1 | 277 | 33.6 |    | 31.6 | 356 | 47.2 |     | 06.0 |
| 2   | 128                                    | 51.3 | 233                                               | 12.8 |                                                  | 57.8 | 247                                              | 49.9 |                                                  | 35.4 | 292 | 35.8 |    | 31.7 | 11  | 49.9 |     | 06.1 |
| 3   | 143                                    | 53.7 | 248                                               | 11.9 |                                                  | 58.2 | 262                                              | 50.6 |                                                  | 35.8 | 307 | 38.0 |    | 31.8 | 26  | 52.6 |     | 06.1 |
| 4   | 158                                    | 56.2 | 263                                               | 11.0 |                                                  | 58.6 | 277                                              | 51.2 |                                                  | 36.1 | 322 | 40.3 |    | 31.8 | 41  | 55.2 |     | 06.2 |
| 5   | 173                                    | 58.7 | 278                                               | 10.1 | -21                                              | 59.0 | 292                                              | 51.9 | -20                                              | 36.5 | 337 | 42.5 | -5 | 31.9 | 56  | 57.9 | +21 | 06.2 |
| 6   | 189                                    | 01.1 | 293                                               | 09.3 | -21                                              | 59.4 | 307                                              | 52.6 | -20                                              | 36.8 | 352 | 44.7 | -5 | 32.0 | 72  | 00.6 | +21 | 06.2 |
| 7   | 204                                    | 03.6 | 308                                               | 08.4 | -21                                              | 59.8 | 322                                              | 53.2 |                                                  | 37.2 | 7   | 46.9 |    | 32.1 | 87  | 03.2 |     | 06.3 |
| 8   | 219                                    | 06.1 | 323                                               | 07.5 | -22                                              | 00.2 | 337                                              | 53.9 |                                                  | 37.6 | 22  | 49.2 |    | 32.2 | 102 | 05.9 |     | 06.3 |
| 9   | 234                                    | 08.5 | 338                                               | 06.6 |                                                  | 00.6 | 352                                              | 54.6 |                                                  | 37.9 | 37  | 51.4 |    | 32.3 | 117 | 08.6 |     | 06.4 |
| 10  | 249                                    | 11.0 | 353                                               | 05.7 |                                                  | 01.0 | 7                                                | 55.2 |                                                  | 38.3 | 52  | 53.6 |    | 32.4 | 132 | 11.2 |     | 06.4 |
| 11  | 264                                    | 13.4 | 8                                                 | 04.8 | -22                                              | 01.4 | 22                                               | 55.9 | -20                                              | 38.6 | 67  | 55.9 | -5 | 32.4 | 147 | 13.9 | +21 | 06.4 |
| 12  | 279                                    | 15.9 | 23                                                | 04.0 | -22                                              | 01.8 | 37                                               | 56.6 | -20                                              | 39.0 | 82  | 58.1 | -5 | 32.5 | 162 | 16.6 | +21 | 06.5 |
| 13  | 294                                    | 18.4 | 38                                                | 03.1 |                                                  | 02.2 | 52                                               | 57.2 |                                                  | 39.3 | 98  | 00.3 |    | 32.6 | 177 | 19.2 |     | 06.5 |
| 14  | 309                                    | 20.8 | 53                                                | 02.2 |                                                  | 02.6 | 67                                               | 57.9 |                                                  | 39.7 | 113 | 02.6 |    | 32.7 | 192 | 21.9 |     | 06.6 |
| 15  | 324                                    | 23.3 | 68                                                | 01.3 |                                                  | 03.0 | 82                                               | 58.6 |                                                  | 40.0 | 128 | 04.8 |    | 32.8 | 207 | 24.6 |     | 06.6 |
| 16  | 339                                    | 25.8 | 83                                                | 00.4 |                                                  | 03.4 | 97                                               | 59.2 |                                                  | 40.4 | 143 | 07.0 |    | 32.9 | 222 | 27.3 |     | 06.6 |
| 17  | 354                                    | 28.2 | 97                                                | 59.5 | -22                                              | 03.8 | 112                                              | 59.9 | -20                                              | 40.7 | 158 | 09.3 | -5 | 33.0 | 237 | 29.9 | +21 | 06.7 |
| 18  | 9                                      | 30.7 | 112                                               | 58.6 | -22                                              | 04.2 | 128                                              | 00.6 | -20                                              | 41.1 | 173 | 11.5 | -5 | 33.0 | 252 | 32.6 | +21 | 06.7 |
| 19  | 24                                     | 33.2 | 127                                               | 57.8 |                                                  | 04.6 | 143                                              | 01.2 |                                                  | 41.5 | 188 | 13.7 |    | 33.1 | 267 | 35.3 |     | 06.7 |
| 20  | 39                                     | 35.6 | 142                                               | 56.9 |                                                  | 05.0 | 158                                              | 01.9 |                                                  | 41.8 | 203 | 16.0 |    | 33.2 | 282 | 37.9 |     | 06.8 |
| 21  | 54                                     | 38.1 | 157                                               | 56.0 |                                                  | 05.4 | 173                                              | 02.5 |                                                  | 42.2 | 218 | 18.2 |    | 33.3 | 297 | 40.6 |     | 06.8 |
| 22  | 69                                     | 40.6 | 172                                               | 55.1 |                                                  | 05.8 | 188                                              | 03.2 |                                                  | 42.5 | 233 | 20.4 |    | 33.4 | 312 | 43.3 |     | 06.9 |
| 23  | 84                                     | 43.0 | 187                                               | 54.2 |                                                  | 06.1 | 203                                              | 03.9 |                                                  | 42.9 | 248 | 22.7 |    | 33.5 | 327 | 45.9 |     | 06.9 |
| 24  | 99                                     | 45.5 | 202                                               | 53.3 | -22                                              | 06.5 | 218                                              | 04.5 | -20                                              | 43.2 | 263 | 24.9 | -5 | 33.6 | 342 | 48.6 | +21 | 06.9 |
| Dif | —                                      |      | -9                                                |      | -4                                               |      | +7                                               |      | -4                                               |      | +22 |      | -1 |      | +27 |      |     |      |



| UT  | SOL                                                |      |                                                   | LUNA                                                                                                                                                                              |                                                  |                         | Latitud                                          | Puesta de Sol | Final del crepúsculo                             |          | Salida de Luna |          | Puesta de Luna |       |
|-----|----------------------------------------------------|------|---------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|-------------------------|--------------------------------------------------|---------------|--------------------------------------------------|----------|----------------|----------|----------------|-------|
|     | SD: 16:3<br>PMG: 12 <sup>h</sup> 03 <sup>m</sup> 2 |      |                                                   | Edad: 18 <sup>d</sup> 9 PHE {<br>4 <sup>h</sup> : 54/5<br>12 <sup>h</sup> : 54/6<br>20 <sup>h</sup> : 54/8<br>SD: 14/8<br>PMG: 3 <sup>h</sup> 31 <sup>m</sup> R°: 43 <sup>m</sup> |                                                  |                         |                                                  |               |                                                  |          |                |          |                |       |
|     | hG ☉                                               | Dec  |                                                   | hG ☾                                                                                                                                                                              | Dif                                              | Dec                     |                                                  |               | Dif                                              | Civil    | Náutico        | Hora     | R°             | Hora  |
| h   | °                                                  | '    | °                                                 | °                                                                                                                                                                                 | '                                                | °                       | '                                                | °             | h m                                              | h m      | h m            | h m m    | h m m          | h m m |
| 0   | 179                                                | 15.7 | -23 05.4                                          | 308                                                                                                                                                                               | 45.1                                             | +16 36.1                |                                                  | 60 N          | 15 04                                            | 16 01    | 16 57          | 20 32 86 | 11 29 0        |       |
| 1   | 194                                                | 15.4 |                                                   | 323                                                                                                                                                                               | 18.7 <sup>146</sup>                              | 24.4 <sup>117</sup>     |                                                  | 58            | 21                                               | 12       | 17 04          | 39 82    | 20 4           |       |
| 2   | 209                                                | 15.1 |                                                   | 337                                                                                                                                                                               | 52.4 <sup>147</sup>                              | 12.7 <sup>117</sup>     |                                                  | 56            | 35                                               | 22       | 11             | 46 79    | 13 7           |       |
| 3   | 224                                                | 14.8 |                                                   | 352                                                                                                                                                                               | 26.2 <sup>148</sup>                              | +16 00.9 <sup>118</sup> |                                                  | 54            | 47                                               | 31       | 17             | 52 76    | 06 10          |       |
| 4   | 239                                                | 14.5 |                                                   | 7                                                                                                                                                                                 | 00.0 <sup>148</sup>                              | +15 49.1 <sup>118</sup> |                                                  | 52            | 15 58                                            | 39       | 22             | 20 57 73 | 11 00 12       |       |
| 5   | 254                                                | 14.2 | -23 04.5                                          | 21                                                                                                                                                                                | 33.8 <sup>148</sup>                              | +15 37.2 <sup>119</sup> |                                                  | 50            | 16 08                                            | 16 46    | 17 28          | 21 02 71 | 10 55 14       |       |
| 6   | 269                                                | 13.9 | -23 04.3                                          | 36                                                                                                                                                                                | 07.7 <sup>149</sup>                              | +15 25.2 <sup>120</sup> |                                                  | 45            | 16 28                                            | 17 02    | 17 39          | 21 12 66 | 10 43 19       |       |
| 7   | 284                                                | 13.6 |                                                   | 50                                                                                                                                                                                | 41.6 <sup>149</sup>                              | 13.1 <sup>121</sup>     |                                                  | 40            | 45                                               | 15       | 49             | 21 62    | 33 23          |       |
| 8   | 299                                                | 13.3 |                                                   | 65                                                                                                                                                                                | 15.6 <sup>150</sup>                              | +15 01.0 <sup>121</sup> |                                                  | 35            | 16 59                                            | 27       | 17 58          | 28 58    | 24 26          |       |
| 9   | 314                                                | 13.0 |                                                   | 79                                                                                                                                                                                | 49.6 <sup>150</sup>                              | +14 48.8 <sup>122</sup> |                                                  | 30            | 17 11                                            | 37       | 18 07          | 34 56    | 17 29          |       |
| 10  | 329                                                | 12.7 |                                                   | 94                                                                                                                                                                                | 23.6 <sup>150</sup>                              | 36.5 <sup>123</sup>     |                                                  | 20            | 32                                               | 17 56    | 23             | 45 50    | 10 04 34       |       |
| 11  | 344                                                | 12.4 | -23 03.3                                          | 108                                                                                                                                                                               | 57.7 <sup>151</sup>                              | +14 24.2 <sup>123</sup> |                                                  | 10 N          | 17 50                                            | 18 13    | 18 39          | 21 55 45 | 9 52 38        |       |
| 12  | 359                                                | 12.1 | -23 03.1                                          | 123                                                                                                                                                                               | 31.8 <sup>151</sup>                              | +14 11.8 <sup>124</sup> |                                                  | 0             | 18 07                                            | 18 29    | 18 56          | 22 04 41 | 9 41 43        |       |
| 13  | 14                                                 | 11.8 |                                                   | 138                                                                                                                                                                               | 05.9 <sup>151</sup>                              | +13 59.4 <sup>124</sup> |                                                  | 10 S          | 24                                               | 18 47    | 19 14          | 12 38    | 31 46          |       |
| 14  | 29                                                 | 11.5 |                                                   | 152                                                                                                                                                                               | 40.1 <sup>152</sup>                              | 46.9 <sup>125</sup>     |                                                  | 20            | 18 43                                            | 19 07    | 19 36          | 22 33    | 19 50          |       |
| 15  | 44                                                 | 11.2 |                                                   | 167                                                                                                                                                                               | 14.3 <sup>152</sup>                              | 34.3 <sup>126</sup>     |                                                  | 30            | 19 04                                            | 32       | 20 05          | 33 28    | 9 05 56        |       |
| 16  | 59                                                 | 10.9 |                                                   | 181                                                                                                                                                                               | 48.6 <sup>153</sup>                              | 21.7 <sup>126</sup>     |                                                  | 35            | 17                                               | 19 47    | 23             | 39 25    | 8 57 59        |       |
| 17  | 74                                                 | 10.6 | -23 02.1                                          | 196                                                                                                                                                                               | 22.9 <sup>153</sup>                              | +13 09.0 <sup>127</sup> |                                                  | 40            | 19 32                                            | 20 05    | 20 46          | 22 46 21 | 8 48 62        |       |
| 18  | 89                                                 | 10.3 | -23 01.9                                          | 210                                                                                                                                                                               | 57.2 <sup>153</sup>                              | +12 56.2 <sup>128</sup> |                                                  | 45            | 19 50                                            | 20 27    | 21 16          | 22 54 18 | 8 38 66        |       |
| 19  | 104                                                | 10.1 |                                                   | 225                                                                                                                                                                               | 31.6 <sup>154</sup>                              | 43.4 <sup>128</sup>     |                                                  | 50            | 20 12                                            | 20 56    | 22 00          | 23 03 14 | 25 71          |       |
| 20  | 119                                                | 09.8 |                                                   | 240                                                                                                                                                                               | 06.0 <sup>154</sup>                              | 30.6 <sup>128</sup>     |                                                  | 52            | 22                                               | 21 10    | 22 26          | 08 11    | 19 73          |       |
| 21  | 134                                                | 09.5 |                                                   | 254                                                                                                                                                                               | 40.4 <sup>154</sup>                              | 17.6 <sup>130</sup>     |                                                  | 54            | 34                                               | 28       | 23 06          | 13 9     | 12 76          |       |
| 22  | 149                                                | 09.2 |                                                   | 269                                                                                                                                                                               | 14.8 <sup>154</sup>                              | +12 04.7 <sup>129</sup> |                                                  | 56            | 20 48                                            | 21 49    | ** **          | 18 6     | 8 05 79        |       |
| 23  | 164                                                | 08.9 |                                                   | 283                                                                                                                                                                               | 49.3 <sup>155</sup>                              | +11 51.6 <sup>131</sup> |                                                  | 58            | 21 04                                            | 22 17    | ** **          | 24 3     | 7 56 83        |       |
| 24  | 179                                                | 08.6 | -23 00.7                                          | 298                                                                                                                                                                               | 23.8 <sup>155</sup>                              | +11 38.6 <sup>130</sup> |                                                  | 60 S          | 21 24                                            | 23 01    | ** **          | 23 31 0  | 7 47 86        |       |
| UT  | ARIES                                              |      | VENUS                                             |                                                                                                                                                                                   | MARTE                                            |                         | JÚPITER                                          |               | SATURNO                                          |          |                |          |                |       |
|     | PMG<br>17 <sup>h</sup> 18 <sup>m</sup> 1           |      | Mag: -3.9<br>PMG: 10 <sup>h</sup> 29 <sup>m</sup> |                                                                                                                                                                                   | Mag: +1.6<br>PMG: 9 <sup>h</sup> 27 <sup>m</sup> |                         | Mag: -2.0<br>PMG: 6 <sup>h</sup> 25 <sup>m</sup> |               | Mag: -0.3<br>PMG: 1 <sup>h</sup> 09 <sup>m</sup> |          |                |          |                |       |
|     | hG ♈                                               | Dec  | hG ♀                                              | Dec                                                                                                                                                                               | hG ♂                                             | Dec                     | hG ♃                                             | Dec           | hG ♄                                             | Dec      |                |          |                |       |
| h   | °                                                  | '    | °                                                 | '                                                                                                                                                                                 | °                                                | '                       | °                                                | '             | °                                                | '        |                |          |                |       |
| 0   | 99                                                 | 45.5 | 202 53.3                                          | -22 06.5                                                                                                                                                                          | 218 04.5                                         | -20 43.2                | 263 24.9                                         | -5 33.6       | 342 48.6                                         | +21 06.9 |                |          |                |       |
| 1   | 114                                                | 47.9 | 217 52.4                                          | 06.9                                                                                                                                                                              | 233 05.2                                         | 43.6                    | 278 27.1                                         | 33.6          | 357 51.3                                         | 07.0     |                |          |                |       |
| 2   | 129                                                | 50.4 | 232 51.5                                          | 07.3                                                                                                                                                                              | 248 05.9                                         | 43.9                    | 293 29.4                                         | 33.7          | 12 53.9                                          | 07.0     |                |          |                |       |
| 3   | 144                                                | 52.9 | 247 50.7                                          | 07.7                                                                                                                                                                              | 263 06.5                                         | 44.3                    | 308 31.6                                         | 33.8          | 27 56.6                                          | 07.1     |                |          |                |       |
| 4   | 159                                                | 55.3 | 262 49.8                                          | 08.1                                                                                                                                                                              | 278 07.2                                         | 44.6                    | 323 33.8                                         | 33.9          | 42 59.3                                          | 07.1     |                |          |                |       |
| 5   | 174                                                | 57.8 | 277 48.9                                          | -22 08.4                                                                                                                                                                          | 293 07.8                                         | -20 45.0                | 338 36.1                                         | -5 34.0       | 58 01.9                                          | +21 07.1 |                |          |                |       |
| 6   | 190                                                | 00.3 | 292 48.0                                          | -22 08.8                                                                                                                                                                          | 308 08.5                                         | -20 45.3                | 353 38.3                                         | -5 34.1       | 73 04.6                                          | +21 07.2 |                |          |                |       |
| 7   | 205                                                | 02.7 | 307 47.1                                          | 09.2                                                                                                                                                                              | 323 09.2                                         | 45.7                    | 8 40.5                                           | 34.1          | 88 07.3                                          | 07.2     |                |          |                |       |
| 8   | 220                                                | 05.2 | 322 46.2                                          | 09.6                                                                                                                                                                              | 338 09.8                                         | 46.0                    | 23 42.8                                          | 34.2          | 103 09.9                                         | 07.3     |                |          |                |       |
| 9   | 235                                                | 07.7 | 337 45.3                                          | 09.9                                                                                                                                                                              | 353 10.5                                         | 46.4                    | 38 45.0                                          | 34.3          | 118 12.6                                         | 07.3     |                |          |                |       |
| 10  | 250                                                | 10.1 | 352 44.4                                          | 10.3                                                                                                                                                                              | 8 11.2                                           | 46.7                    | 53 47.2                                          | 34.4          | 133 15.3                                         | 07.3     |                |          |                |       |
| 11  | 265                                                | 12.6 | 7 43.5                                            | -22 10.7                                                                                                                                                                          | 23 11.8                                          | -20 47.0                | 68 49.5                                          | -5 34.5       | 148 17.9                                         | +21 07.4 |                |          |                |       |
| 12  | 280                                                | 15.0 | 22 42.6                                           | -22 11.1                                                                                                                                                                          | 38 12.5                                          | -20 47.4                | 83 51.7                                          | -5 34.6       | 163 20.6                                         | +21 07.4 |                |          |                |       |
| 13  | 295                                                | 17.5 | 37 41.8                                           | 11.4                                                                                                                                                                              | 53 13.1                                          | 47.7                    | 98 53.9                                          | 34.6          | 178 23.3                                         | 07.5     |                |          |                |       |
| 14  | 310                                                | 20.0 | 52 40.9                                           | 11.8                                                                                                                                                                              | 68 13.8                                          | 48.1                    | 113 56.2                                         | 34.7          | 193 26.0                                         | 07.5     |                |          |                |       |
| 15  | 325                                                | 22.4 | 67 40.0                                           | 12.2                                                                                                                                                                              | 83 14.5                                          | 48.4                    | 128 58.4                                         | 34.8          | 208 28.6                                         | 07.5     |                |          |                |       |
| 16  | 340                                                | 24.9 | 82 39.1                                           | 12.5                                                                                                                                                                              | 98 15.1                                          | 48.8                    | 144 00.7                                         | 34.9          | 223 31.3                                         | 07.6     |                |          |                |       |
| 17  | 355                                                | 27.4 | 97 38.2                                           | -22 12.9                                                                                                                                                                          | 113 15.8                                         | -20 49.1                | 159 02.9                                         | -5 35.0       | 238 34.0                                         | +21 07.6 |                |          |                |       |
| 18  | 10                                                 | 29.8 | 112 37.3                                          | -22 13.3                                                                                                                                                                          | 128 16.4                                         | -20 49.5                | 174 05.1                                         | -5 35.0       | 253 36.6                                         | +21 07.7 |                |          |                |       |
| 19  | 25                                                 | 32.3 | 127 36.4                                          | 13.6                                                                                                                                                                              | 143 17.1                                         | 49.8                    | 189 07.4                                         | 35.1          | 268 39.3                                         | 07.7     |                |          |                |       |
| 20  | 40                                                 | 34.8 | 142 35.5                                          | 14.0                                                                                                                                                                              | 158 17.8                                         | 50.2                    | 204 09.6                                         | 35.2          | 283 42.0                                         | 07.7     |                |          |                |       |
| 21  | 55                                                 | 37.2 | 157 34.6                                          | 14.3                                                                                                                                                                              | 173 18.4                                         | 50.5                    | 219 11.9                                         | 35.3          | 298 44.6                                         | 07.8     |                |          |                |       |
| 22  | 70                                                 | 39.7 | 172 33.7                                          | 14.7                                                                                                                                                                              | 188 19.1                                         | 50.9                    | 234 14.1                                         | 35.4          | 313 47.3                                         | 07.8     |                |          |                |       |
| 23  | 85                                                 | 42.2 | 187 32.8                                          | 15.1                                                                                                                                                                              | 203 19.7                                         | 51.2                    | 249 16.3                                         | 35.5          | 328 50.0                                         | 07.9     |                |          |                |       |
| 24  | 100                                                | 44.6 | 202 31.9                                          | -22 15.4                                                                                                                                                                          | 218 20.4                                         | -20 51.5                | 264 18.6                                         | -5 35.5       | 343 52.7                                         | +21 07.9 |                |          |                |       |
| Dif | —                                                  |      | -9                                                | -4                                                                                                                                                                                | +7                                               | -3                      | +22                                              | -1            | +27                                              | 0        |                |          |                |       |

| Nº                     | NOMBRE             | Mag  |            | Ene  | Feb  | Mar  | Abr  | May  | Jun  | Jul  | Ago  | Sep  | Oct  | Nov  | Dic  |
|------------------------|--------------------|------|------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                        |                    |      | o          | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    |
| 1 - $\alpha$ And       | <i>Alpheratz</i>   | 2.1  | <b>357</b> | 51.4 | 51.5 | 51.5 | 51.4 | 51.3 | 51.0 | 50.7 | 50.5 | 50.4 | 50.4 | 50.4 | 50.5 |
| 2 - $\beta$ Cas        | <i>Caph</i>        | 2.3  | <b>357</b> | 39.6 | 39.8 | 39.9 | 39.8 | 39.6 | 39.2 | 38.8 | 38.5 | 38.3 | 38.3 | 38.4 | 38.6 |
| 3 - $\gamma$ Peg       | <i>Algenib</i>     | 2.8  | <b>356</b> | 38.7 | 38.7 | 38.7 | 38.7 | 38.5 | 38.3 | 38.0 | 37.8 | 37.7 | 37.6 | 37.7 | 37.7 |
| 4 - $\alpha$ Phe       | <i>Ankaa</i>       | 2.4  | <b>353</b> | 23.0 | 23.1 | 23.1 | 23.0 | 22.9 | 22.6 | 22.3 | 22.0 | 21.9 | 21.8 | 21.9 | 22.0 |
| 5 - $\alpha$ Cas       | <i>Schedar</i>     | 2.2  | <b>349</b> | 49.4 | 49.6 | 49.7 | 49.6 | 49.4 | 49.1 | 48.7 | 48.4 | 48.2 | 48.1 | 48.1 | 48.3 |
| 6 - $\beta$ Cet        | <i>Diphda</i>      | 2.0  | <b>349</b> | 3.3  | 3.4  | 3.4  | 3.4  | 3.3  | 3.0  | 2.8  | 2.6  | 2.4  | 2.3  | 2.4  | 2.4  |
| 7 - $\gamma$ Cas       | <i>Navi</i>        | 1.6  | <b>345</b> | 46.2 | 46.4 | 46.5 | 46.5 | 46.3 | 45.9 | 45.5 | 45.1 | 44.9 | 44.8 | 44.8 | 45.0 |
| 8 - $\beta$ And        | <i>Mirach</i>      | 2.1  | <b>342</b> | 30.9 | 31.0 | 31.1 | 31.1 | 30.9 | 30.7 | 30.4 | 30.1 | 29.9 | 29.9 | 29.8 | 29.9 |
| 9 - $\alpha$ Eri       | <i>Achernar</i>    | 0.5  | <b>335</b> | 32.0 | 32.2 | 32.4 | 32.4 | 32.3 | 32.1 | 31.7 | 31.4 | 31.1 | 31.0 | 31.0 | 31.1 |
| 10 - $\gamma$ And      | <i>Almak</i>       | 2.3  | <b>328</b> | 58.0 | 58.1 | 58.3 | 58.3 | 58.2 | 57.9 | 57.6 | 57.3 | 57.1 | 56.9 | 56.9 | 56.9 |
| 12 - $\alpha$ Ari      | <i>Hamal</i>       | 2.0  | <b>328</b> | 9.1  | 9.3  | 9.3  | 9.4  | 9.3  | 9.1  | 8.8  | 8.6  | 8.3  | 8.2  | 8.1  | 8.1  |
| 11 - $\alpha$ UMi      | <i>Polaris</i>     | 2.0  | <b>320</b> | 55.6 | 68.6 | 79.4 | 85.3 | 83.9 | 75.4 | 62.9 | 48.7 | 36.1 | 27.5 | 24.1 | 27.8 |
| 13 - $\theta$ Eri      | <i>Acamar</i>      | 3.3  | <b>315</b> | 23.7 | 23.8 | 24.0 | 24.1 | 24.1 | 23.9 | 23.7 | 23.4 | 23.2 | 23.0 | 22.9 | 22.9 |
| 14 - $\alpha$ Cet      | <i>Menkar</i>      | 2.5  | <b>314</b> | 22.7 | 22.8 | 22.9 | 22.9 | 22.9 | 22.7 | 22.5 | 22.3 | 22.1 | 21.9 | 21.8 | 21.8 |
| 15 - $\beta$ Per       | <i>Algol</i>       | 2.1  | <b>312</b> | 53.6 | 53.7 | 53.9 | 54.0 | 53.9 | 53.7 | 53.5 | 53.1 | 52.9 | 52.7 | 52.5 | 52.5 |
| 16 - $\alpha$ Per      | <i>Mirfak</i>      | 1.8  | <b>308</b> | 50.9 | 51.0 | 51.2 | 51.3 | 51.3 | 51.1 | 50.8 | 50.5 | 50.1 | 49.9 | 49.7 | 49.6 |
| 17 - $\eta$ Tau        | <i>Alcyone</i>     | 2.9  | <b>303</b> | 4.1  | 4.2  | 4.4  | 4.4  | 4.4  | 4.3  | 4.1  | 3.8  | 3.6  | 3.4  | 3.2  | 3.1  |
| 18 - $\gamma$ Eri      | <i>Zaurak</i>      | 3.0  | <b>300</b> | 26.7 | 26.8 | 26.9 | 27.0 | 27.0 | 26.9 | 26.7 | 26.5 | 26.2 | 26.1 | 25.9 | 25.9 |
| 19 - $\alpha$ Tau      | <i>Aldebaran</i>   | 0.9  | <b>290</b> | 57.7 | 57.7 | 57.9 | 58.0 | 58.0 | 57.9 | 57.7 | 57.5 | 57.2 | 57.0 | 56.8 | 56.7 |
| 20 - $\beta$ Ori       | <i>Rigel</i>       | 0.1  | <b>281</b> | 18.9 | 19.0 | 19.1 | 19.2 | 19.3 | 19.2 | 19.1 | 18.9 | 18.6 | 18.4 | 18.2 | 18.1 |
| 21 - $\alpha$ Aur      | <i>Capella</i>     | 0.1  | <b>280</b> | 45.0 | 45.1 | 45.3 | 45.5 | 45.5 | 45.5 | 45.3 | 45.0 | 44.6 | 44.3 | 44.1 | 43.9 |
| 22 - $\gamma$ Ori      | <i>Bellatrix</i>   | 1.6  | <b>278</b> | 39.7 | 39.7 | 39.8 | 40.0 | 40.0 | 40.0 | 39.8 | 39.6 | 39.4 | 39.2 | 39.0 | 38.8 |
| 23 - $\beta$ Tau       | <i>Elnath</i>      | 1.7  | <b>278</b> | 21.7 | 21.7 | 21.9 | 22.0 | 22.0 | 22.0 | 21.8 | 21.6 | 21.3 | 21.1 | 20.9 | 20.7 |
| 24 - $\delta$ Ori      | <i>Mintaka</i>     | 2.2  | <b>276</b> | 56.7 | 56.7 | 56.9 | 57.0 | 57.0 | 57.0 | 56.9 | 56.7 | 56.4 | 56.2 | 56.0 | 55.9 |
| 25 - $\varepsilon$ Ori | <i>Alnilam</i>     | 1.7  | <b>275</b> | 53.6 | 53.7 | 53.8 | 53.9 | 53.9 | 53.9 | 53.8 | 53.6 | 53.4 | 53.1 | 52.9 | 52.8 |
| 26 - $\zeta$ Ori       | <i>Alnitak</i>     | 1.9  | <b>274</b> | 45.4 | 45.5 | 45.6 | 45.7 | 45.8 | 45.7 | 45.6 | 45.4 | 45.2 | 45.0 | 44.8 | 44.6 |
| 27 - $\kappa$ Ori      | <i>Saiph</i>       | 2.1  | <b>272</b> | 60.6 | 60.7 | 60.8 | 60.9 | 61.0 | 61.0 | 60.9 | 60.7 | 60.5 | 60.2 | 60.0 | 59.9 |
| 28 - $\alpha$ Ori      | <i>Betelgeuse</i>  | 0.4  | <b>271</b> | 9.0  | 9.1  | 9.2  | 9.3  | 9.3  | 9.2  | 9.0  | 8.8  | 8.6  | 8.3  | 8.2  | 8.2  |
| 29 - $\beta$ Aur       | <i>Menkalinan</i>  | 1.9  | <b>270</b> | 2.4  | 2.5  | 2.6  | 2.8  | 2.9  | 2.9  | 2.7  | 2.5  | 2.1  | 1.8  | 1.5  | 1.3  |
| 30 - $\beta$ CMa       | <i>Mirzam</i>      | 2.0  | <b>264</b> | 16.6 | 16.7 | 16.8 | 17.0 | 17.0 | 17.1 | 17.0 | 16.8 | 16.6 | 16.4 | 16.2 | 16.0 |
| 31 - $\alpha$ Car      | <i>Canopus</i>     | -0.7 | <b>263</b> | 58.9 | 59.1 | 59.3 | 59.6 | 59.8 | 59.9 | 59.8 | 59.6 | 59.3 | 59.0 | 58.8 | 58.6 |
| 32 - $\gamma$ Gem      | <i>Alhena</i>      | 1.9  | <b>260</b> | 30.7 | 30.7 | 30.8 | 30.9 | 31.0 | 31.0 | 30.9 | 30.7 | 30.5 | 30.3 | 30.0 | 29.8 |
| 33 - $\alpha$ CMa      | <i>Sirius</i>      | -1.5 | <b>258</b> | 39.9 | 40.0 | 40.1 | 40.2 | 40.3 | 40.3 | 40.3 | 40.1 | 39.9 | 39.7 | 39.5 | 39.3 |
| 34 - $\varepsilon$ CMa | <i>Adhara</i>      | 1.5  | <b>255</b> | 18.0 | 18.0 | 18.2 | 18.3 | 18.4 | 18.5 | 18.4 | 18.3 | 18.1 | 17.9 | 17.6 | 17.4 |
| 35 - $\delta$ CMa      | <i>Wezen</i>       | 1.9  | <b>252</b> | 51.4 | 51.5 | 51.6 | 51.7 | 51.9 | 51.9 | 51.9 | 51.7 | 51.5 | 51.3 | 51.1 | 50.9 |
| 36 - $\eta$ CMa        | <i>Aludra</i>      | 2.5  | <b>248</b> | 55.9 | 56.0 | 56.1 | 56.2 | 56.4 | 56.4 | 56.4 | 56.3 | 56.1 | 55.9 | 55.6 | 55.4 |
| 37 - $\alpha$ Gem      | <i>Castor</i>      | 2.0  | <b>246</b> | 16.9 | 16.9 | 17.0 | 17.1 | 17.2 | 17.3 | 17.2 | 17.1 | 16.8 | 16.6 | 16.3 | 16.0 |
| 38 - $\alpha$ CMi      | <i>Procyon</i>     | 0.4  | <b>245</b> | 7.1  | 7.1  | 7.2  | 7.3  | 7.4  | 7.4  | 7.4  | 7.3  | 7.1  | 6.9  | 6.6  | 6.4  |
| 39 - $\beta$ Gem       | <i>Pollux</i>      | 1.1  | <b>243</b> | 36.4 | 36.3 | 36.4 | 36.5 | 36.6 | 36.7 | 36.6 | 36.5 | 36.3 | 36.0 | 35.8 | 35.5 |
| 40 - $\zeta$ Pup       | <i>Naos</i>        | 2.3  | <b>239</b> | 3.8  | 3.8  | 3.9  | 4.1  | 4.3  | 4.4  | 4.4  | 4.3  | 4.2  | 3.9  | 3.6  | 3.4  |
| 41 - $\gamma$ Vel      | <i>Regor</i>       | 1.8  | <b>237</b> | 34.8 | 34.8 | 34.9 | 35.2 | 35.4 | 35.5 | 35.5 | 35.5 | 35.3 | 35.0 | 34.7 | 34.5 |
| 42 - $\varepsilon$ Car | <i>Avior</i>       | 1.9  | <b>234</b> | 20.6 | 20.6 | 20.8 | 21.1 | 21.4 | 21.6 | 21.7 | 21.7 | 21.5 | 21.1 | 20.8 | 20.4 |
| 43 - $\delta$ Velorum  |                    | 2.0  | <b>228</b> | 47.4 | 47.4 | 47.5 | 47.7 | 48.0 | 48.2 | 48.3 | 48.3 | 48.1 | 47.8 | 47.5 | 47.2 |
| 44 - $\zeta$ Hydrae    |                    | 3.1  | <b>226</b> | 5.8  | 5.7  | 5.7  | 5.8  | 5.9  | 6.0  | 5.9  | 5.9  | 5.7  | 5.6  | 5.3  | 5.1  |
| 45 - $\lambda$ Vel     | <i>Suhail</i>      | 2.2  | <b>222</b> | 57.6 | 57.5 | 57.6 | 57.7 | 57.9 | 58.1 | 58.1 | 58.1 | 58.0 | 57.8 | 57.5 | 57.2 |
| 46 - $\beta$ Car       | <i>Miaplacidus</i> | 1.7  | <b>221</b> | 40.7 | 40.7 | 40.9 | 41.3 | 41.7 | 42.1 | 42.4 | 42.5 | 42.3 | 41.9 | 41.4 | 40.9 |
| 47 - $\iota$ Car       | <i>Aspidiske</i>   | 2.3  | <b>220</b> | 41.7 | 41.6 | 41.7 | 41.9 | 42.2 | 42.5 | 42.6 | 42.6 | 42.5 | 42.2 | 41.9 | 41.5 |
| 48 - $\alpha$ Lyn      | <i>Elvashak</i>    | 3.1  | <b>219</b> | 40.3 | 40.2 | 40.2 | 40.3 | 40.4 | 40.5 | 40.5 | 40.4 | 40.3 | 40.1 | 39.8 | 39.5 |
| 49 - $\alpha$ Hyd      | <i>Alphard</i>     | 2.0  | <b>218</b> | 3.1  | 3.0  | 3.0  | 3.1  | 3.2  | 3.3  | 3.3  | 3.2  | 3.1  | 3.0  | 2.7  | 2.5  |
| 50 - $\alpha$ Leo      | <i>Regulus</i>     | 1.4  | <b>207</b> | 51.1 | 51.0 | 50.9 | 51.0 | 51.1 | 51.2 | 51.2 | 51.2 | 51.1 | 50.9 | 50.7 | 50.4 |

ESTRELLAS, 2004  
Posiciones aparentes377  
DECLINACIÓN

| Nº                    | NOMBRE             | Mag  |            | Ene  | Feb  | Mar  | Abr  | May  | Jun  | Jul  | Ago  | Sep  | Oct  | Nov  | Dic  |
|-----------------------|--------------------|------|------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                       |                    |      | °          | '    | '    | '    | '    | '    | '    | '    | '    | '    | '    | '    | '    |
| 1 - $\alpha$ And      | <i>Alpheratz</i>   | 2.1  | <b>+29</b> | 6.8  | 6.7  | 6.7  | 6.6  | 6.6  | 6.7  | 6.8  | 6.9  | 7.0  | 7.1  | 7.2  | 7.2  |
| 2 - $\beta$ Cas       | <i>Caph</i>        | 2.3  | <b>+59</b> | 10.5 | 10.4 | 10.3 | 10.2 | 10.1 | 10.1 | 10.2 | 10.3 | 10.5 | 10.7 | 10.8 | 10.9 |
| 3 - $\gamma$ Peg      | <i>Algenib</i>     | 2.8  | <b>+15</b> | 12.3 | 12.3 | 12.2 | 12.2 | 12.3 | 12.3 | 12.4 | 12.6 | 12.6 | 12.7 | 12.7 | 12.7 |
| 4 - $\alpha$ Phe      | <i>Ankaa</i>       | 2.4  | <b>-42</b> | 17.4 | 17.3 | 17.2 | 17.1 | 16.9 | 16.8 | 16.7 | 16.7 | 16.7 | 16.8 | 16.9 | 17.0 |
| 5 - $\alpha$ Cas      | <i>Schedar</i>     | 2.2  | <b>+56</b> | 33.8 | 33.7 | 33.6 | 33.4 | 33.4 | 33.4 | 33.4 | 33.6 | 33.7 | 33.9 | 34.0 | 34.1 |
| 6 - $\beta$ Cet       | <i>Diphda</i>      | 2.0  | <b>-17</b> | 58.1 | 58.1 | 58.0 | 57.9 | 57.8 | 57.7 | 57.6 | 57.5 | 57.5 | 57.6 | 57.6 | 57.7 |
| 7 - $\gamma$ Cas      | <i>Navi</i>        | 1.6  | <b>+60</b> | 44.5 | 44.5 | 44.4 | 44.2 | 44.1 | 44.1 | 44.2 | 44.3 | 44.5 | 44.6 | 44.8 | 44.9 |
| 8 - $\beta$ And       | <i>Mirach</i>      | 2.1  | <b>+35</b> | 38.6 | 38.6 | 38.5 | 38.4 | 38.4 | 38.4 | 38.5 | 38.6 | 38.7 | 38.8 | 38.9 | 39.0 |
| 9 - $\alpha$ Eri      | <i>Achernar</i>    | 0.5  | <b>-57</b> | 13.3 | 13.3 | 13.2 | 13.0 | 12.8 | 12.6 | 12.5 | 12.5 | 12.6 | 12.7 | 12.8 | 12.9 |
| 10 - $\gamma$ And     | <i>Almak</i>       | 2.3  | <b>+42</b> | 21.1 | 21.1 | 21.0 | 20.9 | 20.9 | 20.9 | 20.9 | 21.0 | 21.1 | 21.2 | 21.3 | 21.4 |
| 12 - $\alpha$ Ari     | <i>Hamal</i>       | 2.0  | <b>+23</b> | 29.0 | 28.9 | 28.9 | 28.8 | 28.8 | 28.9 | 28.9 | 29.0 | 29.1 | 29.2 | 29.3 | 29.3 |
| 11 - $\alpha$ UMi     | <i>Polaris</i>     | 2.0  | <b>+89</b> | 17.2 | 17.3 | 17.2 | 17.0 | 16.9 | 16.8 | 16.7 | 16.8 | 16.9 | 17.0 | 17.2 | 17.4 |
| 13 - $\theta$ Eri     | <i>Acamar</i>      | 3.3  | <b>-40</b> | 17.6 | 17.6 | 17.5 | 17.4 | 17.2 | 17.1 | 16.9 | 16.8 | 16.8 | 16.9 | 17.1 | 17.2 |
| 14 - $\alpha$ Cet     | <i>Menkar</i>      | 2.5  | <b>+4</b>  | 6.3  | 6.3  | 6.3  | 6.3  | 6.3  | 6.4  | 6.5  | 6.6  | 6.6  | 6.7  | 6.6  | 6.6  |
| 15 - $\beta$ Per      | <i>Algol</i>       | 2.1  | <b>+40</b> | 58.4 | 58.4 | 58.4 | 58.3 | 58.3 | 58.2 | 58.3 | 58.3 | 58.4 | 58.5 | 58.6 | 58.7 |
| 16 - $\alpha$ Per     | <i>Mirfak</i>      | 1.8  | <b>+49</b> | 52.7 | 52.8 | 52.7 | 52.6 | 52.6 | 52.5 | 52.5 | 52.5 | 52.6 | 52.7 | 52.8 | 52.9 |
| 17 - $\eta$ Tau       | <i>Alcyone</i>     | 2.9  | <b>+24</b> | 7.1  | 7.1  | 7.1  | 7.1  | 7.1  | 7.1  | 7.1  | 7.2  | 7.3  | 7.3  | 7.3  | 7.4  |
| 18 - $\gamma$ Eri     | <i>Zaurak</i>      | 3.0  | <b>-13</b> | 29.9 | 29.9 | 29.9 | 29.9 | 29.8 | 29.7 | 29.6 | 29.5 | 29.4 | 29.5 | 29.5 | 29.6 |
| 19 - $\alpha$ Tau     | <i>Aldebaran</i>   | 0.9  | <b>+16</b> | 31.1 | 31.1 | 31.1 | 31.1 | 31.1 | 31.1 | 31.2 | 31.2 | 31.3 | 31.3 | 31.3 | 31.3 |
| 20 - $\beta$ Ori      | <i>Rigel</i>       | 0.1  | <b>-8</b>  | 11.8 | 11.9 | 11.9 | 11.9 | 11.8 | 11.7 | 11.6 | 11.5 | 11.5 | 11.5 | 11.6 | 11.7 |
| 21 - $\alpha$ Aur     | <i>Capella</i>     | 0.1  | <b>+46</b> | 0.3  | 0.3  | 0.3  | 0.3  | 0.3  | 0.2  | 0.1  | 0.1  | 0.1  | 0.2  | 0.2  | 0.3  |
| 22 - $\gamma$ Ori     | <i>Bellatrix</i>   | 1.6  | <b>+6</b>  | 21.2 | 21.2 | 21.2 | 21.2 | 21.2 | 21.3 | 21.3 | 21.4 | 21.4 | 21.4 | 21.4 | 21.4 |
| 23 - $\beta$ Tau      | <i>Elnath</i>      | 1.7  | <b>+28</b> | 36.8 | 36.8 | 36.8 | 36.8 | 36.7 | 36.7 | 36.7 | 36.7 | 36.8 | 36.8 | 36.8 | 36.8 |
| 24 - $\delta$ Ori     | <i>Mintaka</i>     | 2.2  | <b>-0</b>  | 17.8 | 17.8 | 17.8 | 17.8 | 17.7 | 17.7 | 17.6 | 17.5 | 17.5 | 17.5 | 17.6 | 17.6 |
| 25 - $\epsilon$ Ori   | <i>Alnilam</i>     | 1.7  | <b>-1</b>  | 11.9 | 12.0 | 12.0 | 12.0 | 11.9 | 11.9 | 11.8 | 11.7 | 11.7 | 11.7 | 11.7 | 11.8 |
| 26 - $\zeta$ Ori      | <i>Alnitak</i>     | 1.9  | <b>-1</b>  | 56.4 | 56.5 | 56.5 | 56.5 | 56.4 | 56.3 | 56.3 | 56.2 | 56.1 | 56.2 | 56.2 | 56.3 |
| 27 - $\kappa$ Ori     | <i>Saiph</i>       | 2.1  | <b>-9</b>  | 40.1 | 40.2 | 40.2 | 40.2 | 40.1 | 40.0 | 39.9 | 39.8 | 39.8 | 39.8 | 39.9 | 40.0 |
| 28 - $\alpha$ Ori     | <i>Betelgeuse</i>  | 0.4  | <b>+7</b>  | 24.5 | 24.5 | 24.5 | 24.5 | 24.5 | 24.6 | 24.6 | 24.7 | 24.7 | 24.7 | 24.6 | 24.6 |
| 29 - $\beta$ Aur      | <i>Menkalinan</i>  | 1.9  | <b>+44</b> | 57.0 | 57.1 | 57.1 | 57.1 | 57.0 | 57.0 | 56.9 | 56.9 | 56.9 | 56.9 | 56.9 | 57.0 |
| 30 - $\beta$ CMa      | <i>Mirzam</i>      | 2.0  | <b>-17</b> | 57.5 | 57.6 | 57.6 | 57.6 | 57.5 | 57.4 | 57.3 | 57.2 | 57.1 | 57.2 | 57.2 | 57.4 |
| 31 - $\alpha$ Car     | <i>Canopus</i>     | -0.7 | <b>-52</b> | 41.9 | 42.0 | 42.1 | 42.1 | 42.0 | 41.8 | 41.7 | 41.5 | 41.4 | 41.4 | 41.6 | 41.7 |
| 32 - $\gamma$ Gem     | <i>Alhena</i>      | 1.9  | <b>+16</b> | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.8 | 23.9 | 23.9 | 23.9 | 23.9 | 23.8 | 23.8 |
| 33 - $\alpha$ CMa     | <i>Sirius</i>      | -1.5 | <b>-16</b> | 43.3 | 43.4 | 43.4 | 43.4 | 43.4 | 43.3 | 43.2 | 43.1 | 43.0 | 43.0 | 43.1 | 43.2 |
| 34 - $\epsilon$ CMa   | <i>Adhara</i>      | 1.5  | <b>-28</b> | 58.6 | 58.7 | 58.8 | 58.8 | 58.8 | 58.6 | 58.5 | 58.4 | 58.3 | 58.3 | 58.4 | 58.5 |
| 35 - $\delta$ CMa     | <i>Wezen</i>       | 1.9  | <b>-26</b> | 23.9 | 24.1 | 24.1 | 24.1 | 24.1 | 24.0 | 23.9 | 23.7 | 23.7 | 23.7 | 23.7 | 23.9 |
| 36 - $\eta$ CMa       | <i>Aludra</i>      | 2.5  | <b>-29</b> | 18.6 | 18.7 | 18.8 | 18.8 | 18.8 | 18.7 | 18.6 | 18.4 | 18.3 | 18.3 | 18.4 | 18.6 |
| 37 - $\alpha$ Gem     | <i>Castor</i>      | 2.0  | <b>+31</b> | 52.8 | 52.9 | 52.9 | 52.9 | 52.9 | 52.9 | 52.9 | 52.8 | 52.8 | 52.7 | 52.7 | 52.7 |
| 38 - $\alpha$ CMi     | <i>Procyon</i>     | 0.4  | <b>+5</b>  | 12.9 | 12.9 | 12.9 | 12.9 | 12.9 | 12.9 | 13.0 | 13.0 | 13.0 | 13.0 | 12.9 | 12.9 |
| 39 - $\beta$ Gem      | <i>Pollux</i>      | 1.1  | <b>+28</b> | 1.0  | 1.1  | 1.1  | 1.1  | 1.1  | 1.1  | 1.1  | 1.1  | 1.0  | 1.0  | 0.9  | 0.9  |
| 40 - $\zeta$ Pup      | <i>Naos</i>        | 2.3  | <b>-40</b> | 0.8  | 0.9  | 1.0  | 1.1  | 1.1  | 1.0  | 0.8  | 0.7  | 0.6  | 0.6  | 0.6  | 0.8  |
| 41 - $\gamma$ Vel     | <i>Regor</i>       | 1.8  | <b>-47</b> | 20.8 | 21.0 | 21.1 | 21.1 | 21.1 | 21.0 | 20.9 | 20.7 | 20.6 | 20.6 | 20.6 | 20.8 |
| 42 - $\epsilon$ Car   | <i>Avior</i>       | 1.9  | <b>-59</b> | 31.2 | 31.4 | 31.5 | 31.6 | 31.6 | 31.5 | 31.4 | 31.2 | 31.1 | 31.0 | 31.1 | 31.2 |
| 43 - $\delta$ Velorum |                    | 2.0  | <b>-54</b> | 43.2 | 43.4 | 43.6 | 43.7 | 43.7 | 43.6 | 43.5 | 43.3 | 43.2 | 43.1 | 43.2 | 43.3 |
| 44 - $\zeta$ Hydrae   |                    | 3.1  | <b>+5</b>  | 55.9 | 55.8 | 55.8 | 55.8 | 55.8 | 55.8 | 55.9 | 55.9 | 55.9 | 55.9 | 55.8 | 55.7 |
| 45 - $\lambda$ Vel    | <i>Suhail</i>      | 2.2  | <b>-43</b> | 26.8 | 26.9 | 27.1 | 27.2 | 27.2 | 27.1 | 27.0 | 26.9 | 26.7 | 26.7 | 26.7 | 26.8 |
| 46 - $\beta$ Car      | <i>Miaplacidus</i> | 1.7  | <b>-69</b> | 43.8 | 44.0 | 44.2 | 44.3 | 44.3 | 44.3 | 44.2 | 44.0 | 43.8 | 43.8 | 43.8 | 43.9 |
| 47 - $\iota$ Car      | <i>Aspidiske</i>   | 2.3  | <b>-59</b> | 17.3 | 17.5 | 17.7 | 17.8 | 17.8 | 17.8 | 17.7 | 17.5 | 17.4 | 17.3 | 17.3 | 17.4 |
| 48 - $\alpha$ Lyn     | <i>Elvashak</i>    | 3.1  | <b>+34</b> | 22.5 | 22.5 | 22.6 | 22.7 | 22.7 | 22.7 | 22.6 | 22.6 | 22.5 | 22.4 | 22.3 | 22.3 |
| 49 - $\alpha$ Hyd     | <i>Alphard</i>     | 2.0  | <b>-8</b>  | 40.5 | 40.6 | 40.6 | 40.7 | 40.7 | 40.6 | 40.6 | 40.5 | 40.5 | 40.5 | 40.5 | 40.6 |
| 50 - $\alpha$ Leo     | <i>Regulus</i>     | 1.4  | <b>+11</b> | 56.9 | 56.8 | 56.8 | 56.8 | 56.9 | 56.9 | 56.9 | 56.9 | 56.9 | 56.8 | 56.7 | 56.6 |

| Nº                 | NOMBRE              | Mag |            | Ene  | Feb  | Mar  | Abr  | May  | Jun  | Jul  | Ago  | Sep  | Oct  | Nov  | Dic  |
|--------------------|---------------------|-----|------------|------|------|------|------|------|------|------|------|------|------|------|------|
|                    |                     |     | °          | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    |
| 51 - $\mu$         | Velorum             | 2.7 | <b>198</b> | 15.8 | 15.6 | 15.5 | 15.6 | 15.8 | 15.9 | 16.1 | 16.2 | 16.1 | 16.0 | 15.7 | 15.4 |
| 52 - $\nu$         | Hydrae              | 3.1 | <b>197</b> | 32.6 | 32.4 | 32.4 | 32.4 | 32.5 | 32.6 | 32.7 | 32.7 | 32.6 | 32.5 | 32.3 | 32.0 |
| 53 - $\beta$       | UMa Merak           | 2.4 | <b>194</b> | 28.4 | 28.2 | 28.1 | 28.1 | 28.3 | 28.5 | 28.7 | 28.7 | 28.7 | 28.5 | 28.2 | 27.8 |
| 54 - $\alpha$      | UMa Dubhe           | 1.8 | <b>193</b> | 60.0 | 59.7 | 59.6 | 59.7 | 59.9 | 60.1 | 60.3 | 60.4 | 60.4 | 60.2 | 59.8 | 59.4 |
| 55 - $\beta$       | Leo Denebola        | 2.1 | <b>182</b> | 41.0 | 40.8 | 40.7 | 40.7 | 40.7 | 40.8 | 40.9 | 40.9 | 40.9 | 40.9 | 40.7 | 40.4 |
| 56 - $\gamma$      | Crv Gienah          | 2.6 | <b>175</b> | 59.9 | 59.7 | 59.5 | 59.5 | 59.5 | 59.6 | 59.7 | 59.8 | 59.8 | 59.7 | 59.6 | 59.3 |
| 57 - $\alpha$      | Cru Acrux           | 1.4 | <b>173</b> | 17.8 | 17.4 | 17.2 | 17.2 | 17.3 | 17.5 | 17.8 | 18.0 | 18.2 | 18.1 | 17.8 | 17.4 |
| 58 - $\gamma$      | Cru Gacrux          | 1.6 | <b>172</b> | 9.3  | 9.0  | 8.8  | 8.7  | 8.8  | 9.0  | 9.2  | 9.4  | 9.5  | 9.4  | 9.2  | 8.8  |
| 59 - $\gamma$      | Cen Muhlifain       | 2.2 | <b>169</b> | 34.1 | 33.8 | 33.6 | 33.5 | 33.6 | 33.7 | 33.8 | 34.0 | 34.1 | 34.0 | 33.8 | 33.5 |
| 60 - $\beta$       | Cru Mimosa          | 1.3 | <b>168</b> | 0.9  | 0.5  | 0.3  | 0.2  | 0.3  | 0.4  | 0.6  | 0.9  | 1.0  | 1.0  | 0.7  | 0.4  |
| 61 - $\varepsilon$ | UMa Alioth          | 1.8 | <b>166</b> | 26.8 | 26.5 | 26.3 | 26.2 | 26.3 | 26.4 | 26.6 | 26.8 | 26.9 | 26.9 | 26.8 | 26.4 |
| 62 - $\alpha^2$    | CVn Cor Caroli      | 2.9 | <b>165</b> | 56.8 | 56.5 | 56.3 | 56.3 | 56.3 | 56.4 | 56.5 | 56.6 | 56.7 | 56.7 | 56.5 | 56.3 |
| 63 - $\varepsilon$ | Vir Vindemiatrix    | 2.8 | <b>164</b> | 24.4 | 24.2 | 24.1 | 24.0 | 24.0 | 24.0 | 24.1 | 24.2 | 24.2 | 24.2 | 24.1 | 23.9 |
| 64 - $\zeta$       | UMa Mizar           | 2.3 | <b>158</b> | 58.7 | 58.3 | 58.1 | 58.0 | 58.0 | 58.2 | 58.4 | 58.5 | 58.7 | 58.7 | 58.6 | 58.3 |
| 65 - $\alpha$      | Vir Spica           | 1.0 | <b>158</b> | 39.1 | 38.9 | 38.7 | 38.6 | 38.6 | 38.6 | 38.7 | 38.8 | 38.8 | 38.8 | 38.7 | 38.5 |
| 66 - $\eta$        | UMa Alkaid          | 1.9 | <b>153</b> | 4.6  | 4.3  | 4.0  | 3.9  | 3.9  | 4.0  | 4.2  | 4.3  | 4.5  | 4.5  | 4.5  | 4.2  |
| 67 - $\beta$       | Cen Hadar           | 0.6 | <b>148</b> | 58.8 | 58.4 | 58.1 | 57.9 | 57.8 | 57.9 | 58.1 | 58.3 | 58.5 | 58.6 | 58.5 | 58.1 |
| 68 - $\theta$      | Cen Menkent         | 2.1 | <b>148</b> | 16.5 | 16.2 | 16.0 | 15.9 | 15.8 | 15.8 | 15.9 | 16.0 | 16.1 | 16.2 | 16.1 | 15.9 |
| 69 - $\alpha$      | Boo Arcturus        | 0.0 | <b>146</b> | 2.5  | 2.3  | 2.1  | 1.9  | 1.9  | 1.9  | 2.0  | 2.1  | 2.2  | 2.2  | 2.2  | 2.0  |
| 70 - $\alpha^1$    | Cen Rigil Kentaurus | 0.0 | <b>140</b> | 2.5  | 2.0  | 1.7  | 1.4  | 1.3  | 1.4  | 1.5  | 1.8  | 2.0  | 2.2  | 2.1  | 1.8  |
| 71 - $\alpha^2$    | Lib Zubenelgenubi   | 2.8 | <b>137</b> | 13.8 | 13.5 | 13.3 | 13.2 | 13.1 | 13.1 | 13.1 | 13.2 | 13.3 | 13.4 | 13.3 | 13.1 |
| 72 - $\beta$       | UMi Kochab          | 2.1 | <b>137</b> | 19.7 | 19.0 | 18.5 | 18.1 | 18.1 | 18.3 | 18.8 | 19.4 | 19.9 | 20.3 | 20.4 | 20.2 |
| 73 - $\beta$       | Lib Zubeneschamali  | 2.6 | <b>130</b> | 42.0 | 41.7 | 41.5 | 41.3 | 41.2 | 41.2 | 41.2 | 41.3 | 41.4 | 41.5 | 41.5 | 41.3 |
| 74 - $\alpha$      | CrB Alphecca        | 2.2 | <b>126</b> | 17.4 | 17.2 | 16.9 | 16.8 | 16.7 | 16.6 | 16.7 | 16.8 | 16.9 | 17.0 | 17.0 | 16.9 |
| 75 - $\alpha$      | Ser Unukalhai       | 2.7 | <b>123</b> | 53.3 | 53.1 | 52.9 | 52.7 | 52.6 | 52.5 | 52.6 | 52.6 | 52.8 | 52.9 | 52.9 | 52.7 |
| 76 - $\alpha$      | Sco Antares         | 0.9 | <b>112</b> | 35.7 | 35.4 | 35.1 | 34.9 | 34.7 | 34.6 | 34.6 | 34.7 | 34.8 | 35.0 | 35.0 | 34.9 |
| 77 - $\alpha$      | TrA Atria           | 1.9 | <b>107</b> | 44.8 | 44.2 | 43.6 | 43.0 | 42.6 | 42.4 | 42.4 | 42.7 | 43.1 | 43.4 | 43.6 | 43.4 |
| 78 - $\varepsilon$ | Scorpii             | 2.3 | <b>107</b> | 24.2 | 23.9 | 23.6 | 23.4 | 23.2 | 23.0 | 23.0 | 23.1 | 23.2 | 23.4 | 23.4 | 23.3 |
| 79 - $\eta$        | Oph Sabik           | 2.4 | <b>102</b> | 21.3 | 21.1 | 20.9 | 20.6 | 20.5 | 20.3 | 20.3 | 20.4 | 20.5 | 20.6 | 20.6 | 20.6 |
| 80 - $\alpha$      | Her Rasalgethi      | 3.1 | <b>101</b> | 18.0 | 17.8 | 17.5 | 17.3 | 17.1 | 17.0 | 17.0 | 17.1 | 17.2 | 17.3 | 17.4 | 17.4 |
| 81 - $\lambda$     | Sco Shaula          | 1.6 | <b>96</b>  | 32.4 | 32.1 | 31.8 | 31.5 | 31.3 | 31.1 | 31.1 | 31.1 | 31.3 | 31.4 | 31.5 | 31.4 |
| 82 - $\alpha$      | Oph Rasalhague      | 2.1 | <b>96</b>  | 13.6 | 13.4 | 13.2 | 13.0 | 12.8 | 12.7 | 12.6 | 12.7 | 12.8 | 13.0 | 13.0 | 13.0 |
| 83 - $\theta$      | Sco Sargas          | 1.9 | <b>95</b>  | 36.5 | 36.2 | 35.9 | 35.6 | 35.4 | 35.2 | 35.1 | 35.2 | 35.3 | 35.5 | 35.6 | 35.5 |
| 84 - $\gamma$      | Dra Eltanin         | 2.2 | <b>90</b>  | 50.1 | 49.9 | 49.6 | 49.3 | 49.0 | 48.9 | 48.9 | 49.0 | 49.3 | 49.5 | 49.7 | 49.8 |
| 85 - $\varepsilon$ | Sgr Kaus Australis  | 1.9 | <b>83</b>  | 54.0 | 53.8 | 53.5 | 53.2 | 53.0 | 52.8 | 52.7 | 52.7 | 52.8 | 53.0 | 53.1 | 53.1 |
| 86 - $\alpha$      | Lyr Vega            | 0.0 | <b>80</b>  | 44.4 | 44.2 | 44.0 | 43.8 | 43.5 | 43.4 | 43.3 | 43.4 | 43.5 | 43.7 | 43.9 | 43.9 |
| 87 - $\sigma$      | Sgr Nunki           | 2.0 | <b>76</b>  | 7.8  | 7.7  | 7.4  | 7.2  | 6.9  | 6.7  | 6.6  | 6.6  | 6.7  | 6.8  | 6.9  | 6.9  |
| 88 - $\alpha$      | Aql Altair          | 0.8 | <b>62</b>  | 15.8 | 15.7 | 15.5 | 15.3 | 15.1 | 14.9 | 14.7 | 14.7 | 14.8 | 14.9 | 15.0 | 15.0 |
| 89 - $\gamma$      | Cyg Sadr            | 2.2 | <b>54</b>  | 25.0 | 24.9 | 24.8 | 24.5 | 24.3 | 24.0 | 23.9 | 23.8 | 23.9 | 24.1 | 24.3 | 24.4 |
| 90 - $\alpha$      | Pav Peacock         | 1.9 | <b>53</b>  | 31.3 | 31.2 | 30.9 | 30.5 | 30.1 | 29.7 | 29.5 | 29.4 | 29.4 | 29.6 | 29.9 | 30.0 |
| 91 - $\alpha$      | Cyg Deneb           | 1.3 | <b>49</b>  | 37.1 | 37.0 | 36.9 | 36.6 | 36.4 | 36.1 | 35.9 | 35.9 | 36.0 | 36.1 | 36.3 | 36.5 |
| 92 - $\alpha$      | Cep Alderamin       | 2.4 | <b>40</b>  | 20.8 | 20.8 | 20.6 | 20.3 | 19.9 | 19.5 | 19.3 | 19.2 | 19.3 | 19.6 | 19.9 | 20.2 |
| 93 - $\varepsilon$ | Peg Enif            | 0.7 | <b>33</b>  | 54.7 | 54.7 | 54.6 | 54.4 | 54.2 | 53.9 | 53.7 | 53.6 | 53.6 | 53.7 | 53.8 | 53.9 |
| 94 - $\delta$      | Cap Deneb Algedi    | 2.9 | <b>33</b>  | 11.5 | 11.5 | 11.4 | 11.2 | 11.0 | 10.7 | 10.5 | 10.3 | 10.3 | 10.4 | 10.5 | 10.6 |
| 95 - $\alpha$      | Gru Al Na'ir        | 1.7 | <b>27</b>  | 53.2 | 53.2 | 53.1 | 52.9 | 52.6 | 52.2 | 51.9 | 51.7 | 51.7 | 51.8 | 51.9 | 52.1 |
| 96 - $\beta$       | Gruis               | 2.1 | <b>19</b>  | 16.8 | 16.9 | 16.8 | 16.6 | 16.3 | 16.0 | 15.7 | 15.5 | 15.4 | 15.4 | 15.6 | 15.7 |
| 97 - $\alpha$      | PsA Fomalhaut       | 1.2 | <b>15</b>  | 32.3 | 32.3 | 32.2 | 32.1 | 31.9 | 31.6 | 31.3 | 31.2 | 31.1 | 31.1 | 31.2 | 31.3 |
| 98 - $\beta$       | Peg Scheat          | 2.4 | <b>13</b>  | 60.9 | 60.9 | 60.9 | 60.8 | 60.6 | 60.3 | 60.1 | 59.9 | 59.8 | 59.8 | 59.9 | 60.0 |
| 99 - $\alpha$      | Peg Markab          | 2.5 | <b>13</b>  | 46.0 | 46.0 | 46.0 | 45.8 | 45.6 | 45.4 | 45.2 | 45.0 | 44.9 | 44.9 | 45.0 | 45.1 |

ESTRELLAS, 2004  
Posiciones aparentes379  
DECLINACIÓN

| Nº              | NOMBRE              | Mag | Ene | Feb  | Mar  | Abr  | May  | Jun  | Jul  | Ago  | Sep  | Oct  | Nov  | Dic  |
|-----------------|---------------------|-----|-----|------|------|------|------|------|------|------|------|------|------|------|
|                 |                     |     | °   | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    | /    |
| 51 - $\mu$      | Velorum             | 2.7 | -49 | 26.2 | 26.4 | 26.6 | 26.7 | 26.8 | 26.8 | 26.7 | 26.6 | 26.5 | 26.4 | 26.4 |
| 52 - $\nu$      | Hydrae              | 3.1 | -16 | 12.8 | 12.9 | 13.0 | 13.0 | 13.1 | 13.0 | 12.9 | 12.9 | 12.8 | 12.9 | 13.0 |
| 53 - $\beta$    | UMa Merak           | 2.4 | +56 | 21.5 | 21.5 | 21.7 | 21.8 | 21.9 | 21.9 | 21.8 | 21.7 | 21.6 | 21.4 | 21.2 |
| 54 - $\alpha$   | UMa Dubhe           | 1.8 | +61 | 43.6 | 43.6 | 43.8 | 43.9 | 44.0 | 44.0 | 43.9 | 43.8 | 43.6 | 43.5 | 43.3 |
| 55 - $\beta$    | Leo Denebola        | 2.1 | +14 | 32.9 | 32.9 | 32.9 | 32.9 | 32.9 | 33.0 | 33.0 | 33.0 | 32.9 | 32.9 | 32.8 |
| 56 - $\gamma$   | Crv Gienah          | 2.6 | -17 | 33.7 | 33.9 | 34.0 | 34.0 | 34.1 | 34.0 | 34.0 | 33.9 | 33.9 | 33.9 | 34.0 |
| 57 - $\alpha$   | Cru Acrux           | 1.4 | -63 | 6.9  | 7.1  | 7.3  | 7.5  | 7.6  | 7.7  | 7.7  | 7.6  | 7.5  | 7.3  | 7.2  |
| 58 - $\gamma$   | Cru Gacrux          | 1.6 | -57 | 7.8  | 8.0  | 8.1  | 8.3  | 8.4  | 8.5  | 8.5  | 8.4  | 8.3  | 8.2  | 8.1  |
| 59 - $\gamma$   | Cen Muhlifain       | 2.2 | -48 | 58.6 | 58.8 | 58.9 | 59.1 | 59.2 | 59.3 | 59.3 | 59.2 | 59.1 | 59.0 | 58.9 |
| 60 - $\beta$    | Cru Mimoso          | 1.3 | -59 | 42.3 | 42.5 | 42.6 | 42.8 | 42.9 | 43.0 | 43.0 | 43.0 | 42.9 | 42.7 | 42.6 |
| 61 - $\epsilon$ | UMa Alioth          | 1.8 | +55 | 56.0 | 56.0 | 56.1 | 56.2 | 56.4 | 56.4 | 56.5 | 56.4 | 56.3 | 56.1 | 55.9 |
| 62 - $\alpha^2$ | CVn Cor Caroli      | 2.9 | +38 | 17.6 | 17.6 | 17.6 | 17.7 | 17.8 | 17.9 | 17.9 | 17.9 | 17.8 | 17.7 | 17.5 |
| 63 - $\epsilon$ | Vir Vindemiatrix    | 2.8 | +10 | 56.2 | 56.1 | 56.1 | 56.1 | 56.2 | 56.2 | 56.2 | 56.2 | 56.2 | 56.1 | 55.9 |
| 64 - $\zeta$    | UMa Mizar           | 2.3 | +54 | 54.0 | 54.0 | 54.0 | 54.2 | 54.3 | 54.4 | 54.4 | 54.4 | 54.3 | 54.1 | 53.9 |
| 65 - $\alpha$   | Vir Spica           | 1.0 | -11 | 10.9 | 11.0 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.1 | 11.0 | 11.0 | 11.1 |
| 66 - $\eta$     | UMa Alkaid          | 1.9 | +49 | 17.3 | 17.3 | 17.3 | 17.5 | 17.6 | 17.7 | 17.7 | 17.7 | 17.6 | 17.5 | 17.3 |
| 67 - $\beta$    | Cen Hadar           | 0.6 | -60 | 23.3 | 23.3 | 23.5 | 23.6 | 23.8 | 23.9 | 23.9 | 23.9 | 23.8 | 23.7 | 23.6 |
| 68 - $\theta$   | Cen Menkent         | 2.1 | -36 | 23.2 | 23.3 | 23.4 | 23.5 | 23.6 | 23.7 | 23.7 | 23.7 | 23.6 | 23.5 | 23.5 |
| 69 - $\alpha$   | Boo Arcturus        | 0.0 | +19 | 9.5  | 9.5  | 9.4  | 9.5  | 9.6  | 9.6  | 9.7  | 9.7  | 9.6  | 9.5  | 9.3  |
| 70 - $\alpha^1$ | Cen Rigil Kentaurus | 0.0 | -60 | 50.9 | 50.9 | 51.0 | 51.2 | 51.3 | 51.4 | 51.5 | 51.5 | 51.4 | 51.3 | 51.2 |
| 71 - $\alpha^2$ | Lib Zubenelgenubi   | 2.8 | -16 | 3.5  | 3.6  | 3.6  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.7  | 3.6  | 3.6  |
| 72 - $\beta$    | UMi Kochab          | 2.1 | +74 | 8.0  | 8.0  | 8.0  | 8.1  | 8.3  | 8.4  | 8.5  | 8.5  | 8.4  | 8.2  | 8.0  |
| 73 - $\beta$    | Lib Zubeneshamali   | 2.6 | -9  | 23.9 | 24.0 | 24.0 | 24.1 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.0 | 24.1 |
| 74 - $\alpha$   | CrB Alphecca        | 2.2 | +26 | 41.9 | 41.8 | 41.7 | 41.8 | 41.9 | 42.0 | 42.1 | 42.1 | 42.1 | 42.0 | 41.9 |
| 75 - $\alpha$   | Ser Unukalhai       | 2.7 | +6  | 24.7 | 24.6 | 24.5 | 24.5 | 24.6 | 24.7 | 24.7 | 24.8 | 24.8 | 24.7 | 24.6 |
| 76 - $\alpha$   | Sco Antares         | 0.9 | -26 | 26.4 | 26.5 | 26.5 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 | 26.6 |
| 77 - $\alpha$   | TrA Atria           | 1.9 | -69 | 2.0  | 1.9  | 1.9  | 2.0  | 2.1  | 2.3  | 2.4  | 2.5  | 2.5  | 2.4  | 2.3  |
| 78 - $\epsilon$ | Scorpii             | 2.3 | -34 | 18.0 | 18.0 | 18.1 | 18.1 | 18.1 | 18.2 | 18.2 | 18.3 | 18.3 | 18.2 | 18.2 |
| 79 - $\eta$     | Oph Sabik           | 2.4 | -15 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 | 43.9 |
| 80 - $\alpha$   | Her Rasalgethi      | 3.1 | +14 | 23.0 | 22.9 | 22.8 | 22.9 | 22.9 | 23.0 | 23.1 | 23.2 | 23.2 | 23.2 | 23.1 |
| 81 - $\lambda$  | Sco Shaula          | 1.6 | -37 | 6.4  | 6.4  | 6.4  | 6.4  | 6.5  | 6.5  | 6.6  | 6.6  | 6.6  | 6.6  | 6.5  |
| 82 - $\alpha$   | Oph Rasalhague      | 2.1 | +12 | 33.3 | 33.2 | 33.1 | 33.1 | 33.2 | 33.3 | 33.4 | 33.5 | 33.5 | 33.5 | 33.4 |
| 83 - $\theta$   | Sco Sargas          | 1.9 | -43 | 0.0  | 0.0  | 0.0  | 0.0  | 0.1  | 0.1  | 0.2  | 0.2  | 0.3  | 0.3  | 0.2  |
| 84 - $\gamma$   | Dra Eltanin         | 2.2 | +51 | 29.1 | 28.9 | 28.9 | 28.9 | 29.0 | 29.2 | 29.3 | 29.5 | 29.5 | 29.5 | 29.4 |
| 85 - $\epsilon$ | Sgr Kaus Australis  | 1.9 | -34 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.0 | 23.1 | 23.1 | 23.1 | 23.1 | 23.1 |
| 86 - $\alpha$   | Lyr Vega            | 0.0 | +38 | 47.1 | 46.9 | 46.8 | 46.9 | 46.9 | 47.1 | 47.3 | 47.4 | 47.4 | 47.4 | 47.2 |
| 87 - $\sigma$   | Sgr Nunki           | 2.0 | -26 | 17.6 | 17.6 | 17.6 | 17.6 | 17.6 | 17.5 | 17.5 | 17.6 | 17.6 | 17.6 | 17.6 |
| 88 - $\alpha$   | Aql Altair          | 0.8 | +8  | 52.6 | 52.5 | 52.5 | 52.5 | 52.5 | 52.6 | 52.8 | 52.8 | 52.9 | 52.9 | 52.8 |
| 89 - $\gamma$   | Cyg Sadr            | 2.2 | +40 | 16.1 | 15.9 | 15.8 | 15.8 | 15.9 | 16.0 | 16.1 | 16.3 | 16.4 | 16.5 | 16.4 |
| 90 - $\alpha$   | Pav Peacock         | 1.9 | -56 | 43.5 | 43.4 | 43.3 | 43.2 | 43.2 | 43.2 | 43.2 | 43.3 | 43.4 | 43.5 | 43.4 |
| 91 - $\alpha$   | Cyg Deneb           | 1.3 | +45 | 17.6 | 17.5 | 17.3 | 17.3 | 17.3 | 17.5 | 17.6 | 17.8 | 17.9 | 18.0 | 18.0 |
| 92 - $\alpha$   | Cep Alderamin       | 2.4 | +62 | 36.2 | 36.0 | 35.9 | 35.8 | 35.8 | 35.9 | 36.1 | 36.2 | 36.4 | 36.5 | 36.6 |
| 93 - $\epsilon$ | Peg Enif            | 0.7 | +9  | 53.5 | 53.4 | 53.4 | 53.4 | 53.4 | 53.5 | 53.7 | 53.8 | 53.8 | 53.9 | 53.8 |
| 94 - $\delta$   | Cap Deneb Algedi    | 2.9 | -16 | 6.8  | 6.7  | 6.7  | 6.6  | 6.6  | 6.5  | 6.4  | 6.4  | 6.4  | 6.4  | 6.5  |
| 95 - $\alpha$   | Gru Al Na'ir        | 1.7 | -46 | 56.8 | 56.7 | 56.6 | 56.4 | 56.3 | 56.3 | 56.2 | 56.3 | 56.4 | 56.5 | 56.5 |
| 96 - $\beta$    | Gruis               | 2.1 | -46 | 52.1 | 52.0 | 51.9 | 51.8 | 51.6 | 51.6 | 51.5 | 51.6 | 51.7 | 51.8 | 51.8 |
| 97 - $\alpha$   | PsA Fomalhaut       | 1.2 | -29 | 36.3 | 36.3 | 36.2 | 36.1 | 36.0 | 35.9 | 35.8 | 35.8 | 35.8 | 35.9 | 36.0 |
| 98 - $\beta$    | Peg Scheat          | 2.4 | +28 | 6.3  | 6.2  | 6.1  | 6.1  | 6.1  | 6.2  | 6.3  | 6.4  | 6.5  | 6.6  | 6.7  |
| 99 - $\alpha$   | Peg Markab          | 2.5 | +15 | 13.5 | 13.5 | 13.4 | 13.4 | 13.5 | 13.6 | 13.7 | 13.8 | 13.9 | 13.9 | 14.0 |

Horas UT de paso por el meridiano origen el primer día de cada mes

| Nº                             | NOMBRE                 | Mag  | Ene   | Feb   | Mar   | Abr   | May   | Jun   | Jul   |
|--------------------------------|------------------------|------|-------|-------|-------|-------|-------|-------|-------|
|                                |                        |      | h m   | h m   | h m   | h m   | h m   | h m   | h m   |
| 1 - $\alpha$ Andromedae        | <i>Alpheratz</i>       | 2.1  | 17 26 | 15 24 | 13 30 | 11 28 | 9 30  | 7 28  | 5 30  |
| 2 - $\beta$ Cassiopeae         | <i>Caph</i>            | 2.3  | 17 27 | 15 25 | 13 31 | 11 29 | 9 31  | 7 29  | 5 31  |
| 6 - $\beta$ Ceti               | <i>Diphda</i>          | 2.0  | 18 01 | 15 59 | 14 05 | 12 03 | 10 05 | 8 03  | 6 05  |
| 9 - $\alpha$ Eridani           | <i>Achernar</i>        | 0.5  | 18 55 | 16 53 | 14 59 | 12 57 | 10 59 | 8 57  | 6 59  |
| 12 - $\alpha$ Arietis          | <i>Hamal</i>           | 2.0  | 19 24 | 17 22 | 15 28 | 13 26 | 11 28 | 9 27  | 7 29  |
| 13 - $\theta$ Eridani          | <i>Acamar</i>          | 3.3  | 20 15 | 18 13 | 16 19 | 14 17 | 12 19 | 10 17 | 8 20  |
| 16 - $\alpha$ Persei           | <i>Mirfak</i>          | 1.8  | 20 41 | 18 39 | 16 45 | 14 43 | 12 45 | 10 44 | 8 46  |
| 19 - $\alpha$ Tauri            | <i>Aldebaran</i>       | 0.9  | 21 53 | 19 51 | 17 57 | 15 55 | 13 57 | 11 55 | 9 57  |
| 20 - $\beta$ Orionis           | <i>Rigel</i>           | 0.1  | 22 31 | 20 29 | 18 35 | 16 33 | 14 35 | 12 33 | 10 35 |
| 21 - $\alpha$ Aurigae          | <i>Capella</i>         | 0.1  | 22 33 | 20 31 | 18 37 | 16 35 | 14 38 | 12 36 | 10 38 |
| 22 - $\gamma$ Orionis          | <i>Bellatrix</i>       | 1.6  | 22 42 | 20 40 | 18 46 | 16 44 | 14 46 | 12 44 | 10 46 |
| 28 - $\alpha$ Orionis          | <i>Betelgeuse</i>      | 0.4  | 23 12 | 21 10 | 19 16 | 17 14 | 15 16 | 13 14 | 11 16 |
| 31 - $\alpha$ Carinae          | <i>Canopus</i>         | -0.7 | 23 40 | 21 38 | 19 44 | 17 42 | 15 44 | 13 43 | 11 45 |
| 33 - $\alpha$ Canis Majoris    | <i>Sirius</i>          | -1.5 | 0 05  | 22 00 | 20 05 | 18 04 | 16 06 | 14 04 | 12 06 |
| 34 - $\epsilon$ Canis Majoris  | <i>Adhara</i>          | 1.5  | 0 19  | 22 13 | 20 19 | 18 17 | 16 19 | 14 17 | 12 19 |
| 38 - $\alpha$ Canis Minoris    | <i>Procyon</i>         | 0.4  | 0 59  | 22 54 | 21 00 | 18 58 | 17 00 | 14 58 | 13 00 |
| 39 - $\beta$ Geminorum         | <i>Pollux</i>          | 1.1  | 1 05  | 23 00 | 21 06 | 19 04 | 17 06 | 15 04 | 13 06 |
| 42 - $\epsilon$ Carinae        | <i>Avior</i>           | 1.9  | 1 42  | 23 37 | 21 43 | 19 41 | 17 43 | 15 41 | 13 43 |
| 45 - $\lambda$ Velorum         | <i>Suhail</i>          | 2.2  | 2 28  | 0 26  | 22 28 | 20 26 | 18 28 | 16 26 | 14 28 |
| 46 - $\beta$ Carinae           | <i>Miaplacidus</i>     | 1.7  | 2 33  | 0 31  | 22 33 | 20 31 | 18 33 | 16 31 | 14 33 |
| 49 - $\alpha$ Hydrae           | <i>Alphard</i>         | 2.0  | 2 47  | 0 45  | 22 48 | 20 46 | 18 48 | 16 46 | 14 48 |
| 50 - $\alpha$ Leonis           | <i>Regulus</i>         | 1.4  | 3 28  | 1 26  | 23 28 | 21 26 | 19 28 | 17 26 | 15 29 |
| 54 - $\alpha$ Ursae Majoris    | <i>Dubhe</i>           | 1.8  | 4 23  | 2 21  | 0 27  | 22 22 | 20 24 | 18 22 | 16 24 |
| 55 - $\beta$ Leonis            | <i>Denebola</i>        | 2.1  | 5 08  | 3 07  | 1 13  | 23 07 | 21 09 | 19 07 | 17 09 |
| 57 - $\alpha$ Crucis           | <i>Acrux</i>           | 1.4  | 5 46  | 3 44  | 1 50  | 23 44 | 21 46 | 19 44 | 17 46 |
| 58 - $\gamma$ Crucis           | <i>Gacrux</i>          | 1.6  | 5 50  | 3 49  | 1 55  | 23 49 | 21 51 | 19 49 | 17 51 |
| 60 - $\beta$ Crucis            | <i>Mimosa</i>          | 1.3  | 6 07  | 4 05  | 2 11  | 0 09  | 22 07 | 20 05 | 18 07 |
| 61 - $\epsilon$ Ursae Majoris  | <i>Alioth</i>          | 1.8  | 6 13  | 4 11  | 2 17  | 0 15  | 22 14 | 20 12 | 18 14 |
| 64 - $\zeta$ Ursae Majoris     | <i>Mizar</i>           | 2.3  | 6 43  | 4 41  | 2 47  | 0 45  | 22 43 | 20 41 | 18 44 |
| 65 - $\alpha$ Virginis         | <i>Spica</i>           | 1.0  | 6 44  | 4 42  | 2 48  | 0 47  | 22 45 | 20 43 | 18 45 |
| 68 - $\theta$ Centauri         | <i>Menkent</i>         | 2.1  | 7 26  | 5 24  | 3 30  | 1 28  | 23 26 | 21 24 | 19 26 |
| 69 - $\alpha$ Bootis           | <i>Arcturus</i>        | 0.0  | 7 35  | 5 33  | 3 39  | 1 37  | 23 35 | 21 33 | 19 35 |
| 70 - $\alpha^1$ Centauri       | <i>Rigil Kentaurus</i> | 0.0  | 7 59  | 5 57  | 4 03  | 2 01  | 0 03  | 21 57 | 19 59 |
| 72 - $\beta$ Ursae Minoris     | <i>Kochab</i>          | 2.1  | 8 09  | 6 08  | 4 14  | 2 12  | 0 14  | 22 08 | 20 10 |
| 74 - $\alpha$ Coronae Borealis | <i>Alphecca</i>        | 2.2  | 8 53  | 6 52  | 4 58  | 2 56  | 0 58  | 22 52 | 20 54 |
| 76 - $\alpha$ Scorpii          | <i>Antares</i>         | 0.9  | 9 48  | 7 46  | 5 52  | 3 50  | 1 52  | 23 47 | 21 49 |
| 77 - $\alpha$ Trianguli Aust.  | <i>Atria</i>           | 1.9  | 10 07 | 8 06  | 6 12  | 4 10  | 2 12  | 0 10  | 22 08 |
| 81 - $\lambda$ Scorpii         | <i>Shaula</i>          | 1.6  | 10 52 | 8 50  | 6 56  | 4 54  | 2 56  | 0 55  | 22 53 |
| 82 - $\alpha$ Ophiuchi         | <i>Rasalhague</i>      | 2.1  | 10 53 | 8 51  | 6 57  | 4 56  | 2 58  | 0 56  | 22 54 |
| 84 - $\gamma$ Draconis         | <i>Eltanin</i>         | 2.2  | 11 15 | 9 13  | 7 19  | 5 17  | 3 19  | 1 17  | 23 15 |
| 85 - $\epsilon$ Sagittarii     | <i>Kaus Australis</i>  | 1.9  | 11 42 | 9 41  | 7 47  | 5 45  | 3 47  | 1 45  | 23 43 |
| 86 - $\alpha$ Lyrae            | <i>Vega</i>            | 0.0  | 11 55 | 9 53  | 7 59  | 5 57  | 3 59  | 1 58  | 23 56 |
| 87 - $\sigma$ Sagittarii       | <i>Nunki</i>           | 2.0  | 12 13 | 10 12 | 8 18  | 6 16  | 4 18  | 2 16  | 0 18  |
| 88 - $\alpha$ Aquilae          | <i>Altair</i>          | 0.8  | 13 09 | 11 07 | 9 13  | 7 11  | 5 13  | 3 11  | 1 13  |
| 90 - $\alpha$ Pavonis          | <i>Peacock</i>         | 1.9  | 13 44 | 11 42 | 9 48  | 7 46  | 5 48  | 3 46  | 1 48  |
| 91 - $\alpha$ Cygni            | <i>Deneb</i>           | 1.3  | 13 59 | 11 57 | 10 03 | 8 01  | 6 04  | 4 02  | 2 04  |
| 93 - $\epsilon$ Pegasi         | <i>Enif</i>            | 0.7  | 15 02 | 13 00 | 11 06 | 9 04  | 7 06  | 5 04  | 3 06  |
| 95 - $\alpha$ Gruis            | <i>Al Na'ir</i>        | 1.7  | 15 26 | 13 24 | 11 30 | 9 28  | 7 30  | 5 28  | 3 30  |
| 97 - $\alpha$ Piscis Austrini  | <i>Fomalhaut</i>       | 1.2  | 16 15 | 14 13 | 12 19 | 10 17 | 8 19  | 6 18  | 4 20  |
| 99 - $\alpha$ Pegasi           | <i>Markab</i>          | 2.5  | 16 22 | 14 20 | 12 26 | 10 24 | 8 27  | 6 25  | 4 27  |

Horas UT de paso por el meridiano origen el primer día de cada mes

| Nº                             | NOMBRE                 | Mag  | Ago   | Sep   | Oct   | Nov   | Dic   | 1ª CORRECCIÓN                                                       |
|--------------------------------|------------------------|------|-------|-------|-------|-------|-------|---------------------------------------------------------------------|
|                                |                        |      | h m   | h m   | h m   | h m   | h m   |                                                                     |
| 1 - $\alpha$ Andromedae        | <i>Alpheratz</i>       | 2.1  | 3 28  | 1 26  | 23 25 | 21 23 | 19 25 | Se restará para obtener la hora del paso en otro día del mismo mes. |
| 2 - $\beta$ Cassiopeae         | <i>Caph</i>            | 2.3  | 3 29  | 1 27  | 23 25 | 21 23 | 19 25 |                                                                     |
| 6 - $\beta$ Ceti               | <i>Diphda</i>          | 2.0  | 4 03  | 2 02  | 0 04  | 21 58 | 20 00 |                                                                     |
| 9 - $\alpha$ Eridani           | <i>Achernar</i>        | 0.5  | 4 57  | 2 55  | 0 58  | 22 52 | 20 54 |                                                                     |
| 12 - $\alpha$ Arietis          | <i>Hamal</i>           | 2.0  | 5 27  | 3 25  | 1 27  | 23 21 | 21 23 | Día   Corr.                                                         |
| 13 - $\theta$ Eridani          | <i>Acamar</i>          | 3.3  | 6 18  | 4 16  | 2 18  | 0 16  | 22 14 |                                                                     |
| 16 - $\alpha$ Persei           | <i>Mirfak</i>          | 1.8  | 6 44  | 4 42  | 2 44  | 0 42  | 22 40 | 1   h m                                                             |
| 19 - $\alpha$ Tauri            | <i>Aldebaran</i>       | 0.9  | 7 55  | 5 53  | 3 55  | 1 53  | 23 52 | 2   0 00                                                            |
| 20 - $\beta$ Orionis           | <i>Rigel</i>           | 0.1  | 8 34  | 6 32  | 4 34  | 2 32  | 0 34  | 3   0 04                                                            |
| 21 - $\alpha$ Aurigae          | <i>Capella</i>         | 0.1  | 8 36  | 6 34  | 4 36  | 2 34  | 0 36  | 4   0 08                                                            |
| 22 - $\gamma$ Orionis          | <i>Bellatrix</i>       | 1.6  | 8 44  | 6 42  | 4 44  | 2 42  | 0 45  | 5   0 12                                                            |
| 28 - $\alpha$ Orionis          | <i>Betelgeuse</i>      | 0.4  | 9 14  | 7 12  | 5 14  | 3 12  | 1 14  | 6   0 16                                                            |
| 31 - $\alpha$ Carinae          | <i>Canopus</i>         | -0.7 | 9 43  | 7 41  | 5 43  | 3 41  | 1 43  | 7   0 20                                                            |
| 33 - $\alpha$ Canis Majoris    | <i>Sirius</i>          | -1.5 | 10 04 | 8 02  | 6 04  | 4 02  | 2 04  | 8   0 24                                                            |
| 34 - $\epsilon$ Canis Majoris  | <i>Adhara</i>          | 1.5  | 10 17 | 8 15  | 6 18  | 4 16  | 2 18  | 9   0 28                                                            |
| 38 - $\alpha$ Canis Minoris    | <i>Procyon</i>         | 0.4  | 10 58 | 8 56  | 6 58  | 4 56  | 2 58  | 10   0 31                                                           |
| 39 - $\beta$ Geminorum         | <i>Pollux</i>          | 1.1  | 11 04 | 9 02  | 7 04  | 5 02  | 3 04  | 11   0 35                                                           |
| 42 - $\epsilon$ Carinae        | <i>Avior</i>           | 1.9  | 11 41 | 9 39  | 7 41  | 5 39  | 3 41  | 12   0 39                                                           |
| 45 - $\lambda$ Velorum         | <i>Suhail</i>          | 2.2  | 12 26 | 10 24 | 8 26  | 6 25  | 4 27  | 13   0 43                                                           |
| 46 - $\beta$ Carinae           | <i>Miaplacidus</i>     | 1.7  | 12 31 | 10 29 | 8 32  | 6 30  | 4 32  | 14   0 47                                                           |
| 49 - $\alpha$ Hydrae           | <i>Alphard</i>         | 2.0  | 12 46 | 10 44 | 8 46  | 6 44  | 4 46  | 15   0 51                                                           |
| 50 - $\alpha$ Leonis           | <i>Regulus</i>         | 1.4  | 13 27 | 11 25 | 9 27  | 7 25  | 5 27  | 16   0 55                                                           |
| 54 - $\alpha$ Ursae Majoris    | <i>Dubhe</i>           | 1.8  | 14 22 | 12 20 | 10 22 | 8 20  | 6 22  | 17   0 59                                                           |
| 55 - $\beta$ Leonis            | <i>Denebola</i>        | 2.1  | 15 07 | 13 05 | 11 07 | 9 05  | 7 07  | 18   1 03                                                           |
| 57 - $\alpha$ Crucis           | <i>Acrux</i>           | 1.4  | 15 44 | 13 43 | 11 45 | 9 43  | 7 45  | 19   1 07                                                           |
| 58 - $\gamma$ Crucis           | <i>Gacrux</i>          | 1.6  | 15 49 | 13 47 | 11 49 | 9 47  | 7 49  | 20   1 11                                                           |
| 60 - $\beta$ Crucis            | <i>Mimosa</i>          | 1.3  | 16 06 | 14 04 | 12 06 | 10 04 | 8 06  | 21   1 15                                                           |
| 61 - $\epsilon$ Ursae Majoris  | <i>Alioth</i>          | 1.8  | 16 12 | 14 10 | 12 12 | 10 10 | 8 12  | 22   1 19                                                           |
| 64 - $\zeta$ Ursae Majoris     | <i>Mizar</i>           | 2.3  | 16 42 | 14 40 | 12 42 | 10 40 | 8 42  | 23   1 23                                                           |
| 65 - $\alpha$ Virginis         | <i>Spica</i>           | 1.0  | 16 43 | 14 41 | 12 43 | 10 41 | 8 43  | 24   1 27                                                           |
| 68 - $\theta$ Centauri         | <i>Menkent</i>         | 2.1  | 17 24 | 15 22 | 13 24 | 11 23 | 9 25  | 25   1 30                                                           |
| 69 - $\alpha$ Bootis           | <i>Arcturus</i>        | 0.0  | 17 33 | 15 31 | 13 33 | 11 31 | 9 34  | 26   1 34                                                           |
| 70 - $\alpha^1$ Centauri       | <i>Rigil Kentaurus</i> | 0.0  | 17 57 | 15 55 | 13 57 | 11 55 | 9 57  | 27   1 38                                                           |
| 72 - $\beta$ Ursae Minoris     | <i>Kochab</i>          | 2.1  | 18 08 | 16 06 | 14 08 | 12 06 | 10 08 | 28   1 42                                                           |
| 74 - $\alpha$ Coronae Borealis | <i>Alphecca</i>        | 2.2  | 18 52 | 16 50 | 14 52 | 12 50 | 10 52 | 29   1 46                                                           |
| 76 - $\alpha$ Scorpii          | <i>Antares</i>         | 0.9  | 19 47 | 17 45 | 15 47 | 13 45 | 11 47 | 30   1 50                                                           |
| 77 - $\alpha$ Trianguli Aust.  | <i>Atria</i>           | 1.9  | 20 06 | 18 04 | 16 06 | 14 04 | 12 06 | 31   1 54                                                           |
| 81 - $\lambda$ Scorpii         | <i>Shaula</i>          | 1.6  | 20 51 | 18 49 | 16 51 | 14 49 | 12 51 | 31   1 58                                                           |
| 82 - $\alpha$ Ophiuchi         | <i>Rasalhague</i>      | 2.1  | 20 52 | 18 50 | 16 52 | 14 50 | 12 52 |                                                                     |
| 84 - $\gamma$ Draconis         | <i>Eltanin</i>         | 2.2  | 21 13 | 19 12 | 17 14 | 15 12 | 13 14 |                                                                     |
| 85 - $\epsilon$ Sagittarii     | <i>Kaus Australis</i>  | 1.9  | 21 41 | 19 39 | 17 41 | 15 39 | 13 41 |                                                                     |
| 86 - $\alpha$ Lyrae            | <i>Vega</i>            | 0.0  | 21 54 | 19 52 | 17 54 | 15 52 | 13 54 |                                                                     |
| 87 - $\sigma$ Sagittarii       | <i>Nunki</i>           | 2.0  | 22 12 | 20 10 | 18 12 | 16 10 | 14 12 |                                                                     |
| 88 - $\alpha$ Aquilae          | <i>Altair</i>          | 0.8  | 23 07 | 21 06 | 19 08 | 17 06 | 15 08 |                                                                     |
| 90 - $\alpha$ Pavonis          | <i>Peacock</i>         | 1.9  | 23 42 | 21 41 | 19 43 | 17 41 | 15 43 |                                                                     |
| 91 - $\alpha$ Cygni            | <i>Deneb</i>           | 1.3  | 0 02  | 21 56 | 19 58 | 17 56 | 15 58 |                                                                     |
| 93 - $\epsilon$ Pegasi         | <i>Enif</i>            | 0.7  | 1 04  | 22 59 | 21 01 | 18 59 | 17 01 |                                                                     |
| 95 - $\alpha$ Gruis            | <i>Al Na'ir</i>        | 1.7  | 1 29  | 23 23 | 21 25 | 19 23 | 17 25 |                                                                     |
| 97 - $\alpha$ Piscis Austrini  | <i>Fomalhaut</i>       | 1.2  | 2 18  | 0 16  | 22 14 | 20 12 | 18 14 |                                                                     |
| 99 - $\alpha$ Pegasi           | <i>Markab</i>          | 2.5  | 2 25  | 0 23  | 22 21 | 20 19 | 18 21 |                                                                     |

Si el resultado es negativo sumar 23<sup>h</sup> 56<sup>m</sup>.

## 2ª CORRECCIÓN

Se aplicará para tener la hora civil del paso por otro meridiano.

| Long. | Corr. |
|-------|-------|
| 180 W | 0     |
| 138 W | -2    |
| 46 W  | -1    |
| 46 E  | 0     |
| 136 E | +1    |
| 180 E | +2    |

DETERMINACIÓN DE LA LATITUD  
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2004

TABLA I

| h.L.Υ | Corr. | h.L.Υ | Corr. | h.L.Υ | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. |
|-------|-------|-------|-------|-------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| ° /   | '     | ° /   | '     | ° /   | '     | ° /    | '     | ° /    | '     | ° /    | '     | ° /    | '     |
| 0 00  | -33.3 | 26 00 | -41.8 | 52 00 | -41.8 | 78 00  | -33.4 | 104 00 | -18.2 | 130 00 | +0.7  | 156 00 | +19.4 |
| 0 30  | -33.6 | 26 30 | -41.9 | 52 30 | -41.8 | 78 30  | -33.2 | 104 30 | -17.9 | 130 30 | +1.1  | 156 30 | +19.8 |
| 1 00  | -33.8 | 27 00 | -42.0 | 53 00 | -41.7 | 79 00  | -32.9 | 105 00 | -17.5 | 131 00 | +1.4  | 157 00 | +20.1 |
| 1 30  | -34.0 | 27 30 | -42.1 | 53 30 | -41.6 | 79 30  | -32.7 | 105 30 | -17.2 | 131 30 | +1.8  | 157 30 | +20.4 |
| 2 00  | -34.3 | 28 00 | -42.1 | 54 00 | -41.5 | 80 00  | -32.4 | 106 00 | -16.8 | 132 00 | +2.2  | 158 00 | +20.8 |
| 2 30  | -34.5 | 28 30 | -42.2 | 54 30 | -41.4 | 80 30  | -32.2 | 106 30 | -16.5 | 132 30 | +2.6  | 158 30 | +21.1 |
| 3 00  | -34.7 | 29 00 | -42.3 | 55 00 | -41.3 | 81 00  | -31.9 | 107 00 | -16.1 | 133 00 | +2.9  | 159 00 | +21.4 |
| 3 30  | -34.9 | 29 30 | -42.3 | 55 30 | -41.2 | 81 30  | -31.7 | 107 30 | -15.8 | 133 30 | +3.3  | 159 30 | +21.7 |
| 4 00  | -35.1 | 30 00 | -42.4 | 56 00 | -41.1 | 82 00  | -31.4 | 108 00 | -15.4 | 134 00 | +3.7  | 160 00 | +22.1 |
| 4 30  | -35.3 | 30 30 | -42.5 | 56 30 | -41.0 | 82 30  | -31.2 | 108 30 | -15.1 | 134 30 | +4.1  | 160 30 | +22.4 |
| 5 00  | -35.6 | 31 00 | -42.5 | 57 00 | -40.9 | 83 00  | -30.9 | 109 00 | -14.7 | 135 00 | +4.4  | 161 00 | +22.7 |
| 5 30  | -35.8 | 31 30 | -42.6 | 57 30 | -40.7 | 83 30  | -30.7 | 109 30 | -14.4 | 135 30 | +4.8  | 161 30 | +23.0 |
| 6 00  | -36.0 | 32 00 | -42.6 | 58 00 | -40.6 | 84 00  | -30.4 | 110 00 | -14.0 | 136 00 | +5.2  | 162 00 | +23.3 |
| 6 30  | -36.2 | 32 30 | -42.7 | 58 30 | -40.5 | 84 30  | -30.1 | 110 30 | -13.7 | 136 30 | +5.5  | 162 30 | +23.6 |
| 7 00  | -36.4 | 33 00 | -42.7 | 59 00 | -40.4 | 85 00  | -29.9 | 111 00 | -13.3 | 137 00 | +5.9  | 163 00 | +24.0 |
| 7 30  | -36.6 | 33 30 | -42.7 | 59 30 | -40.2 | 85 30  | -29.6 | 111 30 | -13.0 | 137 30 | +6.3  | 163 30 | +24.3 |
| 8 00  | -36.8 | 34 00 | -42.8 | 60 00 | -40.1 | 86 00  | -29.3 | 112 00 | -12.6 | 138 00 | +6.7  | 164 00 | +24.6 |
| 8 30  | -37.0 | 34 30 | -42.8 | 60 30 | -40.0 | 86 30  | -29.1 | 112 30 | -12.3 | 138 30 | +7.0  | 164 30 | +24.9 |
| 9 00  | -37.2 | 35 00 | -42.8 | 61 00 | -39.8 | 87 00  | -28.8 | 113 00 | -11.9 | 139 00 | +7.4  | 165 00 | +25.2 |
| 9 30  | -37.3 | 35 30 | -42.9 | 61 30 | -39.7 | 87 30  | -28.5 | 113 30 | -11.5 | 139 30 | +7.8  | 165 30 | +25.5 |
| 10 00 | -37.5 | 36 00 | -42.9 | 62 00 | -39.5 | 88 00  | -28.2 | 114 00 | -11.2 | 140 00 | +8.1  | 166 00 | +25.8 |
| 10 30 | -37.7 | 36 30 | -42.9 | 62 30 | -39.4 | 88 30  | -27.9 | 114 30 | -10.8 | 140 30 | +8.5  | 166 30 | +26.1 |
| 11 00 | -37.9 | 37 00 | -42.9 | 63 00 | -39.2 | 89 00  | -27.6 | 115 00 | -10.4 | 141 00 | +8.9  | 167 00 | +26.4 |
| 11 30 | -38.1 | 37 30 | -42.9 | 63 30 | -39.1 | 89 30  | -27.4 | 115 30 | -10.1 | 141 30 | +9.2  | 167 30 | +26.7 |
| 12 00 | -38.2 | 38 00 | -42.9 | 64 00 | -38.9 | 90 00  | -27.1 | 116 00 | -9.7  | 142 00 | +9.6  | 168 00 | +27.0 |
| 12 30 | -38.4 | 38 30 | -42.9 | 64 30 | -38.8 | 90 30  | -26.8 | 116 30 | -9.4  | 142 30 | +10.0 | 168 30 | +27.3 |
| 13 00 | -38.6 | 39 00 | -42.9 | 65 00 | -38.6 | 91 00  | -26.5 | 117 00 | -9.0  | 143 00 | +10.3 | 169 00 | +27.6 |
| 13 30 | -38.7 | 39 30 | -42.9 | 65 30 | -38.5 | 91 30  | -26.2 | 117 30 | -8.6  | 143 30 | +10.7 | 169 30 | +27.8 |
| 14 00 | -38.9 | 40 00 | -42.9 | 66 00 | -38.3 | 92 00  | -25.9 | 118 00 | -8.3  | 144 00 | +11.1 | 170 00 | +28.1 |
| 14 30 | -39.0 | 40 30 | -42.9 | 66 30 | -38.1 | 92 30  | -25.6 | 118 30 | -7.9  | 144 30 | +11.4 | 170 30 | +28.4 |
| 15 00 | -39.2 | 41 00 | -42.9 | 67 00 | -37.9 | 93 00  | -25.3 | 119 00 | -7.5  | 145 00 | +11.8 | 171 00 | +28.7 |
| 15 30 | -39.4 | 41 30 | -42.9 | 67 30 | -37.8 | 93 30  | -25.0 | 119 30 | -7.1  | 145 30 | +12.1 | 171 30 | +29.0 |
| 16 00 | -39.5 | 42 00 | -42.9 | 68 00 | -37.6 | 94 00  | -24.7 | 120 00 | -6.8  | 146 00 | +12.5 | 172 00 | +29.2 |
| 16 30 | -39.6 | 42 30 | -42.9 | 68 30 | -37.4 | 94 30  | -24.4 | 120 30 | -6.4  | 146 30 | +12.9 | 172 30 | +29.5 |
| 17 00 | -39.8 | 43 00 | -42.8 | 69 00 | -37.2 | 95 00  | -24.1 | 121 00 | -6.0  | 147 00 | +13.2 | 173 00 | +29.8 |
| 17 30 | -39.9 | 43 30 | -42.8 | 69 30 | -37.0 | 95 30  | -23.7 | 121 30 | -5.7  | 147 30 | +13.6 | 173 30 | +30.1 |
| 18 00 | -40.1 | 44 00 | -42.8 | 70 00 | -36.8 | 96 00  | -23.4 | 122 00 | -5.3  | 148 00 | +13.9 | 174 00 | +30.3 |
| 18 30 | -40.2 | 44 30 | -42.7 | 70 30 | -36.6 | 96 30  | -23.1 | 122 30 | -4.9  | 148 30 | +14.3 | 174 30 | +30.6 |
| 19 00 | -40.3 | 45 00 | -42.7 | 71 00 | -36.4 | 97 00  | -22.8 | 123 00 | -4.5  | 149 00 | +14.6 | 175 00 | +30.8 |
| 19 30 | -40.5 | 45 30 | -42.7 | 71 30 | -36.2 | 97 30  | -22.5 | 123 30 | -4.2  | 149 30 | +15.0 | 175 30 | +31.1 |
| 20 00 | -40.6 | 46 00 | -42.6 | 72 00 | -36.0 | 98 00  | -22.2 | 124 00 | -3.8  | 150 00 | +15.3 | 176 00 | +31.4 |
| 20 30 | -40.7 | 46 30 | -42.6 | 72 30 | -35.8 | 98 30  | -21.8 | 124 30 | -3.4  | 150 30 | +15.7 | 176 30 | +31.6 |
| 21 00 | -40.8 | 47 00 | -42.5 | 73 00 | -35.6 | 99 00  | -21.5 | 125 00 | -3.1  | 151 00 | +16.0 | 177 00 | +31.9 |
| 21 30 | -40.9 | 47 30 | -42.5 | 73 30 | -35.4 | 99 30  | -21.2 | 125 30 | -2.7  | 151 30 | +16.4 | 177 30 | +32.1 |
| 22 00 | -41.0 | 48 00 | -42.4 | 74 00 | -35.2 | 100 00 | -20.9 | 126 00 | -2.3  | 152 00 | +16.7 | 178 00 | +32.4 |
| 22 30 | -41.2 | 48 30 | -42.4 | 74 30 | -35.0 | 100 30 | -20.5 | 126 30 | -1.9  | 152 30 | +17.1 | 178 30 | +32.6 |
| 23 00 | -41.3 | 49 00 | -42.3 | 75 00 | -34.8 | 101 00 | -20.2 | 127 00 | -1.6  | 153 00 | +17.4 | 179 00 | +32.9 |
| 23 30 | -41.4 | 49 30 | -42.2 | 75 30 | -34.6 | 101 30 | -19.9 | 127 30 | -1.2  | 153 30 | +17.7 | 179 30 | +33.1 |
| 24 00 | -41.5 | 50 00 | -42.2 | 76 00 | -34.3 | 102 00 | -19.5 | 128 00 | -0.8  | 154 00 | +18.1 | 180 00 | +33.3 |
| 24 30 | -41.6 | 50 30 | -42.1 | 76 30 | -34.1 | 102 30 | -19.2 | 128 30 | -0.4  | 154 30 | +18.4 | 180 30 | +33.6 |
| 25 00 | -41.6 | 51 00 | -42.0 | 77 00 | -33.9 | 103 00 | -18.9 | 129 00 | -0.1  | 155 00 | +18.8 | 181 00 | +33.8 |
| 25 30 | -41.7 | 51 30 | -41.9 | 77 30 | -33.6 | 103 30 | -18.5 | 129 30 | +0.3  | 155 30 | +19.1 | 181 30 | +34.0 |
| 26 00 | -41.8 | 52 00 | -41.8 | 78 00 | -33.4 | 104 00 | -18.2 | 130 00 | +0.7  | 156 00 | +19.4 | 182 00 | +34.3 |



DETERMINACIÓN DE LA LATITUD  
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2004

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TABLA I

| h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. | h.L.Υ  | Corr. |
|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|--------|-------|
| ° /    | '     | ° /    | '     | ° /    | '     | ° /    | '     | ° /    | '     | ° /    | '     | ° /    | '     |
| 182 00 | +34.3 | 208 00 | +42.1 | 234 00 | +41.5 | 260 00 | +32.4 | 286 00 | +16.8 | 312 00 | -2.2  | 338 00 | -20.8 |
| 182 30 | +34.5 | 208 30 | +42.2 | 234 30 | +41.4 | 260 30 | +32.2 | 286 30 | +16.5 | 312 30 | -2.6  | 338 30 | -21.1 |
| 183 00 | +34.7 | 209 00 | +42.3 | 235 00 | +41.3 | 261 00 | +31.9 | 287 00 | +16.1 | 313 00 | -2.9  | 339 00 | -21.4 |
| 183 30 | +34.9 | 209 30 | +42.3 | 235 30 | +41.2 | 261 30 | +31.7 | 287 30 | +15.8 | 313 30 | -3.3  | 339 30 | -21.7 |
| 184 00 | +35.1 | 210 00 | +42.4 | 236 00 | +41.1 | 262 00 | +31.4 | 288 00 | +15.4 | 314 00 | -3.7  | 340 00 | -22.1 |
| 184 30 | +35.3 | 210 30 | +42.5 | 236 30 | +41.0 | 262 30 | +31.2 | 288 30 | +15.1 | 314 30 | -4.1  | 340 30 | -22.4 |
| 185 00 | +35.6 | 211 00 | +42.5 | 237 00 | +40.9 | 263 00 | +30.9 | 289 00 | +14.7 | 315 00 | -4.4  | 341 00 | -22.7 |
| 185 30 | +35.8 | 211 30 | +42.6 | 237 30 | +40.7 | 263 30 | +30.7 | 289 30 | +14.4 | 315 30 | -4.8  | 341 30 | -23.0 |
| 186 00 | +36.0 | 212 00 | +42.6 | 238 00 | +40.6 | 264 00 | +30.4 | 290 00 | +14.0 | 316 00 | -5.2  | 342 00 | -23.3 |
| 186 30 | +36.2 | 212 30 | +42.7 | 238 30 | +40.5 | 264 30 | +30.1 | 290 30 | +13.7 | 316 30 | -5.5  | 342 30 | -23.6 |
| 187 00 | +36.4 | 213 00 | +42.7 | 239 00 | +40.4 | 265 00 | +29.9 | 291 00 | +13.3 | 317 00 | -5.9  | 343 00 | -24.0 |
| 187 30 | +36.6 | 213 30 | +42.7 | 239 30 | +40.2 | 265 30 | +29.6 | 291 30 | +13.0 | 317 30 | -6.3  | 343 30 | -24.3 |
| 188 00 | +36.8 | 214 00 | +42.8 | 240 00 | +40.1 | 266 00 | +29.3 | 292 00 | +12.6 | 318 00 | -6.7  | 344 00 | -24.6 |
| 188 30 | +37.0 | 214 30 | +42.8 | 240 30 | +40.0 | 266 30 | +29.1 | 292 30 | +12.3 | 318 30 | -7.0  | 344 30 | -24.9 |
| 189 00 | +37.2 | 215 00 | +42.8 | 241 00 | +39.8 | 267 00 | +28.8 | 293 00 | +11.9 | 319 00 | -7.4  | 345 00 | -25.2 |
| 189 30 | +37.3 | 215 30 | +42.9 | 241 30 | +39.7 | 267 30 | +28.5 | 293 30 | +11.5 | 319 30 | -7.8  | 345 30 | -25.5 |
| 190 00 | +37.5 | 216 00 | +42.9 | 242 00 | +39.5 | 268 00 | +28.2 | 294 00 | +11.2 | 320 00 | -8.1  | 346 00 | -25.8 |
| 190 30 | +37.7 | 216 30 | +42.9 | 242 30 | +39.4 | 268 30 | +27.9 | 294 30 | +10.8 | 320 30 | -8.5  | 346 30 | -26.1 |
| 191 00 | +37.9 | 217 00 | +42.9 | 243 00 | +39.2 | 269 00 | +27.6 | 295 00 | +10.4 | 321 00 | -8.9  | 347 00 | -26.4 |
| 191 30 | +38.1 | 217 30 | +42.9 | 243 30 | +39.1 | 269 30 | +27.4 | 295 30 | +10.1 | 321 30 | -9.2  | 347 30 | -26.7 |
| 192 00 | +38.2 | 218 00 | +42.9 | 244 00 | +38.9 | 270 00 | +27.1 | 296 00 | +9.7  | 322 00 | -9.6  | 348 00 | -27.0 |
| 192 30 | +38.4 | 218 30 | +42.9 | 244 30 | +38.8 | 270 30 | +26.8 | 296 30 | +9.4  | 322 30 | -10.0 | 348 30 | -27.3 |
| 193 00 | +38.6 | 219 00 | +42.9 | 245 00 | +38.6 | 271 00 | +26.5 | 297 00 | +9.0  | 323 00 | -10.3 | 349 00 | -27.6 |
| 193 30 | +38.7 | 219 30 | +42.9 | 245 30 | +38.5 | 271 30 | +26.2 | 297 30 | +8.6  | 323 30 | -10.7 | 349 30 | -27.8 |
| 194 00 | +38.9 | 220 00 | +42.9 | 246 00 | +38.3 | 272 00 | +25.9 | 298 00 | +8.3  | 324 00 | -11.1 | 350 00 | -28.1 |
| 194 30 | +39.0 | 220 30 | +42.9 | 246 30 | +38.1 | 272 30 | +25.6 | 298 30 | +7.9  | 324 30 | -11.4 | 350 30 | -28.4 |
| 195 00 | +39.2 | 221 00 | +42.9 | 247 00 | +37.9 | 273 00 | +25.3 | 299 00 | +7.5  | 325 00 | -11.8 | 351 00 | -28.7 |
| 195 30 | +39.4 | 221 30 | +42.9 | 247 30 | +37.8 | 273 30 | +25.0 | 299 30 | +7.1  | 325 30 | -12.1 | 351 30 | -29.0 |
| 196 00 | +39.5 | 222 00 | +42.9 | 248 00 | +37.6 | 274 00 | +24.7 | 300 00 | +6.8  | 326 00 | -12.5 | 352 00 | -29.2 |
| 196 30 | +39.6 | 222 30 | +42.9 | 248 30 | +37.4 | 274 30 | +24.4 | 300 30 | +6.4  | 326 30 | -12.9 | 352 30 | -29.5 |
| 197 00 | +39.8 | 223 00 | +42.8 | 249 00 | +37.2 | 275 00 | +24.1 | 301 00 | +6.0  | 327 00 | -13.2 | 353 00 | -29.8 |
| 197 30 | +39.9 | 223 30 | +42.8 | 249 30 | +37.0 | 275 30 | +23.7 | 301 30 | +5.7  | 327 30 | -13.6 | 353 30 | -30.1 |
| 198 00 | +40.1 | 224 00 | +42.8 | 250 00 | +36.8 | 276 00 | +23.4 | 302 00 | +5.3  | 328 00 | -13.9 | 354 00 | -30.3 |
| 198 30 | +40.2 | 224 30 | +42.7 | 250 30 | +36.6 | 276 30 | +23.1 | 302 30 | +4.9  | 328 30 | -14.3 | 354 30 | -30.6 |
| 199 00 | +40.3 | 225 00 | +42.7 | 251 00 | +36.4 | 277 00 | +22.8 | 303 00 | +4.5  | 329 00 | -14.6 | 355 00 | -30.8 |
| 199 30 | +40.5 | 225 30 | +42.7 | 251 30 | +36.2 | 277 30 | +22.5 | 303 30 | +4.2  | 329 30 | -15.0 | 355 30 | -31.1 |
| 200 00 | +40.6 | 226 00 | +42.6 | 252 00 | +36.0 | 278 00 | +22.2 | 304 00 | +3.8  | 330 00 | -15.3 | 356 00 | -31.4 |
| 200 30 | +40.7 | 226 30 | +42.6 | 252 30 | +35.8 | 278 30 | +21.8 | 304 30 | +3.4  | 330 30 | -15.7 | 356 30 | -31.6 |
| 201 00 | +40.8 | 227 00 | +42.5 | 253 00 | +35.6 | 279 00 | +21.5 | 305 00 | +3.1  | 331 00 | -16.0 | 357 00 | -31.9 |
| 201 30 | +40.9 | 227 30 | +42.5 | 253 30 | +35.4 | 279 30 | +21.2 | 305 30 | +2.7  | 331 30 | -16.4 | 357 30 | -32.1 |
| 202 00 | +41.0 | 228 00 | +42.4 | 254 00 | +35.2 | 280 00 | +20.9 | 306 00 | +2.3  | 332 00 | -16.7 | 358 00 | -32.4 |
| 202 30 | +41.2 | 228 30 | +42.4 | 254 30 | +35.0 | 280 30 | +20.5 | 306 30 | +1.9  | 332 30 | -17.1 | 358 30 | -32.6 |
| 203 00 | +41.3 | 229 00 | +42.3 | 255 00 | +34.8 | 281 00 | +20.2 | 307 00 | +1.6  | 333 00 | -17.4 | 359 00 | -32.9 |
| 203 30 | +41.4 | 229 30 | +42.2 | 255 30 | +34.6 | 281 30 | +19.9 | 307 30 | +1.2  | 333 30 | -17.7 | 359 30 | -33.1 |
| 204 00 | +41.5 | 230 00 | +42.2 | 256 00 | +34.3 | 282 00 | +19.5 | 308 00 | +0.8  | 334 00 | -18.1 | 360 00 | -33.3 |
| 204 30 | +41.6 | 230 30 | +42.1 | 256 30 | +34.1 | 282 30 | +19.2 | 308 30 | +0.4  | 334 30 | -18.4 |        |       |
| 205 00 | +41.6 | 231 00 | +42.0 | 257 00 | +33.9 | 283 00 | +18.9 | 309 00 | +0.1  | 335 00 | -18.8 |        |       |
| 205 30 | +41.7 | 231 30 | +41.9 | 257 30 | +33.6 | 283 30 | +18.5 | 309 30 | -0.3  | 335 30 | -19.1 |        |       |
| 206 00 | +41.8 | 232 00 | +41.8 | 258 00 | +33.4 | 284 00 | +18.2 | 310 00 | -0.7  | 336 00 | -19.4 |        |       |
| 206 30 | +41.9 | 232 30 | +41.8 | 258 30 | +33.2 | 284 30 | +17.9 | 310 30 | -1.1  | 336 30 | -19.8 |        |       |
| 207 00 | +42.0 | 233 00 | +41.7 | 259 00 | +32.9 | 285 00 | +17.5 | 311 00 | -1.4  | 337 00 | -20.1 |        |       |
| 207 30 | +42.1 | 233 30 | +41.6 | 259 30 | +32.7 | 285 30 | +17.2 | 311 30 | -1.8  | 337 30 | -20.4 |        |       |
| 208 00 | +42.1 | 234 00 | +41.5 | 260 00 | +32.4 | 286 00 | +16.8 | 312 00 | -2.2  | 338 00 | -20.8 |        |       |

DETERMINACIÓN DE LA LATITUD  
POR LA OBSERVACIÓN DE UNA ALTURA DE LA POLAR, 2004

TABLA II

(SIEMPRE POSITIVA)

| hL $\cap$ | Altura |     |     |     |     |     |     |     |     |     |     |     |
|-----------|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
|           | 10°    | 15° | 20° | 25° | 30° | 35° | 40° | 45° | 50° | 55° | 60° | 65° |
| °         | /      | /   | /   | /   | /   | /   | /   | /   | /   | /   | /   | /   |
| 0         | 0.0    | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 20        | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 40        | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 60        | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| 80        | 0.0    | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 100       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 |
| 120       | 0.0    | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 |
| 140       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.6 |
| 160       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 |
| 180       | 0.0    | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 200       | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 |
| 220       | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 240       | 0.0    | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 |
| 260       | 0.0    | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |
| 280       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.4 |
| 300       | 0.0    | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.5 | 0.6 |
| 320       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 | 0.4 | 0.6 |
| 340       | 0.0    | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | 0.3 | 0.3 | 0.4 |
| 360       | 0.0    | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 |

TABLA III

| hL $\cap$ | Ene 1 | Feb 1 | Mar 1 | Abr 1 | May 1 | Jun 1 | Jul 1 | Ago 1 | Sep 1 | Oct 1 | Nov 1 | Dic 1 | Dic 32 |
|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| °         | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /      |
| 0         | +0.1  | +0.1  | 0.0   | -0.2  | -0.3  | -0.4  | -0.4  | -0.2  | -0.1  | +0.1  | +0.3  | +0.4  | +0.5   |
| 20        | +0.1  | +0.1  | +0.1  | -0.1  | -0.2  | -0.3  | -0.4  | -0.3  | -0.2  | 0.0   | +0.2  | +0.4  | +0.5   |
| 40        | +0.1  | +0.2  | +0.2  | +0.1  | -0.1  | -0.2  | -0.3  | -0.3  | -0.2  | -0.1  | +0.1  | +0.3  | +0.4   |
| 60        | +0.1  | +0.2  | +0.2  | +0.2  | 0.0   | -0.1  | -0.2  | -0.3  | -0.3  | -0.2  | -0.1  | +0.1  | +0.3   |
| 80        | +0.1  | +0.2  | +0.3  | +0.3  | +0.2  | 0.0   | -0.1  | -0.2  | -0.3  | -0.3  | -0.2  | 0.0   | +0.1   |
| 100       | 0.0   | +0.2  | +0.3  | +0.3  | +0.3  | +0.2  | 0.0   | -0.2  | -0.3  | -0.3  | -0.3  | -0.2  | 0.0    |
| 120       | 0.0   | +0.1  | +0.3  | +0.4  | +0.4  | +0.3  | +0.1  | -0.1  | -0.2  | -0.3  | -0.4  | -0.3  | -0.2   |
| 140       | -0.1  | +0.1  | +0.2  | +0.3  | +0.4  | +0.4  | +0.2  | +0.1  | -0.1  | -0.3  | -0.4  | -0.4  | -0.3   |
| 160       | -0.1  | 0.0   | +0.1  | +0.3  | +0.4  | +0.4  | +0.3  | +0.2  | 0.0   | -0.2  | -0.4  | -0.5  | -0.5   |
| 180       | -0.1  | -0.1  | 0.0   | +0.2  | +0.3  | +0.4  | +0.4  | +0.2  | +0.1  | -0.1  | -0.3  | -0.4  | -0.5   |
| 200       | -0.1  | -0.1  | -0.1  | +0.1  | +0.2  | +0.3  | +0.4  | +0.3  | +0.2  | 0.0   | -0.2  | -0.4  | -0.5   |
| 220       | -0.1  | -0.2  | -0.2  | -0.1  | +0.1  | +0.2  | +0.3  | +0.3  | +0.2  | +0.1  | -0.1  | -0.3  | -0.4   |
| 240       | -0.1  | -0.2  | -0.2  | -0.2  | 0.0   | +0.1  | +0.2  | +0.3  | +0.3  | +0.2  | +0.1  | -0.1  | -0.3   |
| 260       | -0.1  | -0.2  | -0.3  | -0.3  | -0.2  | 0.0   | +0.1  | +0.2  | +0.3  | +0.3  | +0.2  | 0.0   | -0.1   |
| 280       | 0.0   | -0.2  | -0.3  | -0.3  | -0.3  | -0.2  | 0.0   | +0.2  | +0.3  | +0.3  | +0.3  | +0.2  | 0.0    |
| 300       | 0.0   | -0.1  | -0.3  | -0.4  | -0.4  | -0.3  | -0.1  | +0.1  | +0.2  | +0.3  | +0.4  | +0.3  | +0.2   |
| 320       | +0.1  | -0.1  | -0.2  | -0.3  | -0.4  | -0.4  | -0.2  | -0.1  | +0.1  | +0.3  | +0.4  | +0.4  | +0.3   |
| 340       | +0.1  | 0.0   | -0.1  | -0.3  | -0.4  | -0.4  | -0.3  | -0.2  | 0.0   | +0.2  | +0.4  | +0.5  | +0.5   |
| 360       | +0.1  | +0.1  | 0.0   | -0.2  | -0.3  | -0.4  | -0.4  | -0.2  | -0.1  | +0.1  | +0.3  | +0.4  | +0.5   |

Dic 32 corresponde al 1 de enero del año siguiente

| hL <sup>⌞</sup> | Latitud |      |      |      |      |      |      |      |      |      |      |      | hL <sup>⌞</sup> |
|-----------------|---------|------|------|------|------|------|------|------|------|------|------|------|-----------------|
|                 | 10°     | 15°  | 20°  | 25°  | 30°  | 35°  | 40°  | 45°  | 50°  | 55°  | 60°  | 65°  |                 |
| °               | °       | °    | °    | °    | °    | °    | °    | °    | °    | °    | °    | °    | °               |
| <b>0</b>        | +0.5    | +0.5 | +0.5 | +0.5 | +0.5 | +0.6 | +0.6 | +0.6 | +0.7 | +0.8 | +0.9 | +1.1 | <b>0</b>        |
| <b>10</b>       | +0.4    | +0.4 | +0.4 | +0.4 | +0.4 | +0.4 | +0.5 | +0.5 | +0.5 | +0.6 | +0.7 | +0.8 | <b>10</b>       |
| <b>20</b>       | +0.2    | +0.2 | +0.3 | +0.3 | +0.3 | +0.3 | +0.3 | +0.3 | +0.4 | +0.4 | +0.5 | +0.6 | <b>20</b>       |
| <b>30</b>       | +0.1    | +0.1 | +0.1 | +0.1 | +0.1 | +0.1 | +0.1 | +0.2 | +0.2 | +0.2 | +0.2 | +0.3 | <b>30</b>       |
| <b>40</b>       | 0.0     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | <b>40</b>       |
| <b>50</b>       | -0.1    | -0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.2 | -0.3 | -0.3 | <b>50</b>       |
| <b>60</b>       | -0.3    | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | -0.6 | <b>60</b>       |
| <b>70</b>       | -0.4    | -0.4 | -0.4 | -0.4 | -0.4 | -0.5 | -0.5 | -0.5 | -0.6 | -0.7 | -0.7 | -0.9 | <b>70</b>       |
| <b>80</b>       | -0.5    | -0.5 | -0.5 | -0.5 | -0.5 | -0.6 | -0.6 | -0.7 | -0.7 | -0.8 | -1.0 | -1.1 | <b>80</b>       |
| <b>90</b>       | -0.6    | -0.6 | -0.6 | -0.6 | -0.6 | -0.7 | -0.7 | -0.8 | -0.9 | -1.0 | -1.1 | -1.3 | <b>90</b>       |
| <b>100</b>      | -0.6    | -0.6 | -0.7 | -0.7 | -0.7 | -0.8 | -0.8 | -0.9 | -1.0 | -1.1 | -1.3 | -1.5 | <b>100</b>      |
| <b>110</b>      | -0.7    | -0.7 | -0.7 | -0.7 | -0.8 | -0.8 | -0.9 | -1.0 | -1.1 | -1.2 | -1.4 | -1.6 | <b>110</b>      |
| <b>120</b>      | -0.7    | -0.7 | -0.8 | -0.8 | -0.8 | -0.9 | -0.9 | -1.0 | -1.1 | -1.2 | -1.4 | -1.7 | <b>120</b>      |
| <b>130</b>      | -0.7    | -0.7 | -0.8 | -0.8 | -0.8 | -0.9 | -0.9 | -1.0 | -1.1 | -1.2 | -1.4 | -1.7 | <b>130</b>      |
| <b>140</b>      | -0.7    | -0.7 | -0.7 | -0.8 | -0.8 | -0.9 | -0.9 | -1.0 | -1.1 | -1.2 | -1.4 | -1.7 | <b>140</b>      |
| <b>150</b>      | -0.7    | -0.7 | -0.7 | -0.7 | -0.8 | -0.8 | -0.9 | -0.9 | -1.0 | -1.2 | -1.3 | -1.6 | <b>150</b>      |
| <b>160</b>      | -0.6    | -0.6 | -0.7 | -0.7 | -0.7 | -0.7 | -0.8 | -0.9 | -0.9 | -1.1 | -1.2 | -1.4 | <b>160</b>      |
| <b>170</b>      | -0.5    | -0.6 | -0.6 | -0.6 | -0.6 | -0.7 | -0.7 | -0.8 | -0.8 | -0.9 | -1.1 | -1.3 | <b>170</b>      |
| <b>180</b>      | -0.5    | -0.5 | -0.5 | -0.5 | -0.5 | -0.5 | -0.6 | -0.6 | -0.7 | -0.8 | -0.9 | -1.0 | <b>180</b>      |
| <b>190</b>      | -0.4    | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.4 | -0.5 | -0.5 | -0.6 | -0.7 | -0.8 | <b>190</b>      |
| <b>200</b>      | -0.2    | -0.2 | -0.2 | -0.3 | -0.3 | -0.3 | -0.3 | -0.3 | -0.4 | -0.4 | -0.5 | -0.5 | <b>200</b>      |
| <b>210</b>      | -0.1    | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.2 | -0.2 | -0.2 | -0.2 | -0.3 | <b>210</b>      |
| <b>220</b>      | 0.0     | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | 0.0  | <b>220</b>      |
| <b>230</b>      | +0.1    | +0.1 | +0.1 | +0.1 | +0.2 | +0.2 | +0.2 | +0.2 | +0.2 | +0.2 | +0.3 | +0.3 | <b>230</b>      |
| <b>240</b>      | +0.3    | +0.3 | +0.3 | +0.3 | +0.3 | +0.3 | +0.3 | +0.4 | +0.4 | +0.4 | +0.5 | +0.6 | <b>240</b>      |
| <b>250</b>      | +0.4    | +0.4 | +0.4 | +0.4 | +0.4 | +0.4 | +0.5 | +0.5 | +0.6 | +0.6 | +0.7 | +0.9 | <b>250</b>      |
| <b>260</b>      | +0.5    | +0.5 | +0.5 | +0.5 | +0.5 | +0.6 | +0.6 | +0.7 | +0.7 | +0.8 | +0.9 | +1.1 | <b>260</b>      |
| <b>270</b>      | +0.6    | +0.6 | +0.6 | +0.6 | +0.6 | +0.7 | +0.7 | +0.8 | +0.9 | +1.0 | +1.1 | +1.3 | <b>270</b>      |
| <b>280</b>      | +0.6    | +0.6 | +0.7 | +0.7 | +0.7 | +0.8 | +0.8 | +0.9 | +1.0 | +1.1 | +1.2 | +1.5 | <b>280</b>      |
| <b>290</b>      | +0.7    | +0.7 | +0.7 | +0.7 | +0.8 | +0.8 | +0.9 | +1.0 | +1.0 | +1.2 | +1.3 | +1.6 | <b>290</b>      |
| <b>300</b>      | +0.7    | +0.7 | +0.8 | +0.8 | +0.8 | +0.9 | +0.9 | +1.0 | +1.1 | +1.2 | +1.4 | +1.7 | <b>300</b>      |
| <b>310</b>      | +0.7    | +0.7 | +0.8 | +0.8 | +0.8 | +0.9 | +0.9 | +1.0 | +1.1 | +1.2 | +1.4 | +1.7 | <b>310</b>      |
| <b>320</b>      | +0.7    | +0.7 | +0.7 | +0.8 | +0.8 | +0.9 | +0.9 | +1.0 | +1.1 | +1.2 | +1.4 | +1.7 | <b>320</b>      |
| <b>330</b>      | +0.7    | +0.7 | +0.7 | +0.7 | +0.8 | +0.8 | +0.9 | +0.9 | +1.0 | +1.2 | +1.3 | +1.6 | <b>330</b>      |
| <b>340</b>      | +0.6    | +0.6 | +0.7 | +0.7 | +0.7 | +0.8 | +0.8 | +0.9 | +1.0 | +1.1 | +1.2 | +1.5 | <b>340</b>      |
| <b>350</b>      | +0.5    | +0.6 | +0.6 | +0.6 | +0.6 | +0.7 | +0.7 | +0.8 | +0.8 | +1.0 | +1.1 | +1.3 | <b>350</b>      |
| <b>360</b>      | +0.5    | +0.5 | +0.5 | +0.5 | +0.5 | +0.6 | +0.6 | +0.6 | +0.7 | +0.8 | +0.9 | +1.1 | <b>360</b>      |

Cuando el signo es +, la Polar está al E del meridiano.  
 Cuando el signo es -, la Polar está al W del meridiano.

| Long | Retardo diario |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |                 |
|------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
|      | 5 <sup>m</sup> | 10 <sup>m</sup> | 15 <sup>m</sup> | 20 <sup>m</sup> | 25 <sup>m</sup> | 30 <sup>m</sup> | 35 <sup>m</sup> | 40 <sup>m</sup> | 45 <sup>m</sup> | 50 <sup>m</sup> | 55 <sup>m</sup> | 60 <sup>m</sup> | 65 <sup>m</sup> | 70 <sup>m</sup> | 75 <sup>m</sup> | 80 <sup>m</sup> | 85 <sup>m</sup> | 90 <sup>m</sup> |
| o    | m              | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               | m               |
| 0    | 0              | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               | 0               |
| 5    | 0              | 0               | 0               | 0               | 0               | 0               | 0               | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 1               |
| 10   | 0              | 0               | 0               | 1               | 1               | 1               | 1               | 1               | 1               | 1               | 2               | 2               | 2               | 2               | 2               | 2               | 2               | 3               |
| 15   | 0              | 0               | 1               | 1               | 1               | 1               | 1               | 2               | 2               | 2               | 2               | 3               | 3               | 3               | 3               | 3               | 4               | 4               |
| 20   | 0              | 1               | 1               | 1               | 1               | 2               | 2               | 2               | 3               | 3               | 3               | 3               | 4               | 4               | 4               | 4               | 5               | 5               |
| 25   | 0              | 1               | 1               | 1               | 2               | 2               | 2               | 3               | 3               | 3               | 4               | 4               | 5               | 5               | 5               | 6               | 6               | 6               |
| 30   | 0              | 1               | 1               | 2               | 2               | 3               | 3               | 3               | 4               | 4               | 5               | 5               | 5               | 6               | 6               | 7               | 7               | 8               |
| 35   | 0              | 1               | 1               | 2               | 2               | 3               | 3               | 4               | 4               | 5               | 5               | 6               | 6               | 7               | 7               | 8               | 8               | 9               |
| 40   | 1              | 1               | 2               | 2               | 3               | 3               | 4               | 4               | 5               | 6               | 6               | 7               | 7               | 8               | 8               | 9               | 9               | 10              |
| 45   | 1              | 1               | 2               | 3               | 3               | 4               | 4               | 5               | 6               | 6               | 7               | 8               | 8               | 9               | 9               | 10              | 11              | 11              |
| 50   | 1              | 1               | 2               | 3               | 3               | 4               | 5               | 6               | 6               | 7               | 8               | 8               | 9               | 10              | 10              | 11              | 12              | 13              |
| 55   | 1              | 2               | 2               | 3               | 4               | 5               | 5               | 6               | 7               | 8               | 8               | 9               | 10              | 11              | 11              | 12              | 13              | 14              |
| 60   | 1              | 2               | 3               | 3               | 4               | 5               | 6               | 7               | 8               | 8               | 9               | 10              | 11              | 12              | 13              | 13              | 14              | 15              |
| 65   | 1              | 2               | 3               | 4               | 5               | 5               | 6               | 7               | 8               | 9               | 10              | 11              | 12              | 13              | 14              | 14              | 15              | 16              |
| 70   | 1              | 2               | 3               | 4               | 5               | 6               | 7               | 8               | 9               | 10              | 11              | 12              | 13              | 14              | 15              | 16              | 17              | 18              |
| 75   | 1              | 2               | 3               | 4               | 5               | 6               | 7               | 8               | 9               | 10              | 11              | 13              | 14              | 15              | 16              | 17              | 18              | 19              |
| 80   | 1              | 2               | 3               | 4               | 6               | 7               | 8               | 9               | 10              | 11              | 12              | 13              | 14              | 16              | 17              | 18              | 19              | 20              |
| 85   | 1              | 2               | 4               | 5               | 6               | 7               | 8               | 9               | 11              | 12              | 13              | 14              | 15              | 17              | 18              | 19              | 20              | 21              |
| 90   | 1              | 3               | 4               | 5               | 6               | 8               | 9               | 10              | 11              | 13              | 14              | 15              | 16              | 18              | 19              | 20              | 21              | 23              |
| 95   | 1              | 3               | 4               | 5               | 7               | 8               | 9               | 11              | 12              | 13              | 15              | 16              | 17              | 18              | 20              | 21              | 22              | 24              |
| 100  | 1              | 3               | 4               | 6               | 7               | 8               | 10              | 11              | 13              | 14              | 15              | 17              | 18              | 19              | 21              | 22              | 24              | 25              |
| 105  | 1              | 3               | 4               | 6               | 7               | 9               | 10              | 12              | 13              | 15              | 16              | 18              | 19              | 20              | 22              | 23              | 25              | 26              |
| 110  | 2              | 3               | 5               | 6               | 8               | 9               | 11              | 12              | 14              | 15              | 17              | 18              | 20              | 21              | 23              | 24              | 26              | 28              |
| 115  | 2              | 3               | 5               | 6               | 8               | 10              | 11              | 13              | 14              | 16              | 18              | 19              | 21              | 22              | 24              | 26              | 27              | 29              |
| 120  | 2              | 3               | 5               | 7               | 8               | 10              | 12              | 13              | 15              | 17              | 18              | 20              | 22              | 23              | 25              | 27              | 28              | 30              |
| 125  | 2              | 3               | 5               | 7               | 9               | 10              | 12              | 14              | 16              | 17              | 19              | 21              | 23              | 24              | 26              | 28              | 30              | 31              |
| 130  | 2              | 4               | 5               | 7               | 9               | 11              | 13              | 14              | 16              | 18              | 20              | 22              | 23              | 25              | 27              | 29              | 31              | 33              |
| 135  | 2              | 4               | 6               | 8               | 9               | 11              | 13              | 15              | 17              | 19              | 21              | 23              | 24              | 26              | 28              | 30              | 32              | 34              |
| 140  | 2              | 4               | 6               | 8               | 10              | 12              | 14              | 16              | 18              | 19              | 21              | 23              | 25              | 27              | 29              | 31              | 33              | 35              |
| 145  | 2              | 4               | 6               | 8               | 10              | 12              | 14              | 16              | 18              | 20              | 22              | 24              | 26              | 28              | 30              | 32              | 34              | 36              |
| 150  | 2              | 4               | 6               | 8               | 10              | 13              | 15              | 17              | 19              | 21              | 23              | 25              | 27              | 29              | 31              | 33              | 35              | 38              |
| 155  | 2              | 4               | 6               | 9               | 11              | 13              | 15              | 17              | 19              | 22              | 24              | 26              | 28              | 30              | 32              | 34              | 37              | 39              |
| 160  | 2              | 4               | 7               | 9               | 11              | 13              | 16              | 18              | 20              | 22              | 24              | 27              | 29              | 31              | 33              | 36              | 38              | 40              |
| 165  | 2              | 5               | 7               | 9               | 11              | 14              | 16              | 18              | 21              | 23              | 25              | 28              | 30              | 32              | 34              | 37              | 39              | 41              |
| 170  | 2              | 5               | 7               | 9               | 12              | 14              | 17              | 19              | 21              | 24              | 26              | 28              | 31              | 33              | 35              | 38              | 40              | 43              |
| 175  | 2              | 5               | 7               | 10              | 12              | 15              | 17              | 19              | 22              | 24              | 27              | 29              | 32              | 34              | 36              | 39              | 41              | 44              |
| 180  | 3              | 5               | 8               | 10              | 13              | 15              | 18              | 20              | 23              | 25              | 28              | 30              | 33              | 35              | 38              | 40              | 43              | 45              |

**CORRECCIONES PARA OBTENER LA ALTURA VERDADERA  
DEL SOL (LIMBO INFERIOR), PLANETA O ESTRELLA, 2004**

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| TABLA A                             |                 |                                     |                 | TABLA B = SOL (LIMBO INFERIOR)      |                 |                      |                 |                      |                                      |                          |                 |        |      |                             |  |
|-------------------------------------|-----------------|-------------------------------------|-----------------|-------------------------------------|-----------------|----------------------|-----------------|----------------------|--------------------------------------|--------------------------|-----------------|--------|------|-----------------------------|--|
| Depresión del horizonte             |                 |                                     |                 | Semidiámetro, refracción y paralaje |                 |                      |                 |                      |                                      |                          |                 |        |      | Correc. adicional<br>(2004) |  |
| Elevación<br>del<br>observador<br>m | Corrección<br>/ | Elevación<br>del<br>observador<br>m | Corrección<br>/ | Altura<br>apte.<br>⊙                | Corrección<br>/ | Altura<br>apte.<br>⊙ | Corrección<br>/ | Altura<br>apte.<br>⊙ | Corrección<br>/                      | Altura<br>apte.<br>⊙     | Corrección<br>/ |        |      |                             |  |
|                                     |                 |                                     |                 | 6 15                                |                 | 8 45                 |                 | 13 23                |                                      | 25 59                    |                 | Ene 1  | +0'3 |                             |  |
| 1.6                                 | -2.3            | 12.7                                | -6.4            | 6 21                                | +8.2            | 8 54                 | +10.2           | 13 44                | +12.2                                | 27 12                    | +14.2           | Ene 23 | +0'2 |                             |  |
| 1.7                                 | -2.4            | 13.1                                | -6.5            | 6 27                                | +8.3            | 9 05                 | +10.3           | 14 06                | +12.3                                | 28 32                    | +14.3           | Feb 27 | +0'1 |                             |  |
| 1.9                                 | -2.5            | 13.6                                | -6.6            | 6 33                                | +8.4            | 9 15                 | +10.4           | 14 29                | +12.4                                | 29 59                    | +14.4           | Mar 22 | 0'0  |                             |  |
| 2.0                                 | -2.6            | 14.0                                | -6.7            | 6 40                                | +8.5            | 9 26                 | +10.5           | 14 53                | +12.5                                | 31 34                    | +14.5           | Abr 12 | -0'1 |                             |  |
| 2.2                                 | -2.7            | 14.4                                | -6.8            | 6 46                                | +8.6            | 9 37                 | +10.6           | 15 18                | +12.6                                | 33 19                    | +14.6           | May 6  | -0'2 |                             |  |
| 2.3                                 | -2.8            | 14.8                                | -6.9            | 6 53                                | +8.7            | 9 47                 | +10.7           | 15 45                | +12.7                                | 35 16                    | +14.7           | Jun 11 | -0'3 |                             |  |
| 2.5                                 | -2.9            | 15.3                                | -7.0            | 7 00                                | +8.8            | 10 00                | +10.8           | 16 13                | +12.8                                | 37 25                    | +14.8           | Jul 27 | -0'2 |                             |  |
| 2.7                                 | -3.0            | 15.7                                | -7.1            | 7 06                                | +8.9            | 10 12                | +10.9           | 16 43                | +12.9                                | 39 49                    | +14.9           | Sep 1  | -0'1 |                             |  |
| 2.9                                 | -3.1            | 16.2                                | -7.2            | 7 14                                | +9.0            | 10 25                | +11.0           | 17 14                | +13.0                                | 42 30                    | +15.0           | Sep 25 | 0'0  |                             |  |
| 3.1                                 | -3.2            | 16.6                                | -7.3            | 7 21                                | +9.1            | 10 38                | +11.1           | 17 47                | +13.1                                | 45 30                    | +15.1           | Oct 17 | +0'1 |                             |  |
| 3.3                                 | -3.3            | 17.1                                | -7.4            | 7 28                                | +9.2            | 10 52                | +11.2           | 18 23                | +13.2                                | 48 53                    | +15.2           | Nov 9  | +0'2 |                             |  |
| 3.5                                 | -3.4            | 17.6                                | -7.5            | 7 36                                | +9.3            | 11 06                | +11.3           | 19 01                | +13.3                                | 52 43                    | +15.3           | Dic 15 | +0'3 |                             |  |
| 3.7                                 | -3.5            | 18.0                                | -7.6            | 7 44                                | +9.4            | 11 21                | +11.4           | 19 41                | +13.4                                | 57 01                    | +15.4           | Dic 31 |      |                             |  |
| 3.9                                 | -3.6            | 18.5                                | -7.7            | 7 52                                | +9.5            | 11 36                | +11.5           | 20 24                | +13.5                                | 61 51                    | +15.5           |        |      |                             |  |
| 4.2                                 | -3.7            | 19.0                                | -7.8            | 8 00                                | +9.6            | 11 52                | +11.6           | 21 10                | +13.6                                | 67 16                    | +15.6           |        |      |                             |  |
| 4.4                                 | -3.8            | 19.5                                | -7.9            | 8 08                                | +9.7            | 12 09                | +11.7           | 21 59                | +13.7                                | 73 14                    | +15.7           |        |      |                             |  |
| 4.7                                 | -3.9            | 20.0                                | -8.0            | 8 17                                | +9.8            | 12 26                | +11.8           | 22 53                | +13.8                                | 79 42                    | +15.8           |        |      |                             |  |
| 4.9                                 | -4.0            | 20.5                                | -8.1            | 8 26                                | +10.0           | 12 44                | +11.9           | 23 50                | +13.9                                | 86 30                    | +15.9           |        |      |                             |  |
| 5.2                                 | -4.1            | 21.0                                | -8.2            | 8 35                                | +10.1           | 13 03                | +12.0           | 24 52                | +14.0                                | 90 00                    | +16.0           |        |      |                             |  |
| 5.4                                 | -4.2            | 21.5                                | -8.3            | 8 45                                | +10.1           | 13 23                | +12.1           | 25 59                | +14.1                                |                          |                 |        |      |                             |  |
| TABLA C = PLANETAS Y ESTRELLAS      |                 |                                     |                 |                                     |                 |                      |                 |                      |                                      |                          |                 |        |      |                             |  |
|                                     |                 |                                     |                 | Refracción                          |                 |                      |                 | Paralaje (2004)      |                                      |                          |                 |        |      |                             |  |
|                                     |                 |                                     |                 | Altura<br>apte.                     | Corrección      | Altura<br>apte.      | Corrección      | Fechas               | Venus<br>para<br>cualquier<br>altura | Marte<br>Altura aparente |                 |        |      |                             |  |
|                                     |                 |                                     |                 | ° /                                 | '               | ° /                  | '               |                      |                                      | < 30°                    | > 30°<br>< 60°  | > 60°  |      |                             |  |
| 5.7                                 | -4.3            | 22.1                                | -8.4            | 6 30                                | -7.8            | 14 00                | -3.8            | Ene 1                | +0'1                                 | +0'1                     | +0'1            | 0'0    |      |                             |  |
| 6.0                                 | -4.4            | 22.6                                | -8.5            | 6 40                                | -7.6            | 15 00                | -3.6            | Mar 6                | +0'2                                 | +0'1                     | +0'1            | 0'0    |      |                             |  |
| 6.2                                 | -4.5            | 23.1                                | -8.6            | 6 50                                | -7.5            | 16 00                | -3.3            | Abr 18               | +0'2                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 6.5                                 | -4.6            | 23.7                                | -8.7            | 7 00                                | -7.3            | 17 00                | -3.1            | Abr 21               | +0'3                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 6.8                                 | -4.7            | 24.2                                | -8.8            | 7 15                                | -7.1            | 18 00                | -3.0            | May 13               | +0'4                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 7.1                                 | -4.8            | 24.8                                | -8.9            | 7 30                                | -6.9            | 19 00                | -2.8            | Jun 1                | +0'5                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 7.4                                 | -4.9            | 25.4                                | -9.0            | 7 45                                | -6.7            | 20 00                | -2.6            | Jun 14               | +0'4                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 7.7                                 | -5.0            | 25.9                                | -9.1            | 8 00                                | -6.5            | 21 00                | -2.5            | Jul 4                | +0'3                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 8.0                                 | -5.1            | 26.5                                | -9.2            | 8 15                                | -6.3            | 22 00                | -2.4            | Jul 26               | +0'2                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 8.4                                 | -5.2            | 27.1                                | -9.3            | 8 30                                | -6.2            | 24 00                | -2.2            | Sep 9                | +0'1                                 | +0'1                     | 0'0             | 0'0    |      |                             |  |
| 8.7                                 | -5.3            | 27.7                                | -9.4            | 8 45                                | -6.0            | 26 00                | -2.0            | Dic 31               |                                      |                          |                 |        |      |                             |  |
| 9.0                                 | -5.4            | 28.3                                | -9.5            | 9 00                                | -5.9            | 28 00                | -1.8            |                      |                                      |                          |                 |        |      |                             |  |
| 9.4                                 | -5.5            | 28.9                                | -9.6            | 9 20                                | -5.7            | 32 00                | -1.6            |                      |                                      |                          |                 |        |      |                             |  |
| 9.7                                 | -5.6            | 29.5                                | -9.7            | 9 40                                | -5.5            | 36 00                | -1.3            |                      |                                      |                          |                 |        |      |                             |  |
| 10.1                                | -5.7            | 30.1                                | -9.8            | 10 00                               | -5.3            | 40 00                | -1.2            |                      |                                      |                          |                 |        |      |                             |  |
| 10.4                                | -5.8            | 30.7                                | -9.9            | 10 30                               | -5.1            | 45 00                | -1.0            |                      |                                      |                          |                 |        |      |                             |  |
| 10.8                                | -5.9            | 31.3                                | -10.0           | 11 00                               | -4.8            | 50 00                | -0.8            |                      |                                      |                          |                 |        |      |                             |  |
| 11.2                                | -6.0            | 32.0                                | -10.1           | 11 30                               | -4.6            | 60 00                | -0.6            |                      |                                      |                          |                 |        |      |                             |  |
| 11.6                                | -6.1            | 32.6                                | -10.2           | 12 00                               | -4.5            | 70 00                | -0.4            |                      |                                      |                          |                 |        |      |                             |  |
| 11.9                                | -6.2            | 33.3                                | -10.3           | 12 30                               | -4.3            | 80 00                | -0.2            |                      |                                      |                          |                 |        |      |                             |  |
| 12.3                                | -6.3            | 33.9                                | -10.4           | 13 00                               | -4.1            | 90 00                | 0.0             |                      |                                      |                          |                 |        |      |                             |  |
| 12.7                                |                 | 34.6                                |                 |                                     |                 |                      |                 |                      |                                      |                          |                 |        |      |                             |  |

La altura aparente es la observada corregida por depresión del horizonte.  
En estas tablas, para los valores explícitos tomar el valor superior.